Santa Cruz Route 17 Drainage Improvement

In Santa Cruz County from State Route 1/17 Separation to Santa Clara County Line
05-SCR-17-PM 0.0-12.5
Project EA: 05-1K670 and Project Number: 0518000233

Initial Study
with Proposed Mitigated Negative Declaration/
Environmental Assessment

Prepared by the
State of California Department of Transportation

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

October 2023

Caltrans

General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, has prepared this Initial Study/Environmental Assessment, which examines the potential environmental impacts of alternatives being considered for the proposed project in Santa Cruz County, 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. Additional copies of the document are available for review at the Caltrans district office at 50 Higuera Street, San Luis Obispo, California 93401, weekdays from 8:00 a.m. to 5:00 p.m. The document can also be viewed at the Scotts Valley Branch of the Santa Cruz Public Libraries system (251 Kings Village Road, Scotts Valley, California 95066), Monday through Thursday, from 10:00 a.m. to 6:00 p.m., and Friday and Saturday, from 10:00 a.m. to 5:00 p.m. Paper copies of the document can be provided upon request. This document may be downloaded at the following website: https://dot.ca.gov/caltrans-near-me/district-5.
- Tell us what you think. If you have any comments regarding the proposed project, please request a virtual public meeting and/or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to: Lara Bertaina, District 5 Environmental, California Department of Transportation, 50 Higuera Street, San Luis Obispo, California 93401. Submit comments via email to: lara.bertaina@dot.ca.gov.
- Submit comments by the deadline: November 13, 2023.

What happens next:

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

Accessibility Assistance

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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: Lara Bertaina, District 5 Environmental, 50 Higuera Street, San Luis Obispo, California 93401; phone number 805-779-0792 (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-17-PM 0.0-12.5
EA 05-1K670 and Project Number 0518000233

Repair or replace existing culverts along State Route 17 from post miles 0.0 to 12.5 in Santa Cruz County

INITIAL STUDY
with Proposed Mitigated Negative Declaration/ ENVIRONMENTAL ASSESSMENT

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

THE STATE OF CALIFORNIA
Department of Transportation
and
Responsible Agencies: California Transportation Commission

Jason Wilkinson
Jason Wilkinson
Deputy District 5 Director
California Department of Transportation
NEPA and CEQA Lead Agency

10/4/23
Date

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

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lara.bertaina@dot.ca.gov

DRAFT
Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: pending

District-County-Route-Post Mile: 05-SCR-17-PM 0.0-12.5

EA/Project Number: EA 05-1K670 and Project Number 0518000233

Project Description

The California Department of Transportation (Caltrans) proposes to repair or replace 13 drainage culverts along State Route 17 in Santa Cruz County between post miles 0.0 and 12.5. Multiple culvert structures within the project limits are in various states of disrepair and, if not addressed, could lead to failure or damage to the highway. The project would repair or replace culverts that have deteriorated due to age and would not construct new culverts at new locations. Additionally, improvements to drainage systems would help minimize the discharge of sediment into the San Lorenzo River watershed. Excessive sedimentation due to anthropogenic watershed disturbances has led to a decline in the health of San Lorenzo River watershed ecosystems and interfered with beneficial uses of the river. As a result, a regulatory order called a sedimentation/siltation Total Maximum Daily Load imposed by the Central Coast Regional Water Quality Control Board requires that Caltrans minimize sediment loading to the receiving waters of the San Lorenzo River watershed. This can be accomplished in part via the rehabilitation of deteriorated culverts as part of this project.

Determination

An Initial Study has been prepared by Caltrans, District 5. On the basis of this study, it is determined that the proposed action with the incorporation of the identified mitigation measures would not have a significant effect on the environment for the following reasons:

- The project would have no effect on Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, and Tribal Cultural Resources.

- In addition, the project would have less than significant effects on Agriculture and Forest Resources, Aesthetics, Air Quality, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Utilities and Service Systems, and Wildfire.

With the following mitigation measures incorporated, the proposed project would have less than significant effects on Biological Resources:

- Mitigation measures intended to protect jurisdictional areas include requirements for replanting all trees removed from jurisdictional areas at a 3-to-1 ratio, restoration of areas temporarily impacted at a 1-to-1 acreage ratio, and restoration of permanently impacted jurisdictional areas at a 3-to-1 acreage ratio.

Avoidance and minimization measures are also included in the project to reduce project impacts on biological resources to less than significant levels, including implementation of work windows, exclusion zones, biological monitors, and environmentally sensitive area fencing in addition to further measures detailed in Section 2.3 Biological Resources.

With the following mitigation measure incorporated, the proposed project would have less than significant effects on Paleontological Resources:

- A Paleontological Mitigation Plan would be developed and implemented to address any potential paleontological discoveries during original ground disturbance involving sensitive geologic formations at post mile locations 8.2 and 10.61.

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Jason Wilkinson
Deputy District 5 Director
California Department of Transportation

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Date

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Chapter 1 Proposed Project

1.1 Introduction

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 U.S. Code 327 for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (Public Law 112-141), signed by President Barack Obama on July 6, 2012, amended 23 U.S. Code 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 U.S. Code 327 (NEPA Assignment MOU) with the Federal Highway Administration. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of 10 years. In summary, Caltrans continues to assume Federal Highway Administration responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, the Federal Highway Administration assigned and Caltrans assumed all of the U.S. Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance projects off of the State Highway System within the State of California, except for certain categorical exclusions that the Federal Highway Administration assigned to Caltrans under the 23 U.S. Code 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The project was programmed for funding in 2020 as a long-lead California State Highway Operation and Protection Program project for delivery in the fiscal year 2026/27.

The project proposes to repair or replace 13 drainage culverts between post miles 0.0 and 12.5 on State Route 17 in Santa Cruz County. Multiple culvert structures within the project limits are in various states of disrepair and, if not addressed, could lead to failure or damage to the roadway along State Route 17. The project would repair or replace culverts that have deteriorated due to age and would not construct new culverts at new locations. Additionally, improvements to drainage systems would help minimize the discharge of sediment into the San Lorenzo River watershed. Reducing the sediment load in the receiving waters of the San Lorenzo River watershed will allow Caltrans to comply with a regulatory order called a sedimentation/siltation Total Maximum Daily Load, which is imposed and enforced by the Central Coast Regional Water Quality Control Board.

The project area ranges from relatively flat urban areas through Santa Cruz and Scotts Valley to steep mountainous slopes as it moves north toward the summit of the Santa Cruz Mountains. The alignment of State Route 17 in Santa Cruz County roughly follows the course of Carbonera Creek, which ultimately flows into Monterey Bay.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to rehabilitate and improve the drainage systems in poor condition to reduce maintenance needs and protect State Route 17 from potential closure due to culvert failure. Additionally, improvements to drainage systems would help minimize the discharge of sediment into the San Lorenzo River watershed.

1.2.2 Need

The Drainage System Report (DSR) identified numerous damaged culverts within the designated project limits that are in poor condition due to corrosion and deformation. If deteriorated culverts are not repaired or replaced, the roadway will eventually settle and be susceptible to failure due to the erosion of the soil below the pavement. The culverts within the project limits have the potential to act as source points for excess sediment discharge into the San Lorenzo River watershed. Excessive sedimentation due to anthropogenic watershed disturbances has led to a decline in the health of San Lorenzo River watershed ecosystems and interfered with beneficial uses of the river. As a result, a regulatory order called a sedimentation/siltation Total Maximum Daily Load imposed by the Central Coast Regional Water Quality Control Board requires that Caltrans minimize sediment loading to the receiving waters of the San Lorenzo River watershed. This can be accomplished in part by repairing deteriorated culverts.

1.2.3 Independent Utility and Logical Termini

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

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
- Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made).

- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The proposed project includes logical starting and ending points, or termini, that are centered around the maintenance and improvement of drainage systems in poor condition. The project would have independent utility, which means that the proposed improvements can be implemented within the project limits, and completion of other projects would not be required to gain the operational benefits of the proposed improvements. The project would not prevent consideration of alternatives for other reasonable, foreseeable transportation improvements in the area. The project would reduce the risk of culvert failure and minimize sediment loading to the San Lorenzo River, regardless of whether other transportation improvement projects in the area are implemented. In addition, the project would not be a segment of a larger project or a commitment to a larger project with significant environmental effects. Therefore, the project would have independent need and utility.

1.3 Project Description

The project proposes to repair or replace 13 drainage culverts along State Route 17 within the designated project limits. Culvert work would occur in Santa Cruz County between post miles 0.0 and 12.5 on State Route 17. Multiple culvert structures within the project limits are in various states of disrepair and, if not addressed, could lead to failure or damage to the roadway on State Route 17. The project would repair or replace culverts that have deteriorated due to age. The project would not construct new culverts at new locations. Table 1 below describes the project work by post mile location.

Table 1.1: Proposed Project Work by Post Mile Location

Location Number	Post Mile	Proposed Work
1	1.10	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State right-of-way on the east side of northbound State Route 17 using the cut-and-fill method of installation.
2	1.76	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State and Santa Cruz County right-of-way on the west side of southbound State Route 17 using the cut-and-fill method of installation.
3	1.84	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State and Santa Cruz County right-of-way on the west side of southbound State Route 17 using the cut-and-fill method of installation.

Location Number	Post Mile	Proposed Work
4	2.31	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State right-of-way in the median and under southbound State Route 17 using the cut-and-fill method of installation.
5	2.62	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State right-of-way and the proposed permanent drainage easement on the west side of southbound State Route 17 using the cut-and-fill method of installation. Install rock slope protection at the culvert outlet.
6	2.86	Repair existing reinforced concrete pipe with cured-in-place pipe lining material between the existing outlet and inlet within county right-of-way on the west side of southbound State Route 17.
7	3.46	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets along the shoulder within State right-of-way on the east side of northbound State Route 17 using the cut-and-fill method of installation.
8	3.53	Install new plastic pipe down drains from existing drainage inlets to discharge along existing drainage patterns on the east and west sides of State Route 17 using the cut-and-fill method of installation.
9	8.20	Abandon existing concrete-steel pipe and install new concrete-steel pipe across State Route 17 and nearby embankments using the trenchless method of installation. Install rock slope protection at the culvert outlet.
10	10.36	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State right-of-way on the west side of southbound State Route 17 using the cut-and-fill method of installation.
11	10.61	Abandon existing concrete-steel pipe and install new concrete-steel pipe across State Route 17 and nearby embankments using the trenchless method of installation. Install rock slope protection at the culvert outlet.
12	10.68	Replace one segment of existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State right-of-way and the proposed permanent drainage easement on the east side of northbound State Route 17 using the cut-and-fill method of installation. Install rock slope protection at the culvert outlet.
13	11.24	Replace existing concrete-steel pipe with new high-density polyethylene plastic pipe in the same location between existing drainage inlets within State right-of-way on both sides of State Route 17 with an outlet on the east side using the cut-and-fill method of installation. Install rock slope protection at the culvert outlet.

There are 18 culvert segments within the project limits at 13 different post mile locations. Three post mile locations contain multiple culvert segments. The project would replace 11 drainage systems, modify one drainage system, and repair one drainage system. Culvert sizes vary from 18 inches to 48 inches in diameter, and culvert lengths vary from 20 feet to 320 feet long.

Culvert repairs would involve mostly joint repair and installation of lining inside existing pipes, but other culvert repairs deemed necessary could be done. Culvert replacement would involve either a cut-and-cover method or a trenchless method. The existing culvert location and the surrounding site conditions would determine which culvert replacement method would be implemented at each culvert location. The cut-and-fill method involves digging a trench with an excavator to expose the existing culvert for repair or replacement. The trench width depends on the pipe diameter, and the depth and slope are determined by the engineer. The trenchless method includes the pipe jack method, which is accomplished by placing a sending pit on one side of the culvert and a receiving pit on the other side. Drilling equipment is then used to drill out the existing culvert while pushing a new pipe through horizontally without disturbing the surface above.

It is expected that some culvert replacement and repair activities would need to occur outside of the Caltrans right-of-way. Culvert replacement and repair work would require the use of construction equipment, temporary construction easements, temporary access routes, temporary staging sites, pavement work, temporary traffic control, vegetation clearing, and vegetation restoration. Post miles 2.62, 2.86, 8.20, 10.61, and 10.68 would require permanent drainage easements. Project construction would occur in one location at a time and use night work to minimize traffic disruptions. Figure 1-1 shows the project vicinity map for the project, and Figure 1-2 shows the project location map for the project.

Figure 1-1 Project Vicinity Map

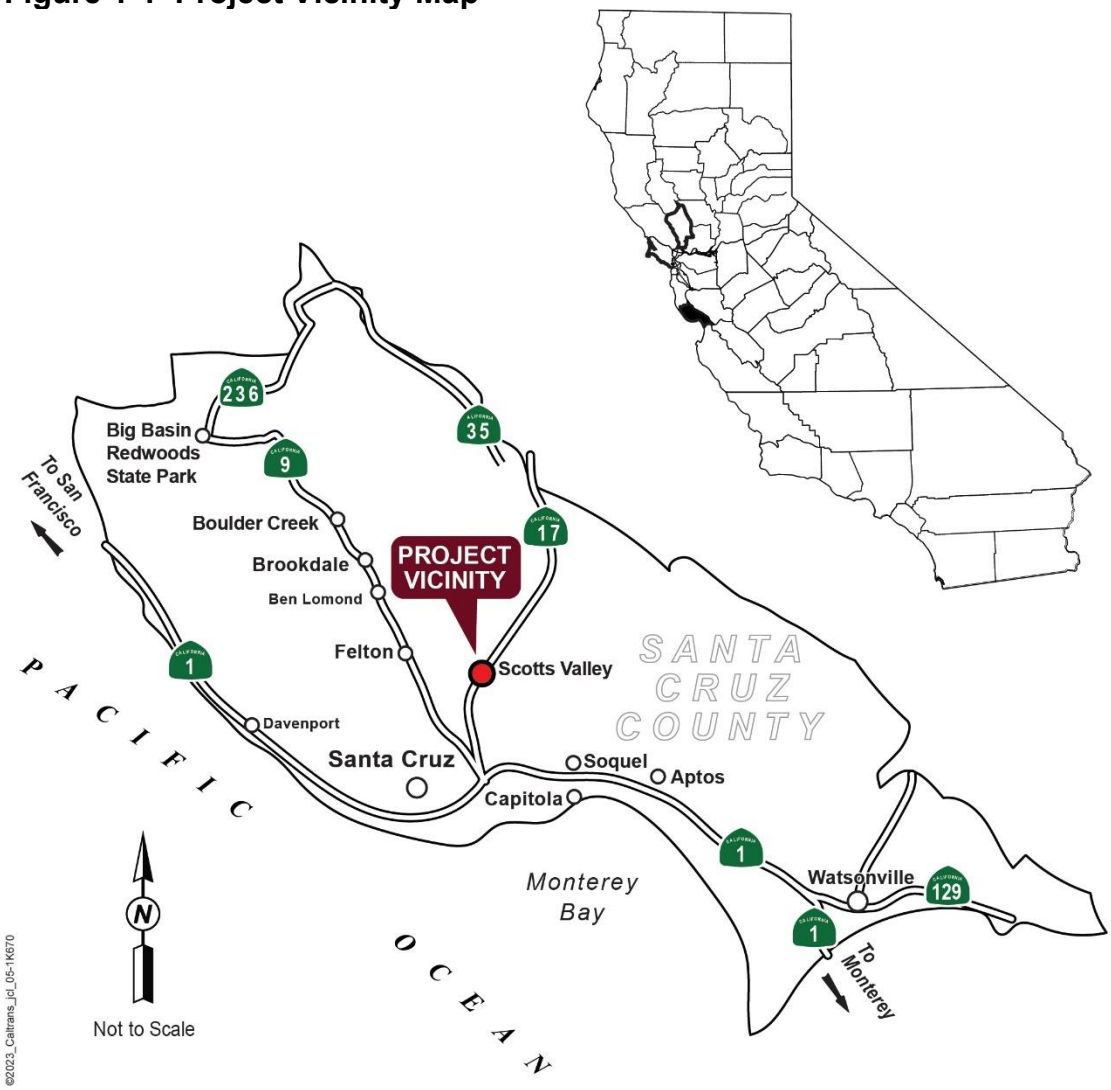
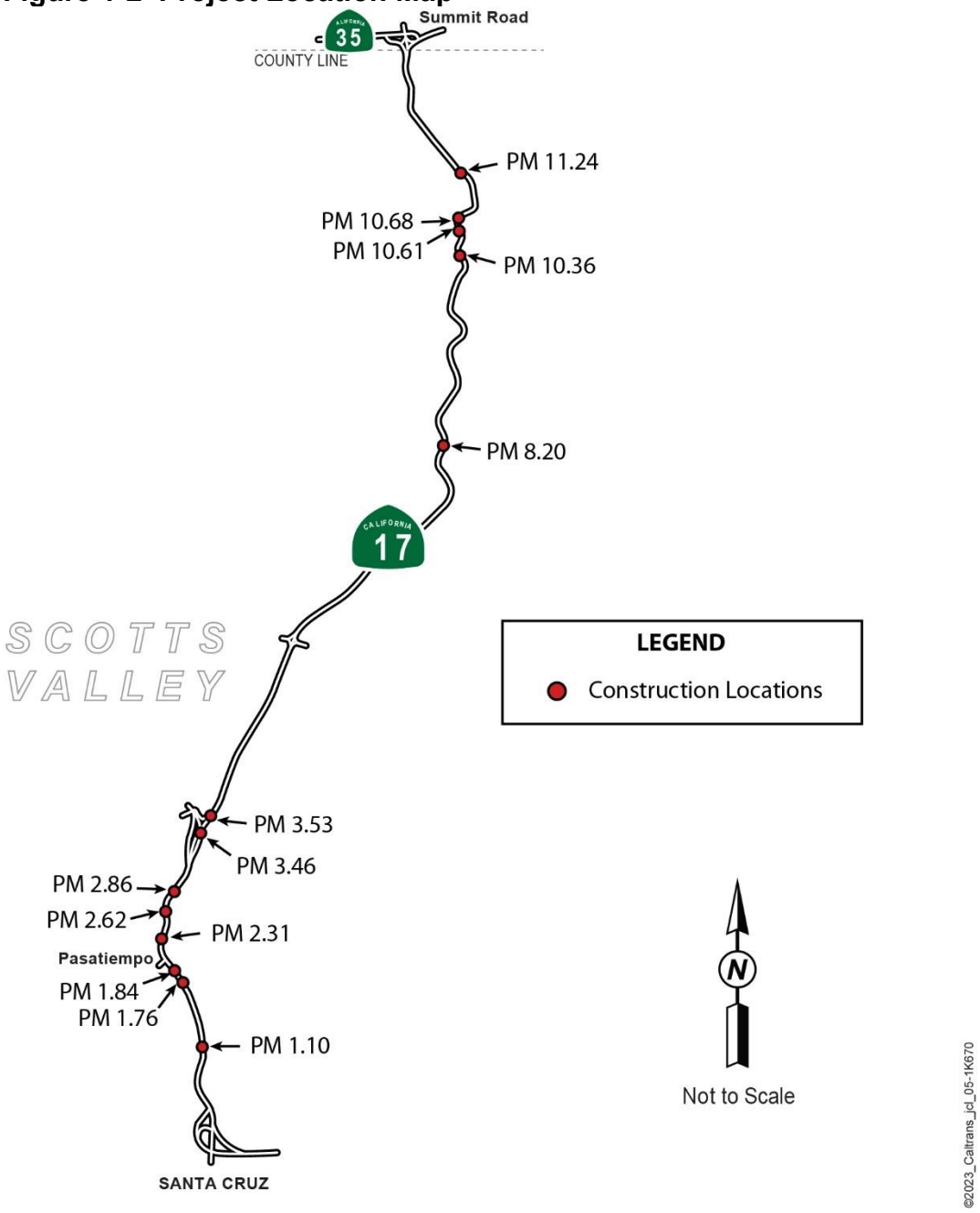


Figure 1-2 Project Location Map



1.4 Project Alternatives

Two alternatives are under consideration for the project: a Build Alternative and a No-Build Alternative.

The alternatives that are under consideration were developed by an interdisciplinary team. Several criteria were taken into consideration when evaluating the various alternatives for the project, including the project's

purpose and need, cost, design, construction strategies, and environmental impacts.

1.4.1 Build Alternative

Under the Build Alternative, the project would result in temporary and permanent impacts on environmental resources. Temporary impacts would result from the various construction activities required to complete the project. Permanent impacts would result from the new highway features and elements that would be constructed. The Build Alternative would meet the purpose and need of the project by replacing the failed retaining wall and addressing the lack of a barrier system throughout the project limits while also providing additional improvements to drainage and paving rehabilitation. The work would be completed in stages, with construction occurring over a period of about two years and 10 months.

The Build Alternative would repair or replace existing culverts. Culvert segments would be replaced with new culverts of increased diameter and new materials. The repairs would fix existing culverts without altering existing culvert dimensions. No new culvert segments or structures would be installed at new locations.

This project contains a number of 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. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

1.4.2 No-Build (No-Action) Alternative

Under the No-Build Alternative, State Route 17 would remain in its current condition within the project limits. The work proposed in this project would not be completed. The No-Build Alternative would not address the purpose and need of the project. The condition of the culverts and drainage systems would continue to deteriorate, which could lead to potential degradation of the roadway and contribution of sediment to the San Lorenzo River watershed. While routine maintenance would continue under the No-Build Alternative, no improvements to the roadway would occur. The No-Build Alternative is considered the environmental baseline against which the potential environmental effects of the Build Alternative are evaluated.

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

Similarly, if Caltrans, as assigned by the Federal Highway Administration (FHWA), determines the National Environmental Policy Act (NEPA) action does not significantly impact the environment, Caltrans will issue a Finding of No Significant Impact (FONSI).

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

This project includes Caltrans standard measures that are typically used on all Caltrans projects. Caltrans standard measures are considered features of the project and are evaluated as part of the project. Caltrans standard measures are not implemented to address any specific effects, impacts, or circumstances associated with the project but are instead implemented as part of the project's design to address common issues encountered on projects. Caltrans standard measures allow for little discretion regarding their implementation, just as other Caltrans standards requirements. The measures listed here are related to environmental resources and are applicable to the project. These measures can be found in Caltrans' 2023 Standard Specifications document. They will be updated to the latest version available before construction.

- 7-1 Legal Relations and Responsibility to the Public
- 10-4 Water Usage
- 10-5 Dust Control
- 10-6 Watering
- 12-1 Temporary Traffic Control
- 12-3 Temporary Traffic Control Devices
- 12-4 Maintaining Traffic
- 13-1 Water Pollution Control
- 13-2 Water Pollution Control Program
- 13-4 Job Site Management
- 13-6 Temporary Sediment Control
- 13-7 Temporary Tracking Control
- 13-10 Temporary Linear Sediment Barriers

- 14-2 Cultural Resources
- 14-6 Biological Resources
- 14-8 Noise and Vibration
- 14-9 Air Quality
- 14-10 Solid Waste Disposal and Recycling
- 14-11 Hazardous Waste and Contamination
- 14-12 Other Agency Regulatory Requirements
- 17-2 Clearing and Grubbing
- 18-1 Dust Palliatives
- 20-1 Landscape
- 20-3 Planting
- 20-4 Plant Establishment Work
- 21-2 Erosion Control Work

Additional measures would be added to the project as necessary or appropriate.

1.6 Permits and Approvals Needed

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

Table 1.2: Permits and Approvals

Agency	Permits, Licenses, Agreements, and Certifications	Status
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	To be obtained before project construction.
Regional Water Quality Control Board	Section 401 Water Quality Certification	To be obtained before project construction.
U.S. Army Corps of Engineers	Section 404 Nationwide Permit	To be obtained before project construction.
U.S. Fish and Wildlife Service	Programmatic Biological Opinion; California Red-Legged Frog	To be obtained before the final environmental document is signed.

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

- As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. So, there is no further discussion of these issues in this document.

- Existing and Future Land Use: The project is located within the existing State right-of-way and on the existing highway prism. The land use around the project area is identified as predominantly forestry, urban, and rural residential. The project is expected to be consistent with existing land use plans and is not expected to change or affect any existing or future land use in the vicinity.

- Consistency with State, Regional, and Local Plans: The project is expected to be consistent with the State Highway Operation and Protection Plan, the Association of Monterey Bay Area Governments Metropolitan Transportation Plan/Sustainable Communities Strategy, the Santa Cruz County Regional Transportation Commission Regional Transportation Plan, the Santa Cruz County General Plan, and the City of Scotts Valley's General Plan because the drainage improvements would ensure the protection and continued operation of the State Route 17 corridor. Further, the project complies with all State, Regional, and Local plans because it would repair or replace existing culverts with no capacity increase and would not lead to any long-term changes in operational noise.

- Coastal Zone: The proposed project is not located within the California Coastal Zone. No coastal resources would be affected by the construction or operation of the project.

- Wild and Scenic Rivers: The project area does not traverse any rivers designated as part of the National Wild and Scenic Rivers System. As such, no wild or scenic rivers would be affected by the construction or operation of the project.

- Parks and Recreation Facilities and Section 4(f) Resources: There are no historic sites, parks or recreational resources, or wildlife or waterfowl refuges that meet the definition of a Section 4(f) resource within the project vicinity. Therefore, the project is not subject to Section 4(f) provisions of the Department of Transportation Act of 1966.

- Farmland: According to the California Department of Conservation's Farmland Mapping and Monitoring Program, no farmlands or vacant lands that have been mapped as Prime Farmlands, Unique Farmlands, Farmlands of Statewide Importance, or Farmlands of Local Importance occur within the vicinity of the project.

- Growth: The proposed drainage improvements would not alter the capacity or number of travel lanes along State Route 17. The project would neither provide new access to an undeveloped area nor influence development opportunities by expanding capacity. Construction employees would be sourced from a local contractor, and temporary construction activities are not expected to increase the demand for housing. As a result, implementation of the project would not induce growth.

- Community Character and Cohesion: Project construction is not expected to cause community impacts in the project area. The project would not increase or decrease public access in the project area. The project would repair or replace existing drainage systems with new culverts of a similar design at the same locations. The project would not affect the community's character because all disturbed areas would be revegetated and replanted. The project would not significantly reduce or affect the availability of views of the surrounding topography, forested hillsides, or mountains, and revegetation would minimize the potential visibility of project elements and preserve the scenic vista.

- Relocations and Real Property Acquisition: The project is not expected to result in the relocation of residences or businesses. The project would require a temporary construction easement and seven permanent drainage easements from private property. Further details about these easements can be found in Section 2.4 Construction Impacts. The required temporary construction easement is expected to be less than 1 acre. Required permanent drainage easements range in size from 0.008 to 0.07 acre. Temporary and permanent easements are not expected to affect the existing operation on the properties. Easement acquisition would be coordinated with the property owner after the project has been approved. All other project-related work is expected to occur within the existing State right-of-way.

- Environmental Justice and Equity: The project is located on State Route 17 and primarily within the existing roadway prism. No minority or low-income populations that would be adversely affected by the project have been identified in the project area (Census Data Estimate 2020). Therefore, the project is not subject to the provisions of Executive Order 12898.

- Utilities and Emergency Services: During project construction, existing utilities within the project footprint would be avoided and protected. No utility work or relocation is expected at this time. The project would repair or replace drainage systems at the same locations (see Chapter 1). Drainage improvements would not alter existing planned routes for emergency responses or evacuations. There is a broadband project as part of the Middle Mile Broadband Network in the State Route 17 corridor that is scheduled to be constructed in 2024, before the proposed construction of this project. Coordination is underway between the two projects and associated broadband infrastructure would be constructed to provide at least 2 feet of clearance to all culverts that are included in the proposed project. Therefore, the project would not permanently impact emergency services' plans or activities in the region. However, project construction may cause minor impacts to emergency services' response times. This is further discussed in Section 2.4 Construction Impacts.

- Traffic and Transportation: The project would repair or replace drainage systems at the same locations (see Chapter 1). Project activities would not alter existing traffic or transportation patterns in the region. Therefore, the project would not cause permanent impacts to traffic or transportation. Project construction could temporarily impact traffic on State Route 17, El Rancho Drive, and La Madrona Drive and is further discussed in Section 2.4 Construction Impacts.

- Pedestrian and Bicycle Facilities: State Route 17 is restricted to motor vehicle traffic only within the project limits. There are no pedestrian or bicycle facilities within Caltrans' right-of-way. Therefore, the project would not impact pedestrian or bicycle facilities. Project construction could temporarily impact cyclists traveling along El Rancho Drive and La Madrona Drive and is further discussed in Section 2.4 Construction Impacts.

- Hazardous Waste/Materials: The project has a low potential of encountering or disturbing hazardous materials. The project is not near any known hazardous sites. Project activities may disturb potentially hazardous materials typically found within the existing bridge or roadway features. The project would incorporate Caltrans' standard practices to test for and control potentially hazardous materials that may be encountered during the project construction process. Any materials or substances identified as hazardous would be treated and handled as required by Caltrans' Standard Specifications and Caltrans' Standard Special Provisions, and as required by state and federal regulations. The project is not expected to cause adverse effects as a result of encountering, disturbing, or transporting hazardous materials (Initial Site Assessment, March 14, 2022).

- Air Quality: The project would repair or replace existing drainage systems with new culverts of a similar design at the same locations. The proposed project neither adds capacity nor changes the existing alignment of the highway; as such, there would be no long-term operational impacts on noise and air quality because of the project. The proposed project is in the North Central Coast Air Basin, which consists of Monterey, Santa Cruz, and San Benito counties. The North Central Coast Air Basin is considered in attainment for all federal ambient air quality standards and non-attainment transitional for state ambient air quality standards for ozone and non-attainment for airborne particulate less than 10 microns in diameter. Because the project is located in an attainment/unclassified area for all current National Ambient Air Quality Standards (NAAQS), transportation conformity requirements do not apply. Project construction could cause relatively minor, temporary impacts on air quality in the project vicinity. This is further discussed in Section 2.4 Construction Impacts (Air Quality, Greenhouse Gas, Noise, and Water Quality Memo, July 28, 2022).

- Energy: The project would not increase the existing capacity on State Route 17 and is unlikely to change existing energy consumption during operation. The project would not cause a permanent new demand for energy consumption. Energy use during project construction would be temporary; methods and procedures that would help conserve energy, such as using recycled materials or shutting off idling equipment, would be implemented.

- Noise: The project would repair or replace existing drainage systems with new culverts of a similar design at the same locations. Because the project would not alter the capacity of State Route 17 or alter the existing alignment, local noise levels are not expected to change as a result of the project. The project is not expected to cause permanent noise-related impacts. However, project construction operations could cause intermittent or sporadic noises that could cause temporary noise nuisance or impacts to nearby receptors. This is discussed further in Section 2.4 Construction Impacts (Air Quality, Greenhouse Gas, Noise, and Water Quality Memo, July 28, 2022).

- Wildfire: The project limits pass through two local responsibility areas (Santa Cruz and Scotts Valley) in addition to state responsibility areas. All three responsibility areas are located in areas of “moderate” fire hazard severity. The drainage system repairs are not expected to change existing conditions in a way that would affect wildfire incidents or be more susceptible to wildfire damages than under the current conditions. After the project is completed, regular vegetation maintenance would be conducted within the State right-of-way to help minimize the presence of fire fuels. The project would implement fire prevention procedures during construction, including a fire prevention plan, as required by Caltrans 2018

Revised Standard Specifications Section 7-1.02M(2) and recommended in the California Division of Occupational Safety and Health – Fire Protection and Prevention Guidance.

- Plant Species: The proposed project is not expected to impact any special-status plant species. Although the Biological Study Area supports suitable habitat for several special-status plant species, none were observed during appropriately timed floristic surveys, and none are expected to occur there. No federally designated critical habitat for federally listed plant species occurs within the Biological Study Area.

2.1 Human Environment

2.1.1 Timberland

Regulatory Setting

Impacts to timberland are analyzed as required by the California Timberland Productivity Act of 1982 (California Government Code Sections 51100 et seq.), which was enacted to preserve forest resources. Similar to the Williamson Act, this program gives landowners tax incentives to keep their land in timber production. Contracts involving Timber Production Zones are on 10-year cycles. Although state highways are exempt from provisions of the Act, the California Secretary for Natural Resources and the local governing body are notified in writing if new or additional right-of-way from Timber Production Zones will be required for a transportation project.

Affected Environment

The project limits are next to three parcels designated as Timber Production Zones.

One parcel is between post mile 4.3 and post mile 4.5 along the east side of State Route 17. The other two parcels are along either side of State Route 17 between post miles 8.2 and 8.5.

Environmental Consequences

There are no project work locations from post mile 4.3 to post mile 4.5. Project activities at post mile 8.2 would require two drainage easements, one temporary construction easement, and the removal of 14 trees in this location. All trees removed would be replanted at a 1-to-1 ratio, as further detailed in Section 2.3.1 Natural Communities. While drainage easements for access and maintenance of the culvert inlet and outlet would be required in areas designated as Timber Production Zones at post mile 8.2, no new or additional right-of-way would be required.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed for timberlands.

2.1.2 Visual/Aesthetics

Regulatory Setting

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

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

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

Affected Environment

The discussion of this section is based on the Visual Impact Assessment that was completed for this project in October 2022.

The State Route 17 corridor generally traverses a north-south route from the coastline over the mountains to the Santa Clara Valley inland. The landform of the region is characterized by slopes and ravines forming a series of ridgelines and valleys as the hills rise from the Pacific Ocean. In general, the regional topography supports a mostly curvilinear roadway, which produces views for the highway traveler ranging from close-in views of roadside slopes to mid-range hillside views and wide-open panoramas.

Throughout the region, vegetation is a primary component of overall visual character. In the project area, the vegetative cover is mixed evergreen forest, primarily with mature pine, fir, oak, redwood trees, and an associated understory. The size and density of the existing vegetation, in combination with its proximity to the road, blocks long-range views to and from the highway throughout much of the area. In many areas, views from the road are

limited to a distance of about 50 to 200 feet because of intervening vegetation.

For most of State Route 17, the primary evidence of development is the roadway itself and related highway features. In addition to the actual roadway surface, visible highway elements include concrete median and roadside barriers, metal barriers, occasional retaining walls, cut slopes, signage, call boxes, markers, and vehicular traffic. Overhead utility poles and wires also contribute to the view along the corridor. Access roads and driveways intersect the highway periodically. State Route 17 built development has a moderately low visual presence in the landscape. Throughout much of the highway, the scale and frequency of structures and other built amenities are such that, although visible, they do not dominate the views when seen in the context of the overall landscape. Existing dense vegetation and varied topography preclude most of the potential views of off-highway development throughout the project area.

The quality of the existing visual environment throughout the project area is moderately high. The undulating topography and dense trees along the nearby landscape create an attractive setting for the highway. In general, the lush roadside of the State Route 17 corridor establishes a forested visual character and a gateway aesthetic for the nearby regions and communities.

Environmental Consequences

State Route 17 has long been recognized for its scenic qualities. Santa Cruz County planning policies emphasize the protection of visual resources along State Route 17 and underscore the concern and sensitivity regarding aesthetic issues along this route. The local communities have a history of active participation in projects involving potential changes to the visual environment. Although changes associated with project activities would not significantly reduce or affect the availability of views of the surrounding topography, forested hillsides, or mountains, the loss of vegetation would cause a minor reduction in the foreground visual quality. The proposed revegetation, however, would minimize the potential visibility of project elements and preserve the scenic vista.

The existing visual character of the project site and its surroundings is defined primarily by its rural and open space development patterns combined with dramatic forested hillsides. As seen from State Route 17, some of the project elements would be generally below the line of vision and would not be readily seen from the roadway. Much of the area in the vicinity of the culverts is vegetated with shrubs and trees. As a result, the construction of access roads and staging areas would cause the removal of trees and vegetation in the immediate area. As a result, these visual changes would cause a minor reduction of rural character and visual quality in the immediate project area.

Avoidance, Minimization, and/or Mitigation Measures

With the implementation of the following minimization measures, the project would be consistent with the aesthetic and visual resource protection goals along State Route 17, and potential visual impacts would be reduced:

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

VIS 2: Revegetate all disturbed areas with native plant species appropriate to each specific work location.

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

VIS 4: All visible concrete drainage elements, including, but not limited to, headwalls, drain inlet aprons, etc., should be colored to blend with the surroundings and reduce reflectivity. The specific colors of these concrete elements shall be determined by a Caltrans District 5 Landscape Architect.

VIS 5: All visible metal components related to down drains and inlets, including but not limited to flared end sections, connectors, anchorage systems, safety cable systems, etc., should be darkened or colored to blend with the surroundings and reduce reflectivity. The specific color shall be determined by a Caltrans District 5 Landscape Architect.

VIS 6: All visible rock slope protection should be placed in natural-appearing shapes rather than in geometric patterns to the greatest extent possible to reduce its engineered appearance.

VIS 7: Following the placement of rock slope protection, the visible rock should be colored to blend with the surroundings and reduce reflectivity. The specific color shall be determined by a Caltrans District 5 Landscape Architect.

VIS 8: Following construction, regrade and recontour all new construction staging areas and other temporary uses as necessary to match the surrounding pre-project topography.

2.1.3 Cultural Resources

Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites

(both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms, including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

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

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.

Affected Environment

The discussion of this section is based on the Historic Property Survey Report that was completed for this project in December 2022.

Letters were sent out to regional Native American tribal groups as part of Section 106 consultation and formal notification required under Assembly Bill 52 on August 8, 2022.

There are archaeological resources within the general vicinity of the project area. Additionally, prehistoric peoples tended to live in terraces next to freshwater sources. Thus, the vicinity of the project area is an ideal location for prehistoric archaeological deposits to exist. However, the project area is located within and just outside of the existing highway corridor, which has been previously disturbed by multiple episodes of highway construction and residential development.

Individual elements of State Route 17 have been reviewed for the project and are exempt under Section 106. No culverts to be impacted by the project have potential historic value. Two nearby known or recorded resources, including a recorded footbridge at post mile 10.36 and a historic era retaining wall, identified by a private landowner at post mile 2.86, were also identified within the project vicinity. Both features have been determined to be outside the project's area of potential effect.

Environmental Consequences

An invitation to consult as part of the Section 106 process was offered and no formal consultation has been requested by recipients.

The Historic Property Survey Report Section 106 finding is that no historic properties would be affected by the project. The likelihood of discovering a buried archaeological deposit during project construction is low due to previous sub-surface disturbance of the area. The project does not have the potential to affect any culturally built environmental resources directly or indirectly.

Avoidance, Minimization, and/or Mitigation Measures

No cultural resource-related measures are required for the State Route 17 Drainage Improvement project.

The project would include the following Caltrans Standard Special Provisions that deal with the chance discovery of previously unknown cultural materials or human remains during project construction:

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

CR 2: If human remains are discovered during construction, California Health and Safety Code Section 7050.5 states that further disturbances and activities would stop in any area or nearby area suspected to overlie remains, and the county coroner would be contacted. If the remains are thought by the coroner to be Native American, the coroner would notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, would then notify the Most Likely Descendent. At this time, the individual who discovers the remains would contact the District 5 Environmental Branch so they can work with the Most Likely Descendent on the respectful treatment and arrangement of the remains. Additional provisions of Public Resources Code Section 5097.98 must be followed, as applicable.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

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

To comply, the following must be analyzed:

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

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

Affected Environment

A location hydraulic study was completed for the project in May 2022.

The project area is in Santa Cruz County on State Route 17. The terrain and highway profile vary from relatively flat in the valleys to mountainous in the coastal ranges. The receiving water bodies for this project are Carbonera Creek, Soquel Creek and the San Lorenzo River. The project is divided into two Hydrologic Sub Areas: the San Lorenzo Sub-Area and the Aptos-Soquel Sub-Area. These Hydrologic Sub-Areas are located within the Santa Cruz Hydrologic Area and the Big Basin Hydrologic Unit, respectively.

All project work locations are determined to be outside the 0.2 percent annual chance floodplain. While the project limits pass through areas that are deemed floodway areas, according to the Federal Emergency Management Agency, no work locations are next to these areas. All portions of the project limits that pass through floodway areas are spanned by bridges of sufficient height to accommodate any flooding.

Environmental Consequences

There are no significant hydraulics risks associated with the implementation of the proposed project. No encroachment would occur as a result of the project because it does not involve any actions within the limits of the base floodplain. The project would not result in a significant encroachment to the base 100-year floodplain as defined in the Code of Federal Regulations, Title 23, Section 650.105(q).

Avoidance, Minimization, and/or Mitigation Measures

The project is not expected to adversely affect existing hydrology or floodplains. Therefore, no avoidance, minimization, or mitigation measures are expected for the project.

2.2.2 Water Quality and Stormwater Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

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

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge would comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers.

The goal of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

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

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

The Guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the U.S. Army Corps of Engineers, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 Code of Federal Regulations 320.4. A discussion of the least environmentally damaging practicable alternative determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or

surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S. like groundwater and surface waters are not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the Clean Water Act definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

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

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program/Municipal Separate Storm Sewer Systems

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of

stormwater discharges, including Municipal Separate Storm Sewer Systems. A Municipal Separate Storm Sewer System is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater, that is designed or used for collecting or conveying stormwater." The State Water Resources Control Board has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans' Municipal Separate Storm Sewer System permit covers all Department rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' Municipal Separate Storm Sewer System Permit, Order Number 2022-0033-DWQ (adopted on June 22, 2022, and effective on January 1, 2023), has three basic requirements:

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

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

Construction General Permit

Construction General Permit, Order WQ 2022-0057-DWQ (adopted on September 8, 2022, and effective on September 1, 2023). The permit regulates stormwater discharges from construction sites that result in a Disturbed Soil Area of 1 acre or greater and/or are smaller sites that are part of a larger common plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop Stormwater Pollution Prevention Plans to implement sediment, erosion, and pollution prevention control measures and to obtain coverage under the Construction General Permit.

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

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project would be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers. The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and are required before the U.S. Army Corps of Engineers issues a 404 permit.

In some cases, the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Board may issue a set of requirements known as Waste Discharge Requirements under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent

limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued to address both permanent and temporary discharges of a project.

Affected Environment

An Air Quality, Noise, Greenhouse Gas, and Water Quality Technical Assessment was prepared for this project in July 2022.

The receiving water bodies for this project are the West Branch of Soquel Creek, Carbonera Creek, and the San Lorenzo River. The alignment of State Route 17 in Santa Cruz County roughly follows the course of Carbonera Creek, and the highway crosses this creek three times within the project limits. The jurisdictional feature at post mile 11.24 drains east toward the West Branch Soquel Creek (also called Burns Creek) in the Aptos-Soquel watershed. The West Branch Soquel Creek winds its way southward, eventually meeting the mainstem of Soquel Creek. Carbonera Creek feeds into the San Lorenzo River, which ultimately flows into Monterey Bay. Soquel Creek also empties into Monterey Bay. Carbonera Creek is listed as impaired by nutrients, indicator bacteria, and sedimentation/siltation. There is a Total Maximum Daily Load set for sedimentation/siltation and pathogens. The San Lorenzo River is listed as impaired by chlordane, chloride, chlorpyrifos, enterococcus, escherichia coli (E. coli), fecal coliform, nitrate, polychlorinated biphenyls, sodium, temperature (water), and sedimentation/siltation. There is a Total Maximum Daily Load set for sedimentation/siltation and pathogens. No Drinking Water Reservoirs and/or Recharge Facilities or existing Treatment best management practices are within the project limits. This project is not located in a moderate or high Significant Trash Generating Area.

For this project, there is a regulatory order from the Central Coast Regional Water Quality Control Board called a Total Maximum Daily Load that was set in 2003. This sedimentation/siltation Total Maximum Daily Load sets a pollutant (sediment) load reduction requirement for the San Lorenzo River watershed (including Carbonara Creek, Lompico Creek, and Shingle Mill Creek). The sediment Total Maximum Daily Load establishes that the natural processes of erosion and sedimentation in the San Lorenzo River watershed have been accelerated due to anthropogenic watershed disturbances. Studies conducted by various authors have concluded that erosion rates within this watershed are two to four times the natural rates. These studies have also documented and quantified the decline in anadromous fisheries and quality of fish habitat. Excessive sedimentation has interfered with the beneficial uses of these water bodies. Because Caltrans is a named stakeholder and implementing party in the sediment Total Maximum Daily Load, it is required that District 5 evaluate eroding slopes and other sources of sediment within the watershed and program projects to implement design pollution prevention best management practices to prevent or minimize sediment loading to the receiving waters with this watershed.

This project was initiated to reduce sediment loading from the highway facility to the San Lorenzo River watershed. Failing undersized storm drain systems were identified as one of the leading sources of sediment loading to this watershed.

Environmental Consequences

The proposed project would improve various drainage system facilities and implement Design Pollution Prevention Best Management Practices to reduce sediment transport from stormwater runoff to the lower reaches of the San Lorenzo River and its tributary, Carbonera Creek. Temporary Best Management Practices would be implemented before, during, and after project construction. Permanent Best Management Practices would be implemented after project construction and as a component of the project. All construction work would be conducted when no precipitation is expected, when feasible, to avoid impacts to water quality.

Repairing and replacing culverts in poor condition would cause long-term positive impacts to water quality in the Aptos-Soquel and San Lorenzo watersheds. The project would install rock slope protection at outlet locations at post miles 2.62, 8.20, 10.61, 10.68, and 11.24 to further prevent erosion during high-flow storms and provide a benefit to water quality.

The project is not expected to change the existing water discharge rates or water discharge patterns in the San Lorenzo River and its tributary, Carbonera Creek, because the new drainage system design would be similar to the existing drainage system design. The alignment of any creeks or water bodies would not be changed after the project is complete.

The project would have a combined total of 0.43 acre of Disturbed Soil Area (DSA) with no more than 0.09 acre of Disturbed Soil Area within a single contiguous location. Disturbed Soil Area was calculated by adding up culvert excavation and pipe jacking areas. This project would have a total of 0 acre of new impervious surfaces and proposes to provide treatment for 13.39 acres of impervious surfaces.

During construction, effective combinations of temporary and permanent erosion and sediment controls would be used. Stormwater management for the site would be coordinated through the contractor with Caltrans construction personnel to effectively manage erosion from the Disturbed Soil Area by implementing a Water Pollution Control Program (WPCP).

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures related to water quality during construction, detailed in Section 2.2.5, would minimize impacts to water quality and stormwater runoff as a result of project activities.

2.2.3 Geology, Soils, Seismicity and Topography

Regulatory Setting

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

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

Affected Environment

A District Preliminary Geotechnical Report was prepared for the project on September 12, 2023.

Regional Geology and Seismicity

The project lies in the Santa Cruz Mountains, part of the Coast Range geomorphic province characterized by a landscape controlled by a regional trending northwest structure of faults and folds. The Santa Cruz Mountains are composed mostly of Cenozoic marine rocks, which overlie crystalline basement rocks. The San Andreas Fault lies a few miles east of the proposed project sites. The Santa Cruz Mountains continue to rise 0.02 inch annually due to these forces along the San Andreas Fault.

The terrain in the area consists of steep-sided mountains and steep drainages covered densely with mature trees and understory vegetation. The State Route 17 corridor roughly follows the course of Carbonera Creek to Patchen Pass, and the highway cuts across numerous geologic units susceptible to varying rates of erosion. The project post limits traverse areas that lie within a designated landslide hazard area, as shown in the County of Santa Cruz Landslide Hazard Area map (2009).

According to the U.S. Department of Agriculture's Web Soil Survey data, soils throughout the project limits are primarily composed of the Watsonville loam, Pfeiffer gravelly sandy loam, and Zayante coarse sand south of the City of Scotts Valley, in addition to smaller pockets of other soil types interspersed throughout the area between approximately post mile 0.0 and 6.0. North of the City of Scotts Valley (approximately between post mile 6.0 and 12.5), soils

are dominated by the Lompico-Felton complex loam and Nisene-Aptos complex loam with minor pockets of Maymen stony loam and other components.

There are no unique geologic features in the project area, and there are no volcanic hazards, economic resources, mineral hazards, or tsunami risks present within the project limits.

Specific Site Conditions

Due to the scope of the chosen method of culvert replacement, only two drainage locations are of concern regarding Geology, Soils, Seismicity, and Topography—post mile 8.20 and post mile 10.61. These culverts would be replaced using the trenchless excavation method, which is usually suggested where the conventional open-trench construction methods are not suitable.

The general locations of expansive soils are in the coastal terraces in the southern portions of Santa Cruz County, as well as near the City of Watsonville. However, the project limits pass through smaller pockets of expansive soils that exist throughout Santa Cruz County. According to the Santa Cruz County Expansive Soils map (2009), no expansive soils are located along State Route 17 north of the City of Scotts Valley; therefore, no expansive soils would be encountered during trenchless construction methods at post miles 8.20 and 10.61. All other post mile locations would disturb surficial deposits along the edges of pavement, which feature a substantial component of non-expansive, imported artificial fill. According to the Santa Cruz County Liquefaction Hazard Areas map (2009), all project sites would be located in areas of low liquefaction potential.

Two geologic units are present within the post mile 8.20 location. The siltstone of the Butano Formation of the late Eocene age is described as gray-colored, fine-grained marine siltstone. The second geologic unit is the Lompico Sandstone of the early Miocene age, which is described as a buff-colored, fine-to-medium-grained marine sandstone. Post mile 10.61 is underlain by the sandstone of the Vaqueros Formation of early Miocene to Oligocene age. This unit is described as a light gray, fine-to-medium-grained marine sandstone.

No active or potentially active faults cross the project sites at post miles 8.20 and 10.61, and the potential for surface fault rupture does not exist. Based on available data on subsurface conditions, groundwater mostly lies within the bedrock (sandstone or siltstone) at a minimum depth of 24-45.5 feet below the surface.

Environmental Consequences

For most of the project locations, Geology, Soils, Seismicity, and Topography would not adversely affect project activities because earthwork would be minimal and primarily limited to previously disturbed deposits, which have

been previously studied. All proposed project elements, where only trenching is involved, are not expected to require excavations extending deeper than two to three feet, which would only extend into disturbed surficial deposits along the edges of pavement.

Although the project area could experience strong seismic ground shaking in the event of a large earthquake that did not originate within the project area, the project would be designed according to Caltrans' Seismic Design Criteria, as provided in the Highway Design Manual, that would minimize the potential risk to construction workers and the traveling public in the event of such a large earthquake. A risk-free seismic environment does not exist anywhere in California. Generally, shaking is less severe on rock than on alluvium or fill, but ridge effects and other local phenomena may override this generalization.

Site soils are not considered expansive since they consist mostly of degraded sandstone and bedrock and mudstone and sandy loam overlaid by vegetative debris. The risk of encountering expansive soil at the project sites is minimal.

Avoidance, Minimization, and/or Mitigation Measures

The following measure would be implemented for the project to avoid and/or minimize potential impacts:

GEO 1: Additional subsurface investigation would be conducted before project construction to identify subsurface conditions and to help determine appropriate final design elements required to protect the drainage systems from potential geologic hazards.

2.2.4 Paleontology

Regulatory Setting

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

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects. The proposed project incorporates federal funding, so compliance with all federal policies and statutes regarding paleontological resources is required.

23 U.S. Code (USC) 1.9(a) requires that the use of Federal-aid funds must conform with all federal and state laws.

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

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

Affected Environment

The information and analysis contained in this section are based on the Paleontological Identification Report prepared for this project in September 2023.

Due to the scope of the chosen method of culvert replacement, only two drainage locations are of concern regarding paleontology—post mile 8.20 and post mile 10.61. These two locations are on geologic units that have a high paleontological potential. The rest of the post mile locations are considered to have low paleontological potential.

Two geologic units are present within the post mile 8.20 location. The siltstone of the Butano Formation of the late Eocene age is described as gray-colored, fine-grained marine siltstone. Fossils are typically rare in the sandstone members of this unit, but fossil foraminifera and fish scales are common in the mudstone and shale members. The second geologic unit is the Lompico Sandstone of the early Miocene age, which is described as a buff-colored, fine-to-medium-grained marine sandstone. Fossils recovered from this unit consist mostly of marine mollusks. The Lompico Sandstone has a high paleontological potential per the Caltrans Paleontological Mapping Tool.

Post mile 10.61 is underlain by the sandstone of the Vaqueros Formation of early Miocene to Oligocene age. This unit is described as a light gray, fine-to-medium-grained marine sandstone. The Vaqueros Formation contains pebbles, as well as concretions up to 1 foot in diameter. The Vaqueros Formation has a high paleontological potential per the Caltrans Paleontological Mapping Tool. Fossils found in the Vaqueros are mostly near-shore marine organisms, such as mollusks, scallops, and oysters, but mammalian fossils have also been recovered.

Environmental Consequences

Direct impacts on paleontological resources can occur when earthwork operations cut into the geologic units within which fossils are buried and physically destroy the fossil remains. As such, only projects that will 1) involve earthwork (e.g., grading, trenching, large-diameter drilling) and 2) will disturb potentially fossil-bearing sedimentary rocks (i.e., those with high paleontological potential) have the potential to adversely impact paleontological resources.

For most of the project locations, paleontological resources would not be adversely affected because earthwork would be primarily limited to previously disturbed deposits, which have no paleontological potential. All proposed project elements, where only trenching is involved, are not expected to

require excavations extending deeper than 2 to 3 feet, which would only extend into disturbed surficial deposits along the edges of pavement.

For the locations at post miles 8.20 and 10.61 that are underlain by deposits of high paleontological potential, excavations for jack and bore pits have the potential for fossiliferous discovery.

Avoidance, Minimization, and/or Mitigation Measures

The following mitigation measures would ensure that potential impacts to paleontological resources are reduced to less than significant levels:

PAL 1: Develop a Paleontological Mitigation Plan during the project design phase once more detailed project plans and geotechnical investigations are available. The Paleontological Mitigation Plan shall be prepared by a principal paleontologist who meets Caltrans qualifications, conforms to Caltrans guidelines (Standard Environmental Reference, Volume 1, Chapter 8), and includes a reevaluation of potential project impacts.

PAL 2: Implement a Paleontological Mitigation Plan during construction. Caltrans shall retain a Principal Paleontologist who meets Caltrans qualifications to implement the prepared Paleontological Mitigation Plan during construction. Implementation of the Plan will follow Caltrans standards and involve conducting paleontological monitoring of earthwork operations during construction, evaluation, and collection of discovered scientifically significant fossils and preparation, identification, and curation of collected fossils into an accredited scientific repository.

2.3 Biological Environment

2.3.1 Natural Communities

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

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species Section 2.3.4. Wetlands and other waters are also discussed below in Section 2.3.2.

Affected Environment

The information and analysis contained in this section are based on the State Route 17 Drainage Improvement Natural Environment Study prepared in June 2023. The Natural Environment Study included biological surveys that were conducted during appropriate survey seasons.

The Biological Study Area for the project is defined as the area that may be directly, indirectly, temporarily, or permanently affected by construction and construction-related activities. The Biological Study Area for the project is comprised of multiple locations along State Route 17 in Santa Cruz County and is about 16.5 acres.

The Biological Study Area ranges from relatively flat urban areas through Santa Cruz and Scotts Valley to steep mountainous slopes as it moves north toward the summit of the Santa Cruz Mountains. The land use in the region is predominantly forestry, urban, and rural residential. Much of the Biological Study Area is surrounded by large expanses of redwood forest. Project elevation ranges from approximately 300 feet to 1,600 feet. The Biological Study Area contains both natural plant communities and modified anthropogenic areas such as developed roadways, landscaped roadsides, rural residential areas, and urban development. The Santa Cruz Mountain region is characterized by a mild coastal climate, warm dry summers, and cool, wet winters. Temperatures range from 30 to 60 degrees Fahrenheit in the winter and from 60 to 80 degrees Fahrenheit in the summer. The average precipitation ranges from 35 to 45 inches per year, which falls mostly between November and April.

Within the Biological Study Area are several natural communities mixed together. Major natural community types found within the Biological Study Area are described individually below.

Coast Live Oak Woodland

Coast live oak woodland within the Biological Study Area is dominated by coast live oak (*Quercus agrifolia*), which grows in varying densities. In some areas, it is co-dominant with Shreve's oak (*Q. parvula var. shrevei*) or California bay (*Umbellularia californica)*. Coast live oak woodland within the Biological Study Area typically has an understory of California blackberry *(Rubus ursinus*), French broom (*Genista monspessulana*), poison oak (*Toxicodendron diversilobum*), non-native annual grasses and herbaceous species, including miner’s lettuce (*Claytonia perfoliata*), California man-root *(Marah Fabaceae*), white ramping fumitory *(Fumaria capreolata*), and woodsorrels (*Oxalis spp.*). It occurs at the low- and mid-elevation sites within the Biological Study Area. At post mile 3.46, a small portion of this natural community is mapped as riparian. Coast live oak woodland within the Biological Study Area totals approximately 1.948 acres.

Acacia Species Woodland

This habitat is dominated by non-native acacia trees, including silver wattle (*Acacia dealbata*) and/or blackwood acacia (*A. melanoxylon*). Common associated woody species include California Bay, coast live oak, buckeye (*Aesculus californica*), and various ornamental trees such as cherry (*Prunus* sp.). Common herbaceous species include greater periwinkle (*Vinca major*), French broom, geranium (*Geranium robertianum*), and non-native grasses. At post mile 2.62, a portion of the Acacia woodland habitat is mapped as riparian. Acacia woodland within the Biological Study Area totals approximately 0.948 acre.

Coastal Scrub

Post mile 10.68 is the only location that has a coastal scrub habitat. Associates include poison oak, French broom, and sticky monkeyflower (*Diplacus aurantiacus*). Coastal scrub within the Biological Study Area totals approximately 0.291 acre.

Coast Redwood Forest

Coast redwood forest habitat is dominated by coast redwood (*Sequoia sempervirens*) with other trees and shrubs such as tanoak (*Notholithocarpus densiflorus*) and California bay laurel. Shrubs and forbs may be infrequent or common and include toyon (*Heteromeles arbutifolia*), western bracken fern (*Pteridium aquilinum*), Fernald's iris *(Iris fernaldii),* wood mint (*Stachys bullata*), snakeroot (*Ageratina adenophora*), and forget me not (*Myosotis latifolia*). At post mile 11.24, a portion of the Coast redwood forest is mapped as riparian. Coast redwood forest totals approximately 5.378 acres of the Biological Study Area.

Wetland

One three-parameter wetland was delineated within the Biological Study Area, totaling about 0.070 acre.

A wetland at post mile 3.46 is situated in a broad depression formed between the highway and the northbound off-ramp and on-ramp. Wetland vegetation is dominated by common rush *(Juncus patens),* Italian ryegrass (*Festuca perennis*), and common velvet grass (*Holcus lanatus)*. During the delineation site visit in March 2021, soils were saturated to the surface, and a water table was encountered at a 3-inch depth. The surrounding upland area is landscaped and planted with a mix of natives and ornamentals.

Stream/Other Waters

Streams/other waters were delineated at six locations within the Biological Study Area (post miles 1.1, 2.62, 3.46, 3.53, 8.21, and 11.24). Most of these locations were highly modified ephemeral drainages. With the exception of concrete-lined channels, all areas delineated as other waters display evidence of a bed, with gravel sorting, and bank, with some combination of

topographic break, change in particle size distribution, and a transition in vegetation density and hydric tolerance. Together, these features display evidence of flow within the channel. Streams within the Biological Study Area total approximately 0.124 acre.

Riparian

Riparian areas represent a vegetative transition between streams and nearby upland habitats. Riparian areas were identified at post miles 2.62, 3.46, and 11.24.

Ruderal

Ruderal habitat within the Biological Study Area is characterized by heavy disturbance and cover of non-native or weedy species. State Route 17 shoulders, embankments, pullouts, and driveways consist of ruderal habitat. Plant species identified within these areas are non-native grass, forbs, and vines, such as wild oats (*Avena spp.*), ripgut grass (*Bromus diandrus*), rattlesnake grass (*Briza maxima*), English ivy (*Hedera helix*), black mustard (*Brassica nigra*), periwinkle (*Vinca major*), and French broom (*Genista monspessulana*). Ruderal habitat within the Biological Study Area totals about 0.609 acre. These areas are often subjected to routine disturbance from maintenance and vehicle traffic and have minimal potential to support habitat for sensitive species.

Habitat Connectivity and Migration

The drainage systems selected for this drainage improvement project are small-diameter culverts (18 to 24 inches) or very deep and long (with no line-of-sight through the culvert). No evidence of wildlife usage was observed at culverts during wildlife surveys for this project. Additionally, these locations only carry stormwater or ephemeral waters with small watersheds and are not suitable fish habitats. The project would not substantially change habitat permeability for wildlife and is not expected to have permanent negative impacts on terrestrial wildlife movement. Wildlife connectivity would be unchanged except where currently buried and plugged culverts would be restored and, in some cases, upsized.

Environmental Consequences

The project would cause temporary and permanent impacts to natural communities identified in the project area. During project construction, vegetation removal and tree trimming would be required to provide access and clearance for equipment and personnel. Most of the vegetation removal would occur in areas next to the existing drainage systems, in areas used for construction storage and staging, and along the roadway shoulders. The project would limit the level of disturbance to natural communities by limiting the number and location of access routes and staging/storage areas required for project completion. The amount of permanent and temporary impacts to natural communities within the Biological Study Area is detailed in Table 2.1.

Table 2.1 Estimated Impacts to Natural Communities/Habitats of Concern

Natural Community/Habitat	Permanent Impacts (Acres)	Temporary Impacts (Acres)
Coast live oak woodland	0.001	0.493
Acacia woodland	0.001	0.251
Coastal scrub	0	0.079
Coast redwood forest	0.003	2.125
Wetlands	0	0.021
Stream/Other Waters	0.002	0.037
Riparian	Less than 0.001	0.084
Ruderal	0	0.183

Temporary impacts would be primarily from equipment access, clearing vegetation, staging, stockpiling, and temporary dewatering/diversion if needed. Permanent impacts to Coast live oak woodland, Acacia woodland, Coast redwood forest, Stream/Other Waters, and Riparian areas would result from the installation of rock slope protection at culvert outlets located at post miles 2.62, 8.20, 10.61, 10.68, and 11.24. Tree removal is expected for culvert restoration and drainage improvement activities at several locations. Approximately 51 trees are estimated for removal over seven locations. Tree removal estimates are not yet finalized and require additional field verification once grading limits are determined.

However, project impacts on the natural communities within the Biological Study Area are expected to cause a net benefit. Excessive sedimentation due to anthropogenic watershed disturbances has led to a decline in the health of San Lorenzo River watershed ecosystems and interfered with beneficial uses of the river. The proposed drainage improvements would reduce the sediment load of stormwater that ultimately flows into the San Lorenzo River.

Overall, wildlife connectivity would be unchanged as a result of the project. The project has the potential to temporarily affect the passage of native terrestrial wildlife in the project area. In the daytime, when construction activity and disturbances are present, most wildlife species would be discouraged from entering the project area. For nocturnal wildlife species, construction debris, parked equipment, or other project-related items stored on the project site may temporarily obstruct wildlife passage at night. Because the project is comprised of multiple locations along State Route 17, wildlife could cross the highway in areas within the project limits that do not feature work sites.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures are recommended:

BIO 1: The project shall minimize tree removal to the greatest extent possible. All native trees within project limits with a diameter at breast height greater than 4 inches shall be shown on roadside clearing plans to properly account for tree impacts. Trees not proposed for removal shall have tree protection fencing and shall be shown on plans as an environmentally sensitive area.

BIO 2: To reduce the amount of ground disturbance, vegetation within the Coast redwood forest that is removed in temporarily disturbed areas would be cut off at ground level, where feasible, rather than clearing and grubbing with heavy equipment.

BIO 3: During construction, the resident engineer and biologist shall determine the placement of ESA fencing based on the project plans. Environmentally sensitive area fencing shall consist of a Temporary High-Visibility Fence and shall be maintained in good condition until construction is complete.

BIO 4: All native trees with a diameter at breast height greater than 4 inches that are removed in upland areas shall be replaced at a 1-to-1 ratio.

2.3.2 Wetlands and Other Waters

Regulatory Setting

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

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment

or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

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

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

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

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board, the Regional Water Quality Control Boards, and the California Department of Fish and Wildlife. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Wildlife before beginning construction.

If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks or the outer edge of riparian vegetation, whichever is wider. Wetlands under the jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

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

Affected Environment

The information and analysis contained in this section are based on the State Route 17 Drainage Improvement Natural Environment Study prepared in June 2023.

A Jurisdictional Waters Assessment was done as part of the Natural Environment Study and is based on the review of relevant literature and a thorough on-site investigation to determine the presence of three parameters within the study area: aquatic vegetation, saturated soil, and wetland hydrology. The delineation method used was conducted in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Arid West Region (U.S. Army Corps of Engineers 2008). Jurisdictional delineations were conducted within the Biological Study Area by Caltrans Biologists Sarah Sandstrom and Audrey Weichert on March 16, April 14, and May 27, 2021, and October 20, 2022. Jurisdictional areas within the Biological Study Area were found at six locations and encompass streams, riparian vegetation, and wetlands. Table 2.2 below describes the jurisdictional features present at project work locations.

Table 2.2 Jurisdictional Features Present at Project Work Locations

Location Number	Post Mile	Jurisdictional Features Present Within the Biological Study Area
1	1.10	Ephemeral Drainage
2	2.62	Intermittent Stream, Vegetated Riparian Zone
3	3.46	Freshwater Wetlands, Ephemeral Drainage, Vegetated Riparian Zone
4	3.53	Ephemeral Drainage, Intermittent Stream
5	8.20	Ephemeral Drainage
6	11.24	Ephemeral Drainage, Vegetated Riparian Zone

Within the Biological Study Area, there was one three-parameter jurisdictional wetland delineated at post mile 3.46, totaling 0.070 acre. The jurisdictional wetland belongs to the U.S. Army Corps of Engineers and the Regional Water Quality Control Board. The wetland at post mile 3.46 is not considered to be a California Department of Fish and Wildlife jurisdictional wetland because it is a depressional wetland and is not associated with a permanent stream. Table 2.3 below shows the jurisdictional areas within the Biological Study Area by agency.

Table 2.3 Jurisdictional Areas within the Biological Study Area by Agency

Agency	Jurisdictional Areas	Area (Acres)
U.S. Army Corps of Engineers	Stream (Other Waters)	0.124
U.S. Army Corps of Engineers	Clean Water Act Wetlands	0.070
U.S. Army Corps of Engineers	Total U.S. Army Corps of Engineers Jurisdiction	0.194
Regional Water Quality Control Boards	Stream	0.124
Regional Water Quality Control Boards	Vegetated Riparian	0.236
Regional Water Quality Control Boards	Clean Water Act Wetlands	0.070
Regional Water Quality Control Boards	Total Regional Water Quality Control Boards Jurisdiction	0.430
California Department of Fish and Wildlife	Stream	0.124
California Department of Fish and Wildlife	Vegetated Riparian	0.236
California Department of Fish and Wildlife	Total California Department of Fish and Wildlife Jurisdiction	0.360

The Biological Study Area is outside the coastal zone and is not under the jurisdiction of the California Coastal Commission.

Environmental Consequences

Permanent impacts to jurisdictional features would occur from the installation of rock slope protection at culvert locations that require it, including post miles 2.62, 8.20, and 11.24. A total of about 0.002 acre of U.S. Army Corps of Engineers and Regional Water Quality Control Board's jurisdictional other waters of the U.S. and California Department of Fish and Wildlife streambed

may be permanently impacted. A total of about 18 square feet (less than 0.001 acre) of Regional Water Quality Control Board and California Department of Fish and Wildlife's jurisdictional vegetated riparian habitat may be permanently impacted.

Temporary impacts to jurisdictional features would occur due to temporary access, staging areas, and temporary stream diversion/dewatering if needed. A total of about 0.037 acre of U.S. Army Corps of Engineers and Regional Water Quality Control Board's jurisdictional other waters of the U.S. and California Department of Fish and Wildlife streambed may be temporarily impacted. A total of about 0.084 acre of Regional Water Quality Control Board and California Department of Fish and Wildlife's jurisdictional vegetated riparian habitat may be temporarily impacted. A total of 0.021 acre of U.S. Army Corps of Engineers and Regional Water Quality Control Board's jurisdictional wetlands may be temporarily impacted.

Compensatory mitigation would be required to prevent a net loss of wetlands or other aquatic resource acreage, function, and value as a result of project activities. On-site restoration would be performed for this project.

The impacts to jurisdictional waters would consist of temporary stream diversions if needed, removal of vegetation in the construction area, and installation of RSP at select culverts to prevent erosion. Temporary impacts would be restored at a 1-to-1 ratio (acreage). Compensatory mitigation is proposed at a 3-to-1 ratio (acreage) for permanent impacts. Replacement plantings would include appropriate native tree and understory species. All trees removed within jurisdictional areas with a diameter at breast height (DBH) greater than 4 inches would be replaced at a minimum 3-to-1 ratio. To ensure success, monitoring and an appropriate plant establishment period would be required, which would include annual inspections, weeding, and replacement planting, if necessary.

Replacement plantings would be detailed in Caltrans' Landscape Architecture Landscape Planting Plan and the final Mitigation and Monitoring Plan (MMP). The MMP would be developed in coordination with a biologist and would include planting specifications and planting plans to ensure the survival of planted vegetation and the reestablishment of functions and values. The final MMP would detail mitigation commitments and would be consistent with standards and mitigation commitments from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. The MMP would be prepared when full construction plans are prepared and would be finalized through the permit review process with regulatory agencies. It is expected that restoration plantings would consist of native riparian species and associated riparian understory and bank species.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would be implemented to reduce the potential impacts on the U.S. Army Corps of Engineers, Regional Water Quality Control Boards, and California Department of Fish and Wildlife jurisdictional areas resulting from the project:

BIO 5: Before construction, Caltrans shall obtain a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from Regional Water Quality Control Boards, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. All permit terms and conditions would be incorporated into construction plans and implemented.

BIO 6: Before any ground-disturbing activities, environmentally sensitive area fencing shall be installed around jurisdictional features 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 before the start of construction activities.

BIO 7: Construction activities in jurisdictional waters and temporary stream diversion, if needed, 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 a seasonal minimum. Deviations from this work window would only be made with permission from the relevant regulatory agencies.

BIO 8: 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 on-site at all times during construction.

BIO 9: Erosion control measures shall be implemented during construction. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitats. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.

BIO 10: During construction, the staging areas shall conform to Best Management Practices. 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 11: Stream contours shall be restored as close as possible to their original condition.

The following compensatory mitigation measures would reduce impacts to jurisdictional areas to less than significant levels:

BIO 12: Temporary impacts to jurisdictional areas would be restored at a 1-to-1 ratio (acreage).

BIO 13: Permanent impacts to jurisdictional areas would be restored at a 3-to-1 ratio (acreage)

BIO 14: Replacement plantings would include appropriate native tree and understory species.

BIO 15: All trees removed within jurisdictional areas with a diameter at breast height greater than 4 inches would be replaced at a minimum 3-to-1 ratio.

2.3.3 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.3.4 below. All other special-status animal species are discussed here, including the California Department of Fish and Wildlife fully protected species and species of special concern and the U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration's National Marine Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

Affected Environment

The information and analysis contained in this section are based on the State Route 17 Drainage Improvement Natural Environment Study prepared in June 2023.

The Biological Study Area includes potential habitat for several special-status animal species that include the following:

- Santa Cruz black salamander (*Aneides niger)*
- California giant salamander (*Dicamptodon ensatus)*
- California red-legged frog (*Rana draytonii)*
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens)*
- Mountain lion (*Puma concolor)*

Although there are suitable and marginal habitats for special-status animal species within the Biological Study Area, none were seen in the Biological Study Area during field surveys. However, special-status animal species have the potential to occur in the Biological Study Area during construction, given the presence of potential habitat.

Because of a lack of suitable habitat, the Federal Endangered Species Act Section 7 effects determination is that the proposed project would have no effect on the following federally listed animal taxa: Central California coast steelhead (*Oncorhynchus mykiss irideus*), Central California coast coho salmon (*Onchorhynchus kisutch*), tidewater goby (*Eucyclogobius newberryi*), Zayante band-winged grasshopper (*Trimerotropis infantilis*), monarch butterfly (*Danaus plexippus*), Mount Hermon June beetle (Polyphylla barbata), Ohlone tiger beetle (Cicindela ohloe), California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), California condor (*Gymnogyps californianus*), California least tern (*Sterna antillarum browni*), marbled murrelet (*Brachyramphus marmoratus*), least Bell's vireo (*Vireo bellii pusillus*), Southwestern willow flycatcher (*Empidonax traillii extimus*), western snowy plover (*Charadrius alexandrines nivosus*), and yellow-billed cuckoo (*Coccyzus americanus*). Although critical habitat for the Zayante band-winged grasshopper is mapped as occurring in the Biological Study Area, the Biological Study Area does not contain any physical and biological features of the species' critical habitat. There would be no effect on federally designated critical habitat for any of these federally listed animal species.

Because of its threatened status, the California red-legged frog is discussed in Section 2.3.4, Threatened and Endangered Species.

The Santa Cruz black salamander (*Aneides flavipunctatus*) is considered a Species of Special Concern by the California Department of Fish and Wildlife. The Santa Cruz black salamander is a geographic isolate of the more largely distributed black salamander found throughout the Northern California Coast to the Oregon border. Black salamanders occur in mixed deciduous woodland, conifer forests, and coastal grasslands. They are active year-round and often found under rocks along streams, in the talus of road cuts, and on wet soils beneath logs and debris. Black salamanders are a terrestrial species that lay eggs below ground.

The California giant salamander *(Dicamptodon ensatus)* is also considered a Species of Special Concern by the California Department of Fish and Wildlife. The California giant salamander occurs from Sonoma and Napa counties, south to Santa Cruz County. They occur in and around permanent and semi-permanent streams and seepages in damp coastal forests. Eggs are deposited in streams and creeks, and larvae take about one year to transform into their terrestrial form.

The San Francisco dusky-footed woodrat *(Neotoma fuscipes annectens)* is also considered a Species of Special Concern by the California Department of Fish and Wildlife. It occupies forested habitats of moderate canopy and moderate to dense understory and may prefer chaparral and redwood habitats. The San Francisco dusky-footed woodrat constructs its nest of sticks, shredded grass, leaves, and other material. Woodrat middens were observed in the understory of woodlands within the Biological Study Area. Based on the habitat conditions in the Biological Study Area and the species range, the middens were likely constructed by the San Francisco Dusky-footed woodrat, the regional subspecies of dusky-footed woodrat found in San Francisco and the Santa Cruz Mountains.

The mountain lion (*Puma concolor*), also known as cougar or puma, is a large cat native to the Americas and is the second largest cat in the New World. Their range spans from the Canadian Yukon to the southern Andes and are considered to be an adaptable, generalist species that occurs in most American habitat types. Mountain lions are reclusive animals that avoid humans. They make their dens in rocky outcroppings, dense thickets, and under uprooted trees. Mountain lions are solitary animals, with the exception of one to six days of associations during mating and a period of juvenile dependence. Mountain lions are highly territorial, and population densities can vary from as low as one individual per 32 square miles to as high as one per 5 to 20 square miles, depending on the density of prey and other resources in the area. Mountain lions are primarily nocturnal and crepuscular, although daytime sightings do occur. Mountain lions are carnivores, and their main prey is ungulates, but they also eat smaller animals like squirrels, raccoons, skunks, coyotes, bobcats, rabbits, birds, and even snails and fish. They may also prey on domestic livestock, including poultry, calves, sheep, goats, and pigs.

Numerous nesting bird species protected by the Federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503 have the potential to nest in habitats within the Biological Study Area. Common birds seen within the Biological Study Area included species such as California scrub jay (*Aphelocoma californica*), dark-eyed junco (*Junco hyemalis*), chestnut-backed chickadee (*Poecile rufescens*), and house finch (*Haemorhous mexicanus*). Potential nesting habitat for a variety of bird species occurs in ground cover, shrubs, and trees throughout the Biological Study Area.

Environmental Consequences

Special-status species that have the potential to be present during project construction and/or may be affected by the project are discussed below.

Santa Cruz black salamander (Aneides niger) and California giant salamander (Dicamptodon ensatus)

Santa Cruz black salamander *(Aneides niger)* and California giant salamander *(Dicamptodon ensatus)* are being addressed together because they have similar habitat requirements, potential project-related impacts, and avoidance and minimization measures. Construction activities that involve replacement or repair of culverts or other drainage improvements as part of the proposed project could result in the injury or mortality of Santa Cruz black salamander and California giant salamander (if present), especially in areas that are associated with other waters/streams and wetlands. The potential need to capture and relocate these salamander species 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 potential for these impacts is expected to be low due to no observations of the species within the Biological Study Area during surveys, but this could change over time.

San Francisco dusky-footed woodrat (Neotoma fuscipes annectens)

If San Francisco dusky-footed woodrat *(Neotoma fuscipes annectens)* nests are discovered during preconstruction surveys, direct mortality could occur to the species as a result of vegetation removal within the Biological Study Area.

Mountain lion (Puma concolor)

Culverts in the project are small in diameter (18 to 24 inches in size) or very deep and long (with no line-of-sight through the culvert). No evidence of wildlife usage was observed at culverts during surveys for this project. The project would not substantially change habitat permeability for mountain lions *(Puma concolor)*. The culvert repairs and replacements are not expected to negatively affect mountain lion movement; however, temporary disturbances may occur from construction noise and lighting during night work.

Other Nesting Birds

A dark-eyed junco nest was seen hidden in ground cover near post mile 1.10. Potential nesting behaviors were observed, and nesting habitat for a variety of bird species occurs throughout the Biological Study Area. Direct impacts on nesting birds could result if the removal of vegetation occurs during the nesting season. These direct effects would result in the injury or mortality of nesting birds or harassment that could alter nesting behaviors. Indirect impacts could also result from noise and disturbance associated with construction during the nesting season, which could alter nesting behaviors. The implementation of preconstruction nesting surveys and buffer exclusion zones (if necessary) would reduce the potential for adverse effects on nesting birds.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures in Section 2.3.4 for California red-legged frogs would also minimize impacts on the Santa Cruz black salamander and California giant salamander. In addition to those measures, the following are recommended:

BIO 16: A Caltrans-approved biologist shall survey the project site no more than 48 hours before the start of work activities in suitable habitat for the Santa Cruz black salamander and California giant salamander. In addition to visual surveys, the biologist shall inspect under rocks and debris, where feasible. If found, the biologist shall relocate the species at the shortest distance possible to a location that contains suitable habitat and cover and would not be affected by project activities. The relocation site shall be in the same watershed to the extent practicable.

BIO 17: Before any project activities begin, a Caltrans-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the Santa Cruz black salamander and California giant salamander and their habitat, the specific measures that are being implemented to conserve these species for the current project, and the boundaries within which the project may be accomplished.

The following avoidance and minimization measures are recommended for the San Francisco Dusky-footed woodrat:

BIO 18: Before the implementation of proposed project activities, a preconstruction visual survey would be conducted within suitable San Francisco Dusky-footed woodrat habitat in the API to determine the presence or absence of woodrat nests.

BIO 19: If woodrat nests are located during this survey, avoid them, and establish an ESA with a 25-foot buffer around each to the extent feasible.

BIO 20: To the extent feasible, project activities requiring grading or vegetation removal within the 25-foot protective buffer should only occur during the non-breeding season (October 1 through December 31) to avoid noise impacts to any breeding woodrats that may occupy the nest from January through September.

BIO 21: If project activities cannot avoid impacting or removing the nest, then it should be dismantled by hand before grading or vegetation removal activities. The dismantling shall occur during the non-breeding season (October 1 through December 31) and shall be conducted so that the nest material is removed, starting on the side where most impacts would occur and ending on the side where the most habitat would be undisturbed, which would allow for any woodrats in the nest to escape into nearby undisturbed habitat.

BIO 22: If young are encountered during nest dismantling, the dismantling activity should be stopped, the material should be replaced back on the nest, and the nest should be left alone and rechecked in two to three weeks to see if the young are out of the nest or capable of being out on their own (as determined by a qualified biologist); once the young can fend for themselves, the nest dismantling can continue.

The following avoidance and minimization measures are recommended for mountain lions:

BIO 23: Before the start of construction, a Caltrans-approved Biologist shall conduct a worker environmental training program, including a description of the mountain lion and its habitats, its legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating relevant permit conditions.

BIO 24: Construction work areas must be restored to pre-project conditions, where feasible, and no new features that could impede wildlife movement over or under the highway are permitted.

The following avoidance and minimization measures are recommended to protect nesting birds:

BIO 25: Before construction, vegetation removal shall be scheduled to occur from September 2 to January 31, outside of the typical nesting bird season, if possible, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 feet of potential habitat during the nesting season (February 1 to September 1), a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than 10 calendar days before construction. If an active nest is found, Caltrans shall implement an appropriate buffer or monitoring strategy based on the habits and needs of the species. The buffer area or monitoring strategy

shall be implemented until a qualified biologist has determined that juveniles have fledged, or nesting activity has otherwise ceased.

BIO 26: During construction, active bird nests shall not be disturbed, and eggs or young of birds covered by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time.

BIO 27: Trees to be removed would be noted on design plans. Before any ground-disturbing activities, ESA fencing shall be installed around the dripline of trees to be protected within project limits.

BIO 28: All clearing/grubbing and vegetation removal shall be monitored and documented by the biological monitor(s), regardless of the time of year.

2.3.4 Threatened and Endangered Species

Regulatory Setting

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

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows

for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife. For species listed under both the Federal Endangered Species Act and the CESA, requiring a Biological Opinion under Section 7 of Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

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

Affected Environment

The information and analysis contained in this section are based on the State Route 17 Drainage Improvement Natural Environment Study prepared in June 2023.

The California red-legged frog (CRLF) is federally threatened and considered a species of special concern by the California Department of Fish and Wildlife. It is recognized by the reddish color that forms on the underside of its legs and belly and the presence of a diagnostic dorsolateral fold. The California red-legged frog historically ranged from Marin County southward to northern Baja California. Presently, Monterey, San Luis Obispo, and Santa Barbara counties support the largest remaining California red-legged frog populations within California.

California red-legged frogs use a variety of areas, including aquatic, riparian, and upland habitats. They prefer 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 supports such as cattails *(Typha spp.)*. The largest densities of this species are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation. The California red-legged frog typically breeds from January to July, with peak breeding occurring in February and March. Softball-sized egg masses are attached to subsurface vegetation, and hatched tadpoles require 11 to 20 weeks to metamorphose. Metamorphosis typically occurs from July to September.

The California red-legged frog uses both riparian and upland habitats for foraging, shelter, cover, and non-dispersal movement. Upland refugia may be natural, such as the spaces under boulders or rocks and organic debris (e.g., downed trees or logs), or human-made, such as certain industrial debris and agricultural features (e.g., drains, watering troughs, abandoned sheds, or stacks of hay or other vegetation); the California red-legged frog would also use small mammal burrows and moist leaf litter as refugia. Adults are predominantly nocturnal, while juveniles can be active at any time of day. Riparian habitat degradation, urbanization, predation by bullfrogs, and historic market harvesting have all reportedly contributed to the decline of the species.

No protocol surveys were conducted for California red-legged frogs, and the species was not observed during general wildlife surveys; however, the Biological Study Area provides marginally suitable dispersal and upland habitat for California red-legged frogs at post miles 2.62, 3.46, and 3.53; however, the sites are immediately surrounded by urban development and roadways, and presence is unlikely. However, there are known occurrence records for California red-legged frogs in the vicinity of the Biological Study Area, and thus, the presence of the species in the Biological Study Area is inferred.

Environmental Consequences

Construction work that involves the repair or replacement of culverts or other drainage improvements has the potential to impact California red-legged frogs, especially those areas that are associated with other waters/streams and wetlands. 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.

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. The basis for this determination is that California red-legged frog presence has been inferred, and there could be potential for take of the species during construction.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans anticipates the proposed project would 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.* The following measures are the applicable measures from the Programmatic Biological Opinion that would be implemented to avoid and/or minimize adverse effects to the species as a result of project activities:

BIO 29: Only a U.S. Fish and Wildlife Service-approved biologist shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs. Biologists authorized under this PBO do not need to resubmit their qualifications for subsequent projects conducted pursuant to this PBO unless we have revoked their approval at any time during the life of this PBO.

BIO 30: Ground disturbance would not begin until written approval is received from the Service that the biologist is qualified to conduct the work unless the individual(s) has/have been approved previously and the Service has not revoked that approval.

BIO 31: A U.S. Fish and Wildlife Service-approved biologist shall survey the project site no more than 48 hours before the start of work activities. If found, the U.S. Fish and Wildlife Service-approved biologist shall relocate the California red-legged frogs to the shortest distance possible to a location that contains suitable habitat and would not be affected by project activities. The relocation site shall be in the same drainage to the extent practicable.

BIO 32: 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.

BIO 33: A U.S. Fish and Wildlife Service-approved biologist shall be present at the project site until all California red-legged frogs have been removed, workers have been instructed, and initial disturbance of habitat has been completed. If work is stopped because California red-legged frogs would be affected in a manner not expected by Caltrans and the U.S. Fish and Wildlife Service during review of the proposed action, they shall notify the resident engineer immediately. When work is stopped, the U.S. Fish and Wildlife Service shall be notified as soon as possible.

BIO 34: 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.

BIO 35: All refueling, maintenance, and staging of non-stationary equipment and vehicles shall occur at least 60 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. If stationary equipment must be refueled within 60 feet of riparian habitat or water bodies, secondary containment best management practices shall be implemented. The Caltrans biologist shall ensure contamination of habitat does not occur during such operations. Before the start of work,

Caltrans shall ensure that a plan is in place for a 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 36: 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 culvert repair/replacement and drainage improvements 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 37: The number of access routes, the size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. ESAs shall be established to confine access routes and construction areas to the minimum area necessary to complete construction and minimize the impact on 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 38: 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).

BIO 39: To control sedimentation during and after project construction, 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.

BIO 40: 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 project completion.

BIO 41: 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 42: 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.

BIO 43: Caltrans shall not use herbicides as the primary method to control invasive, exotic plants.

BIO 44: Upon project completion, 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.

2.3.5 Invasive Species

Regulatory Setting

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

Affected Environment

A total of 36 invasive plant species, as identified by the online California Invasive Plant Council Inventory Database (2022), were observed within the Biological Study Area, as detailed in the following table:

Table 2.4 California Invasive Plant Council Plants Observed in the Biological Study Area

Scientific Name	Common Name	California Invasive Plant Council Status
Acacia dealbata	Silver wattle	Moderate
Acacia melanoxylon	Blackwood acacia	Limited
Ageratina adenophora	Sticky snakeroot	Moderate
Ailanthus altissima	Tree of heaven	Moderate
Avena barbata	Slender wild oat	Moderate
Avena fatua	Wild oat	Moderate

Scientific Name	Common Name	California Invasive Plant Council Status
Brassica nigra	Black mustard	Moderate
Briza maxima	Rattlesnake grass	Limited
Bromus diandrus	Ripgut grass	Moderate
Bromus hordeaceus	Soft chess brome	Limited
Carduus pycnocephalus	Italian thistle	Moderate
Cirsium vulgare	Bull thistle	Moderate
Conium maculatum	Poison hemlock	Moderate
Ehrharta erecta	Upright veldt grass	Moderate
Eucalyptus globulus	Blue gum	Limited
Festuca myuros	Rattail sixweeks grass	Moderate
Festuca perennis	Rye grass	Moderate
Genista monspessulana	French broom	High
Geranium dissectum	Cut-leaf geranium	Limited
Hedera helix	English ivy	High
Holcus lanatus	Common velvetgrass	Moderate
Hordeum murinum	Foxtail barley	Moderate
Hypochaeris glabra	Smooth cat's-ear	Limited
Hypochaeris radicata	Rough cat's-ear	Moderate
Medicago polymorpha	California burclover	Limited
Myosotis latifolia	Forget me not	Limited
Oxalis pes-caprae	Bermuda buttercup	Moderate
Plantago lanceolata	English plantain	Limited
Pyracantha angustifolia	Firethorn	Limited
Raphanus sativus	Radish	Limited
Rubus armeniacus	Himalayan blackberry	High

Scientific Name	Common Name	California Invasive Plant Council Status
Rumex acetosella	Common sheep sorrel	Moderate
Rumex crispus	Curly dock	Limited
Torilis arvensis	Hedge parsley	Moderate
Trifolium hirtum	Rose clover	Limited
Vinca major	Greater periwinkle	Moderate

The following exotic plant species have a “high” invasiveness rating and were observed in the Biological Study Area: Himalayan blackberry, French broom, and English ivy.

Environmental Consequences

Ground disturbance and other aspects of project construction could potentially spread or introduce invasive species within the Biological Study Area. The distribution of invasive plant species is scattered throughout the Biological Study Area and is most common in ruderal areas along the edges of State Route 17. The proposed project has the potential to cause an increase in invasive species in communities and areas not currently dominated by them. However, the proposed project also has an opportunity to reduce the abundance and spread of invasive species through avoidance and minimization efforts and restoration plantings.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures are recommended to avoid and/or minimize potential invasive species impacts caused by project construction activities.

BIO 45: During construction, Caltrans would ensure that the spread or introduction of invasive exotic plant species would be avoided to the maximum extent possible.

BIO 46: Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed of. Any plant species rated as “High” on the Cal-IPC Invasive Plant Inventory that are removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. The 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 47: Construction equipment shall be inspected to verify it is clean and 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 to avoid/minimize the spread of invasive plants and/or seeds within the construction area. If wash stations onsite are infeasible due to the site's space constraints, construction equipment shall be cleaned offsite and then driven only on paved roads to the site.

2.3.6 Construction Impacts

Construction is projected to begin in the early fall of 2027, and completion is expected at the end of 2027 or early 2028.

For the build alternative, construction of drainage improvements is expected to take about 90 working days, spread between two construction seasons to restrict project activities to the dry season—between June 1 and October 31 in any given year or as otherwise directed by the regulatory agencies. Project activities that are not related to work in regulated creeks may continue throughout the expected project duration.

The build alternative would require a staged construction process for the drainage improvements. Work not completed in a single working day would be covered with steel plates until the next working day.

The construction strategy would require one-way traffic control to divert traffic. Flaggers would be used to stop traffic at either end of the construction area, while portable cones would be used to separate the lane open to traffic from the lane under construction. During construction, both the northbound direction and the southbound direction of State Route 17 within the project limits would be maintained, and at least one lane in each direction would be kept open for continued traffic use. At the end of the construction process, all existing lanes in the northbound direction and the southbound direction within the project area would be reopened.

The project would implement Caltrans' Standard Specifications and Caltrans' Standard Special Provisions that pertain to traffic management and traffic control during project construction. Caltrans' traffic management and traffic control would include actions and strategies to maintain traffic access within the project area while keeping the traveling public separated from construction activities. Within the project area, the speed limit would be temporarily reduced to 45 miles per hour, temporary construction warning signs would be installed to inform the traveling public, and temporary barriers would be installed to separate traffic from construction areas. No on-ramps or off-ramps on State Route 17 would be inaccessible to traffic due to project activities.

The project would require one temporary construction easement and seven permanent drainage easements across six properties in the project vicinity, in addition to four encroachment permits from the County of Santa Cruz. Table

2.5 below shows the types of access easements and permits by post mile location.

Table 2.5 Types of Access Easements and Permits by Post Mile Location

Location Number	Post Mile Work Location	Assessor's Parcel Number	Access Type
1	1.10	Not Applicable	Encroachment Permit
2	1.76	Not Applicable	Encroachment Permit
3	1.84	Not Applicable	Encroachment Permit
5	2.62	067-472-04	Drainage Easement
5	2.62	067-472-14	Drainage Easement
6	2.86	Not Applicable	Encroachment Permit
9	8.20	093-401-10	Drainage Easement
9	8.20	095-271-19	Drainage Easement
9	8.20	095-271-19	Temporary Construction Easement
11	10.61	093-112-10	Drainage Easement
11	10.61	095-062-01	Drainage Easement
12	10.68	095-062-01	Drainage Easement

The temporary construction easement is required to access the existing culvert inlet at post mile 8.2. New permanent drainage easements would be added to ensure future access for drainage system repair and maintenance. The temporary construction easement and the permanent drainage easements would be obtained in coordination with the property owners once the project has been approved.

Temporary construction areas would be required for project construction. The project would require a temporary construction route within the temporary construction easement at post mile 8.2. Project staging and storage are expected to be within a Caltrans right-of-way and in pre-disturbed areas. Establishing temporary construction areas may require vegetation removal or tree trimming. All temporary construction areas would be restored to existing or improved conditions at the end of construction.

The project would involve earthwork associated with digging trenches for cut-and-fill culvert replacement and drilling for trenchless methods, removing

existing concrete-steel pipes, removing concrete lining on the embankment, installing new high-density polyethylene pipes, installing rock slope protection at post miles 2.62, 8.20, 10.61, 10.68, and 11.24, and restoring sites. In addition, construction activities would involve roadway repaving, repainting roadway striping, reinstalling guardrails, and reinstalling median barriers as necessary.

During construction, temporary environmentally sensitive areas would be identified within the project area to prevent areas of environmental concern from being disturbed by construction activities. Typically, environmentally sensitive areas within the project area would be identified by temporary fencing in the field.

Affected Environment

Emergency Services

State Route 17 provides access to the City of Scotts Valley and local roadways in the San Lorenzo River Valley. During project construction, emergency services may require access through the project limits along State Route 17.

Emergency services in the project area are provided by the Scotts Valley Fire District, the Scotts Valley Police Department, the Santa Cruz County Fire Department, the Santa Cruz County Sheriff's Office, and the California Highway Patrol. Scotts Valley Fire District Stations at 7 Erba Lane and Glenwood Drive are within 0.5 mile of the project area.

The Scotts Valley Police Department has a station within 0.5 mile of the project area at 1 Civic Center Drive. The nearest California Highway Patrol office is about 7 miles east of the project area.

Traffic and Transportation

State Route 17 is an interregional route connecting the Central Coast with the Bay Area. In addition to providing interregional mobility to travelers, it also provides access to the surrounding communities and serves as a major north-south route in Santa Cruz County. It is a critical link in the movement of goods and services between Santa Cruz County and the Bay Area. The largest component of weekday traffic is regional commuters traveling from Santa Cruz County and surrounding areas to large employment clusters in Santa Clara and other Bay Area counties. The route also serves weekend and seasonal traffic associated with the tourism industry in Santa Cruz County. The highway also carries local and regional traffic generated in the areas immediately surrounding the route, including Santa Cruz and Scotts Valley and Pasatiempo and Laurel.

Within the project limits, State Route 17 is a four-lane highway with two lanes in each direction. State Route 17 between State Route 1 and Granite Creek

Road is classified as a freeway with highway access controlled by an on-ramp and off-ramp. From Granite Creek Road to the Santa Cruz-Santa Clara County line, State Route 17 is classified as a conventional highway with partial access control.

The Santa Cruz Metropolitan Transit District is the public transit agency that serves Santa Cruz County.

Air Quality

The proposed project is in the North Central Coast Air Basin, which consists of Monterey, Santa Cruz, and San Benito counties. Air quality conditions are subject to local topography and weather conditions. The Santa Cruz Mountain region has low levels of air pollutants and low ozone values due to prevailing wind patterns and topography.

The Monterey Bay Air Resources District regulates air quality in the North Central Coast Air Basin. Even though the Monterey Bay Air Resources District has established daily construction emission thresholds for many types of projects, small highway projects like this one do not fit into its typical purview, which typically includes residential, commercial, and industrial projects. Due to the small scope of work in the community, this project presents minimal potential to subject surrounding sensitive receptors to inhalable construction emissions. Due to the use of standard construction dust and emission minimization practices and procedures, it is expected that project dust and equipment emissions would be well within the Monterey Bay Air Resources District's daily thresholds.

Water Quality

The receiving water bodies for this project are the West Branch of Soquel Creek, Carbonera Creek, and the San Lorenzo River. The alignment of State Route 17 in Santa Cruz County roughly follows the course of Carbonera Creek, and the highway crosses this creek three times within the project limits. The jurisdictional feature at post mile 11.24 drains east toward the West Branch Soquel Creek (also called Burns Creek) in the Aptos-Soquel watershed. The West Branch Soquel Creek winds its way southward, eventually meeting the mainstem of Soquel Creek. Carbonera Creek feeds into the San Lorenzo River, which ultimately flows into Monterey Bay. Soquel Creek also empties into Monterey Bay. Carbonera Creek is listed as impaired by nutrients, indicator bacteria, and sedimentation/siltation. There is a Total Maximum Daily Load set for sedimentation/siltation and pathogens. There are no drinking water reservoirs and/or recharge facilities or existing Treatment best management practices within the project limits. This project is not in a moderate or high Significant Trash Generating Area.

This project was initiated to reduce sediment loading from the highway facility to the San Lorenzo River watershed. Failing undersized storm drain systems

were identified as one of the leading sources of sediment loading in this watershed.

Noise

The project limits traverse urban and rural sections of Santa Cruz County, including the City of Scotts Valley. Most project locations are surrounded by some kind of vegetation that breaks the direct line of sight between the noise source and the receptor. Ambient noise in the project area is relatively high due to noises generated by traffic. The intensity of ambient noise is expected to vary depending on the time of day and the source of the noise.

The Scotts Valley General Plan's circulation element identifies the importance of State Route 17 as a main thoroughfare in the city. The Noise element of the plan identifies vehicular traffic along State Route 17 as the most significant source of noise in the city and features Goal NG-422: To provide an environment free from annoying and/or harmful noise; Objective NO-423: Reduce noise impact from major streets and highways; and Policy NP 427: The City should work with Caltrans to mitigate the effects of existing and future highway noise.

Within the project area, most of the ambient noise is generated by local traffic. Traffic noise is related to traffic volumes and the speed of traveling vehicles, which can range from 75 to 90 A-weighted decibels near the highway.

Environmental Consequences

Emergency Services

During project construction, traffic control and lane reduction would be required in the project area, which could delay emergency services' response times if traveling through the project limits. It is expected that during project construction, access to emergency services would be maintained in the project area. Construction activities that could limit or restrict emergency service access would be coordinated with emergency service providers.

In addition, access to on-ramps and off-ramps within the project area would be maintained during project construction. No long-term emergency access restrictions are expected for this project. Construction activities are not expected to substantially affect existing emergency evacuation plans for the region in the event of an emergency.

Traffic and Transportation

During project construction, lane closures that would temporarily reduce State Route 17 from two lanes to one lane within the project area would be necessary to conduct drainage restoration work. However, traffic access on State Route 17 would be maintained during project construction. The reduction of available travel lanes within the project area would be temporary and is expected to cause temporary and intermittent delays to traffic traveling

through the project area. Temporary lane reduction has the potential to cause more than normal traffic congestion in the area.

Project construction is not expected to affect existing or future local road designs and configurations, including existing and future pedestrian routes, bicycle routes, and public transit routes.

Air Quality

Certain construction activities can be the source of temporary impacts on air quality. These potential impacts include dust-producing activities that occur during demolition, grading, and paving. During construction, the project would generate temporary air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. Using heavy equipment during project construction could generate fugitive dust that would temporarily impact local air quality if large amounts of excavation, soil transport, and subsequent fill operations are necessary. The effects of construction equipment on air quality can vary substantially from day to day, depending on the level of activity, the specific type of operation, and the prevailing weather conditions.

Water Quality

The proposed project would improve various drainage system facilities and implement Design Pollution Prevention Best Management Practices to reduce sediment transport from stormwater runoff to the lower reaches of the San Lorenzo River and its tributary, Carbonera Creek. Temporary Best Management Practices would be implemented before, during, and after project construction. Permanent Best Management Practices would be implemented after project construction and as a component of the project. All construction work would be conducted when no precipitation is expected, when feasible, to avoid impacts on water quality.

The project is not expected to change the existing water discharge rates or water discharge patterns in the San Lorenzo River and its tributary, Carbonera Creek, because the new drainage system design would be similar to the existing drainage system design. The alignment of any creeks or water bodies would not be changed after the project is complete.

The project would have a combined total of 0.43 acre of Disturbed Soil Area with no more than 0.09 acre of Disturbed Soil Area within a single contiguous location. The Disturbed Soil Area was calculated by adding up culvert excavation and pipe jacking areas. This project would have a total of 0 acre of new impervious surfaces and proposes to provide treatment for 13.39 acres of impervious surfaces.

During construction, effective combinations of temporary and permanent erosion and sediment controls would be used. Stormwater management for the site would be coordinated through the contractor with Caltrans

construction personnel to effectively manage erosion from the Disturbed Soil Areas by implementing a Water Pollution Control Program (WPCP).

Noise

Noise levels in the project area may experience short-term and intermittent increases due to project-related construction activities. The level of construction noise would vary and would be based on the construction activity type, the location of construction, and the type of construction equipment used. Adverse noise impacts from construction are not expected because construction would be temporary and intermittent, conducted in accordance with Caltrans' Standard Specifications, and because local noise levels are significantly influenced by local traffic noise. Pile driving is not required for this project. Nighttime construction activities would be conducted more than 50 feet away from receptors, and the noisiest construction activities would be done as early in the evening as possible. The project is expected to be consistent with the City of Scotts Valley General Plan because it would not lead to any long-term changes in operational noise.

Avoidance, Minimization, and/or Mitigation Measures

Emergency Services

Temporary construction impacts on emergency services are expected to be minor because emergency services would still be allowed to access the project area during construction. Caltrans would coordinate and notify regional emergency service providers of construction-related activities to provide advance notice and to allow for planning. Emergency service providers would be notified of any project activities that may have the potential to restrict or prevent emergency service access within the project area. The project would include Caltrans' Standard Specifications and Caltrans' Standard Special Provisions that pertain to actions and strategies that would help to maintain a safe environment for construction workers and the traveling public.

Traffic and Transportation

Temporary construction impacts on traffic and transportation would be minor because traffic access would be maintained within the project area. The project would include Caltrans' Standard Specifications and Caltrans' Standard Special Provisions that pertain to traffic management and traffic control. Caltrans' traffic management and traffic control plans would include typical actions and strategies implemented during project construction to maintain traffic access within the project area while keeping the traveling public separated from construction activities. These strategies would include but would not be limited to: reduction of travel lanes to allow for construction to occur and traffic to continue simultaneously, reduction in the speed limit to reduce the potential for traffic incidents, and installation of construction warning signs to inform the public.

Air Quality

Caltrans' Standard Specifications and Caltrans' Standard Special Provisions pertaining to dust control and dust palliative application are required for all project construction to effectively reduce and control impacts related to temporary construction emissions. The provisions for Caltrans' Standard Specifications Section 10-5, Dust Control, and Section 14-9, Air Pollution Control, require the contractor to comply with all California Air Resources Board and Monterey Bay Air Resources District rules, ordinances, and regulations. In addition, the project-level Stormwater Pollution Prevention Plan would provide water pollution control measures that would cross-correlate with standard dust emission minimization measures, such as covering soil stockpiles, watering haul roads, watering excavation and grading areas, and so on. Furthermore, the project would include Caltrans' Standard Specifications and Caltrans' Standard Special Provisions pertaining to the collection and containment of debris and trash to effectively capture all waste materials, thereby preventing any materials from entering the creek or migrating offsite during windy conditions. All stockpiled construction debris should, at a minimum, be covered daily or be hauled off as soon as possible.

Water Quality

To minimize impacts to water quality and stormwater runoff, the following measures would be implemented:

Temporary Soil Stabilization

WQ 1: Minimize active Disturbed Soil Areas during the rainy season using scheduling techniques.

WQ 2: Preserve existing vegetation to the maximum extent feasible.

WQ 3: Implement temporary protective cover/erosion control on all non-active Disturbed Soil Areas and soil stockpiles.

WQ 4: Control erosive forces of stormwater 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

WQ 5: 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.

WQ 6: Implement appropriate wind erosion controls year-round.

Non-Stormwater Management

WQ 7: The appropriate non-stormwater best management practices would be implemented year-round as follows:

WQ 8: Water conservation practices are implemented on all construction sites and wherever water is used.

WQ 9: Paving and grinding procedures are implemented where paving, surfacing, resurfacing, grinding, or saw cutting may pollute stormwater runoff or discharge to the storm drain system or watercourses.

WQ 10: 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.

WQ 11: The following activities must be performed at least 100 feet from concentrated flows of stormwater, 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, and fueling and maintaining vehicles and equipment.

The following construction site best management practices are expected to be included in this project:

- Job Site Management
- Prepare Water Pollution Control Program
- Temporary Fiber Roll
- Temporary Large Sediment Barrier
- Temporary Concrete Washout
- Temporary Fence (type ESA)

Noise

In addition to Caltrans' Standard Specifications Section 14-8, Noise and Vibration, the following control measures would be implemented to minimize noise and vibration during periods of construction:

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. 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: Shield loud pieces of stationary construction equipment if complaints are received.

NOI 3: Locate portable generators, air compressors, etc., away from sensitive noise receptors as feasible.

NOI 4: Limit grouping major pieces of equipment operating in one area to the greatest extent feasible.

NOI 5: 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; and,

NOI 6: Consult district noise staff if complaints are received during the construction process.

2.3.7 Cumulative Impacts

Regulatory Setting

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

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

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

Resources Considered in the Cumulative Impact Analysis

A cumulative impact analysis is required whenever an environmental document is prepared. The purpose of a cumulative impact analysis is to analyze the potential incremental environmental impacts associated with a project in conjunction with past, present, and reasonably foreseeable future projects. Caltrans, in conjunction with the Federal Highway Administration and the Environmental Protection Agency, developed a guidance document entitled "Guidance for Preparers of Cumulative Impact Analysis," which was consulted. As specified in the guidance, if the project does not result in a direct or indirect effect on a resource, it would not contribute to a cumulative effect on that resource. This cumulative impact analysis includes resources that are substantially affected by the project and resources that are currently in poor or declining health or that would be at risk even if project impacts would not be substantial.

Based on the guidance, the following California Environmental Quality Act-identified resources were evaluated and would either not be significantly impacted by the proposed project or were determined not to be in poor or declining health. Therefore, these resources were not included in the cumulative impact analysis for this project.

- Air Quality (see Chapter 2 and Section 3.2.3)
- Coastal Zone (see Chapter 2)
- Community Character and Cohesion (see Chapter 2 and Section 3.2.11)
- Consistency with State, Regional, and Local Plans and Programs (see Chapter 2)
- Cultural Resources (see Sections 2.1.3 and 3.2.5)
- Energy (see Chapter 2 and Section 3.2.6)
- Environmental Justice (see Chapter 2 and Sections 3.2.11 and 3.2.14)
- Existing and Future Land Uses (see Chapter 2 and Section 3.2.14)
- Agriculture and Forestry Resources (see Chapter 2, Section 2.1.1 and Section 3.2.2)
- Geology, Soils, Seismicity, and Topography (see Sections 2.2.3 and 3.2.7)
- Growth (see Chapter 2 and Section 3.2.14)
- Hazard and Hazardous Waste and Materials (see Chapter 2 and 3.2.9)
- Hydrology and Floodplain (see Sections 2.2.1 and 3.2.10)

- Invasive Species (see Sections 2.3.5 and 3.2.4)
- Land Use and Planning (see Chapter 2 and Section 3.2.11)
- Mineral Resources (see Chapter 2 and Section 3.2.12)
- Natural Communities (see Sections 2.3.1 and 3.2.4)
- Noise and Vibration (see Chapter 2 and Sections 2.4.3 and 3.2.13)
- Paleontology (see Sections 2.2.4 and 3.2.7)
- Parks and Recreation (see Chapter 2 and Section 3.2.16)
- Plant Species (see Chapter 2 and Section 3.2.4)
- Relocations and Real Property Acquisition (see Chapter 2 and Section 3.2.14)
- Section 4(f) (see Chapter 2)
- Traffic and Transportation/Pedestrian and Bicycle Facilities (see Chapter 2 and Section 3.2.17)
- Tribal Cultural Resources (see Chapter 2 and Section 3.2.18)
- Utilities/Emergency Services (see Chapter 2 and Section 3.2.19)
- Water Quality and Stormwater Impacts (see Sections 2.2.2 and 3.2.10)
- Wild and Scenic Rivers (see Chapter 2)
- Wildfire (see Sections 3.2.20 and 3.3.5)

Cumulative impacts associated with greenhouse gas emissions and climate change are discussed in Section 3.3 (Climate Change) of this document.

Environmental review and analysis have identified resources that may be impacted by the project or are in poor health within the project area, even if the project's impacts are relatively minor. Caltrans guidance for the California Environmental Quality Act cumulative impact assessments includes defining a Resource Study Area. A Resource Study Area is the geographic area within which impacts on a resource are analyzed. The boundaries of Resource Study Areas for cumulative impact analysis are often broader than the boundaries used for project-specific analysis.

The project would have significant impacts only on certain biological and visual resources. These resources are jurisdictional waters, wetlands, riparian habitat (hereafter referred to as jurisdictional resources), California red-legged

frog, and the State Route 17 Viewshed. Maps showing these Resource Study Areas can be found in the Cumulative Impact Analysis Technical Report. The project requires the implementation of avoidance, minimization, and/or mitigation measures to avoid significant environmental impacts and to preserve the health of these resources. Thus, these resources are considered in this cumulative impact report.

Affected Environment

Jurisdictional Resources/California Red-Legged Frog

The Resource Study Area identified for jurisdictional resources and California red-legged frog cumulative impacts analysis is an approximately 94,440-acre area that includes the following Hydrologic Unit Code 12 subwatersheds: Zayante Creek-San Lorenzo River, Carbonera Creek-San Lorenzo River, Soquel Creek, and a portion of the Monterey Bay subwatershed between Natural Bridges State Park and Aptos Creek. The Resource Study Area was clipped to this area because it represents the watersheds south of the Santa Cruz Mountains summit that State Route 17 transects. The project work locations have the potential to affect these portions of the watersheds. The Resource Study Area was selected to represent both jurisdictional resources and the California red-legged frog because the species uses riparian and upland habitats for foraging, shelter, cover, and non-dispersal movement. The watersheds in the Resource Study Area include both these habitat types and encompass all areas that could be affected by project activities. Even though no critical habitat for the California red-legged frog is within the Resource Study Area, the area provides connectivity to the California red-legged frog Santa Cruz-1 Critical Habitat unit that is located 2.3 miles west of the project limits.

Jurisdictional wetlands throughout California have been in a state of decline as human disturbance increases. Historically, the watersheds that feed the San Lorenzo River were expansive and undisturbed before the settlement of the region by people of European descent in the mid-19th century (Beal, 1991). The Resource Study Area today is affected by both natural and human-made factors.

The Santa Cruz Mountains experience continual uplift due to motion along the nearby San Andreas Fault, which has led to increased rates of erosion. The project area is prone to landslides and other mass-wasting events that affect the steep slopes that surround State Route 17 and contribute sediment to the waters of the Santa Cruz Mountains.

Current threats to jurisdictional wetlands, waters, and riparian habitat within the Resource Study Area stem mainly from development and roadways. Development activity in the Santa Cruz region peaked in the watershed in the 1970s and 1980s and has since decreased, but the threat remains ongoing. Additionally, the extensive road network in the Resource Study Area is a

primary threat to the watershed. Unpaved and poorly maintained roads continue to be the most persistent sources of sedimentation. Numerous small-scale failures of cut-and-fill slopes and culvert blowouts also introduce debris and sediment into the watershed. Since 1985, the San Lorenzo River and its tributaries have been listed by the Central Coast Regional Water Quality Control Board as an impaired waterway due to sediment, nutrients, and pathogens affecting drinking water, fisheries, and recreational beneficial uses under Section 303(d) of the federal Clean Water Act. The State and Regional Water Quality Control Boards and the EPA adopted a Total Maximum Daily Load for sediment for the San Lorenzo River and its tributaries.

Human activities that are further impacting jurisdictional resources include continued development, the introduction of invasive species, fires, landslides, and the construction of water detention and diversion systems, among others. Loch Lomond lies within the Resource Study Area and was created by building the Newell Creek Dam across Newell Creek, which is a tributary of the San Lorenzo River. It was completed in the fall of 1960 and provides the main portion of the drinking water supply for the City of Santa Cruz, California.

California red-legged frog habitat historically ranged from Marin County southward to northern Baja California. According to the U.S. Fish and Wildlife Service, the California red-legged frog has been extirpated, or destroyed, from 70 percent of its historic range. Presently, Monterey, San Luis Obispo, and Santa Barbara counties support the largest remaining California red-legged frog populations within California. In the Santa Cruz area, they are found in a few drainages along the coast and in Elkhorn Slough. However, anthropogenic development of California red-legged frog habitat within the last 200 years has caused habitat fragmentation and loss as well as a decline in the population of this species.

The project area provides marginally suitable breeding and upland habitat for California red-legged frogs; however, because the sites are immediately surrounded by urban development and roadways, presence is unlikely. However, there are known occurrence records for California red-legged frogs in the Resource Study Area. Current threats to California red-legged frogs within the Resource Study Area stem mainly from habitat invasion and competition by non-native aquatic species as well as further elimination or degradation of habitat from land development, timber production, and land use activities. This species is in a state of poor health. While avoidance, minimization, and/or mitigation measures required by regulatory agencies as a prerequisite for development have improved conditions for the species, continued development and proliferation of non-native predators has contributed to an ongoing decline in the overall health of the species.

Visual Resources

The State Route 17 Viewshed Resource Study Area has been defined as all areas within a 500-foot buffer on either side of State Route 17, including the State Route 17/State Route 35 interchange and the State Route 17/State Route 1 interchange. This visual Resource Study Area was defined to capture areas visible from the vantage point of a traveler on State Route 17 in Santa Cruz County. The Resource Study Area does not consider private views.

Since the founding of San Jose in the 1770s and Santa Cruz in the late 1790s, early transportation routes following Ohlone Indian trails developed between these two cities. In 1791, the El Camino Real opened along an Ohlone trail between Mission Santa Cruz and Mission Santa Clara. Primitive dirt roads were built to connect the early logging camps in the Santa Cruz Mountains until improved dirt roads were built, some as toll roads, in the mid-1800s. By 1858, the new toll roads shortened the journey between San Jose and Santa Cruz to a single day. The Glenwood Highway, a paved road between Los Gatos and Santa Cruz, was completed in 1915 and upgraded in 1921. Construction of the modern four-lane highway, which is now called State Route 17, began in 1934 and opened in 1940.

The landform of the region is characterized by slopes and ravines forming a series of ridgelines and valleys as the hills rise from the Pacific Ocean. In general, the regional topography supports a mostly curvilinear roadway that produces views for the highway traveler ranging from close-in views of roadside slopes to mid-range hillside views and wide-open panoramas. Increasing commercial and residential development along State Route 17 since the early 20th century has contributed to an overall long-term decline in the health of the visual character in the Resource Study Area.

There are numerous locations within the Resource Study Area where there are visual obstructions due to topography, development, and vegetation. A wide range of types of development are found throughout the area. Santa Cruz is a more urban setting with commercial development, including in the vicinity of State Route 17. Outside the Santa Cruz city area, the State Route 17 corridor's primary developments are the roadway itself, related features, occasional roadside home sites, and tourist-oriented businesses. Throughout most of the project limits, built developments have a somewhat low visual presence in the landscape. In general, the scale and frequency of structures and other built amenities throughout this area are such that, although visible, they do not dominate the views when seen in the context of the overall landscape.

State Route 17 through most of the project area is designated as “Eligible” in the State Scenic Highway system. State Route 17 has long been recognized for its scenic qualities. Santa Cruz County planning policies emphasize the protection of visual resources along State Route 17 and underscore the concern and sensitivity regarding aesthetic issues along this route. The

residents and representatives of these local communities have historically demonstrated a high degree of sensitivity to the alteration of the aesthetic quality of this area.

Although State Route 17 is state owned and not under the jurisdiction of the local planning authority, the following planning policies and guidelines are indicators of the general level of community sensitivity regarding the aesthetic character of the region and the project area.

The 1994 General Plan and Local Coastal Program for the County of Santa Cruz Scenic Roads policies define State Route 17 as a “Scenic Road."

Section 5.10.10 states that State Route 17 is valued for its vistas and “the public vistas from these roads shall be afforded the highest level of protection."

Section 5.10.13 states that “All grading and land disturbance projects visible from scenic roads shall conform to the following visual mitigation conditions:

a) Blend contours of the finished surface with the nearby natural terrain and landscape to achieve a smooth transition and natural appearance; and

b) Incorporate only characteristic or indigenous plant species appropriate for the area."

As a result, visual resources along the State Route 17 Corridor are in good health and considered stable.

Environmental Consequences

The results describing potential permanent and temporary impacts of the proposed project are discussed in detail in Sections 2.1.2 Aesthetics and 2.3 Biological Environment of this document, the Natural Environment Study, and the visual impact assessment.

To identify current and reasonably foreseeable projects within approximately the next 20 years, numerous planning resources were consulted. These resources include county and city planning websites, general plans, specific plans, and transportation plans. For Caltrans projects, the Project Reporting System was used to identify active planned projects and the District 5 Current Projects webpage. Additionally, CEQAnet, a resource promulgated by the Governor’s Office of Planning and Research, was used to identify any additional projects that should be considered.

The locations of the identified reasonably foreseeable projects were compared to the boundaries of the Resource Study Areas developed in Step 2. In addition, available environmental documents, environmental scoping documents, maps, and other available resources were used to determine if the foreseeable project would contribute to impacts to any of the identified

resources. This information was used to identify reasonably foreseeable projects located in each Resource Study Area that would have an impact on the given resource. Information about the projects, including the project description and where further information about expected impacts could be found, was gathered. In some instances, specific environmental impacts were not accessible, so qualitative analysis of potential impacts was performed using available information.

A total of 11 projects were identified, which were found to have a significant impact on one or more of the three resources of interest. Caltrans projects make up four of the 11 projects, the City of Santa Cruz sponsors three, the County of Santa Cruz is responsible for three, and one is proposed by the City of Scotts Valley. Specific details regarding these projects, including expected impacts and timing, can be found in the Cumulative Impact Analysis Technical Report.

Jurisdictional Resources

Jurisdictional resources are in a condition of poor health, with a trend of decline. The effect of past, current, and future development, including the proposed project, has the potential to further degrade this resource due to the introduction of debris and sediment to the watershed.

Other foreseeable projects within the Resource Study Area would cause impacts to jurisdictional resources. Of the nine reasonably foreseeable projects within the Biological Resource Study Area, six have the potential to impact jurisdictional resources temporarily or permanently. Of these six projects, four feature environmental documentation that recommend avoidance, minimization, and/or mitigation measures to offset impacts that result from project activities or are expected to include such measures.

The proposed project, when considered in a cumulative effects context, is not expected to substantially contribute to adverse cumulative impacts on jurisdictional resources in the Resource Study Area because the impacts (temporary and permanent) of the project would be small in scale (up to 0.084 acre and up to 0.003 acre, respectively) and the project as a whole is intended to provide an overall benefit to stormwater conveyance by reducing sediment loading from the highway facility to the San Lorenzo River watershed. This would result in an overall improvement of Jurisdictional Resource health in the project area.

The implementation of the Avoidance, Minimization, and Compensatory Mitigation Measures outlined within Section 2.3.2 and Appendix C would further reduce the potential for adverse cumulative impacts to the resource.

California red-legged frog

California red-legged frog is considered to be in a condition of poor health, with a trend of decline. The effects of past, current, and future development,

including the proposed project, have the potential to further degrade this resource due to deterioration and elimination of habitat from land development.

Other foreseeable projects within the Resource Study Area would cause impacts on California red-legged frogs. Of the nine reasonably foreseeable projects within the Biological Resource Study Area, three have the potential to significantly impact California red-legged frogs. Of these three projects, one features environmental documentation that recommends mitigation measures to offset impacts that result from project activities, and the other two are expected to include such measures.

While construction activities could contribute to cumulative effects (e.g., injury and/or mortality) that could adversely affect the California red-legged frog, the potential for adverse cumulative impacts is estimated to be very low because the project would incorporate avoidance and minimization measures specific to the species. Further, permanent impacts as a result of project activities would be minimized via compensatory mitigation related to jurisdictional impacts and by restoring all uplands within the Biological Study Area disturbed during construction.

The implementation of the avoidance and minimization measures outlined within Caltrans' Programmatic Opinion for the California red-legged frog would further reduce the potential for adverse cumulative impacts to the resource. These measures are included in Section 2.3.4 and Appendix C.

State Route 17 Viewshed

The visual character of the project area is considered to be in a condition of stable and good health. The effects of past, current, and future development, including the proposed project, have the potential to disrupt the stable health trend associated with this resource. Policies dedicated to preserving the scenic qualities of State Route 17 placed by local government and regulatory agencies on development in the corridor would help prevent this.

All three projects that feature work locations within the Visual Resource Study Area include project features that would avoid or minimize negative impacts on the overall aesthetic quality of the State Route 17 corridor. Any vegetation removed as a part of foreseeable projects, as well as the proposed project, would be revegetated with native plants, per Section 5.10.13 of the 1994 General Plan and Local Coastal Program for the County of Santa Cruz and Caltrans policies and guidelines.

If the proposed project were constructed at the same time as other reasonably foreseeable future projects within the Resource Study Area, viewers could experience more visual impacts during construction. However, all three listed projects are either under construction or will complete construction before this project, and all projects include restoration,

replanting, or both. Thus, the proposed project would not cumulatively contribute to a change in character/quality, and the extent of impacts resulting from cumulative development would be moderate. With the implementation of Caltrans Standard Specifications for Construction and recommended Minimization Measures in Section 2.1.2 and Appendix C, cumulative impacts resulting from the project would be reduced to less than considerable levels.

Avoidance, Minimization, and/or Mitigation Measures

The following general recommendations are made to reduce the overall decline in the health of the identified resources in addition to the previously identified measures:

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

CUM 1: Agencies with regulatory authority of jurisdictional areas include the U.S. Army Corps of Engineers, Central Coast Regional Water Quality Control Board, and California Department of Fish and Wildlife. 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

CUM 2: Agencies with regulatory authority over California red-legged frogs include U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Efforts should continue to be made by these agencies to support projects that improve habitat acreage and function for this species through enhancement and creation. Providing a suitable contiguous habitat would make the overall health of the California red-legged frog species more resilient and resistant to decline.

State Route 17 Viewshed

CUM 3: Agencies with regulatory authority over the State Route 17 Viewshed include the City of Santa Cruz, the City of Scotts Valley, and the County of Santa Cruz. To maintain the good health and stability of Visual Resources along the State Route 17 Corridor, these agencies should continue to implement and enforce planning policies and guidelines that protect the aesthetic character of the region and the project area.

Chapter 3 CEQA Evaluation

3.1 Determining Significance Under CEQA

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

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

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

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. 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 would 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 before 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.

3.2.1 Aesthetics

CEQA Significance Determinations for Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

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

Less Than Significant Impact—Scenic vistas in the project vicinity primarily include the surrounding topographic variety and the close-in forested roadside alternating with occasional panoramic views of the distant mountains.

Although the changes resulting from tree and vegetation removal would not noticeably reduce or affect the availability of views of surrounding topography, forested hillsides, or mountains, the loss of vegetation would cause a less than significant reduction in the foreground visual quality. The proposed revegetation, however, would minimize the potential visibility of project elements and preserve the scenic vista.

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

No Impact—This question is not applicable to the project since State Route 17 within the project limits is not classified as an Officially Designated State Scenic Highway.

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—The existing visual character of the project site and its surroundings is defined primarily by its rural and open space development patterns combined with dramatic forested hillsides. As seen from State Route 17, some of the project elements would be generally below the line of vision and would not be readily seen from the roadway. Much of the area in the vicinity of the culverts is vegetated with shrubs and trees. As a result, the construction of access roads and staging areas would cause the removal of trees and vegetation in the immediate area. As a result, these visual changes would cause a less than significant reduction in rural character and visual quality in the immediate project area.

However, measures specifically addressing this visual effect would minimize the noticeability of the individual project elements and would reduce its potential effect on the existing visual character.

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

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

3.2.2 Agriculture and Forestry Resources

CEQA Significance Determinations for 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.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact—Based on the Santa Cruz County Planning Department Geographic Information Systems online tool, segments of the project limits are next to properties zoned for agricultural uses. Although there are agricultural properties next to State Route 17, the project is not expected to affect nearby agricultural properties or the existing functions of nearby agricultural properties. No prime farmland exists within the project limits.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact—No parcels are held by a Williamson Act contract in the vicinity of the project area.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

Less Than Significant Impact—Based on the Santa Cruz County Planning Department Geographic Information Systems online tool, the project limits are next to three parcels designated as Timber Production Zones, from post mile 4.3 to post mile 4.5 along the east side of State Route 17 and post mile 8.2 to post mile 8.5 along both sides of State Route 17. Project activities at post mile 8.2 would require two drainage easements and one temporary construction easement. Temporary and permanent easements are not expected to affect the existing operation on the properties.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

Less Than Significant Impact—Project activities at post mile 8.2 would require two drainage easements, one temporary construction easement, and the removal of 14 trees in this location. All trees removed would be replanted at a 1-to-1 ratio, as further detailed in Section 2.3.1 Natural Communities. Temporary and permanent easements are not expected to affect the existing operation on the properties.

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—All work would occur within the state and county right-of-way, except where temporary construction and permanent drainage easements are needed. Easements of any kind associated with the project are not expected to affect the existing operation on the properties.

3.2.3 Air Quality

CEQA Significance Determinations for Air Quality

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

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact—The Monterey Bay Air Resources District regulates air quality in the North Central Coast Air Basin, which consists of Monterey, Santa Cruz, and San Benito counties. The North Central Coast Air Basin is considered in attainment for all federal ambient air quality standards and non-attainment transitional for state ambient air quality standards for ozone and non-attainment for airborne particulate less than 10 microns in diameter.

The project would not increase roadway capacity, and there would be no difference in long-term air emissions with or without the project. In addition, projects that do not further degrade air quality in the basin are consistent with the Monterey Bay Air Resources District's state air quality attainment goals, as stated in its State Implementation Plan. Therefore, the project would not conflict with or obstruct the implementation of the applicable air quality plan.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

No Impact—The North Central Coast Air Basin is considered non-attainment transitional for state ambient air quality standards for ozone and non-attainment for airborne particulate less than 10 microns in diameter. Since no additional lanes would be added to the roadway, and the capacity would not be increased on the roadway, there would be no difference in long-term air emissions with or without the project. Because the project is not expected to degrade air quality, it would not result in a cumulatively considerable net increase in any criteria pollutant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact—The project limits are surrounded by a mix of residential and rural land uses. It is expected that during project

construction, the project would generate temporary air pollutants such as exhaust from construction equipment, which could contain hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. Equipment operation would generate fugitive dust that may temporarily affect the local air quality. However, Caltrans' Standard Specifications sections that pertain to air pollution control, emission reduction, dust control, and dust palliative would be implemented for all construction activities, which would effectively reduce and control potential impacts to air quality (Air Quality, Greenhouse Gas, Noise, and Water Quality Memo, July 28, 2022).

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact—Operating construction equipment and using construction materials during the project have the potential to emit emissions and odors that may affect nearby homes and businesses. Construction activities are expected to occur during a typical eight-hour working period, which would limit the daily generation of emissions or odors. Odors and other emissions caused by construction activities are not expected to significantly impact a substantial number of people because of the small scale and scope of the project.

In addition, Caltrans' Standard Specifications sections that pertain to air pollution control, emission reduction, dust control, and dust palliative would be implemented for all construction activities, which would effectively reduce and control potential impacts to air quality (Air Quality, Greenhouse Gas, Noise, and Water Quality Memo, July 28, 2022).

3.2.4 Biological Resources

CEQA Significance Determinations for Biological Resources

Would the project:

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

Less Than Significant Impact—The Biological Study Area includes potential habitat for several special-status animal species that include the following:

- California giant salamander *(Dicamptodon ensatus)*
- Santa Cruz black salamander (Aneides niger)
- San Francisco dusky-footed woodrat *(Neotoma fuscipes annectens)*

- Mountain lion (Puma concolor)
- California red-legged frog *(Rana draytonii)*

Although there are suitable and marginal habitats for special-status animal species within the Biological Study Area, none were seen in the Biological Study Area during field surveys. However, special-status animal species have the potential to occur in the Biological Study Area during construction, given the presence of potential habitat.

Impacts to California giant salamander, Santa Cruz black salamander, San Francisco dusky-footed woodrat, and Mountain lion are discussed in Section 2.3.3 (Animal Species). Project construction activities could result in potential impacts to these species and disturbance of their associated habitat. The potential for these impacts is expected to be low due to no observations of the species within the Biological Study Area during surveys. These impacts to California giant salamander, Santa Cruz black salamander, San Francisco dusky-footed woodrat, and Mountain lion would be reduced to less than significant through the implementation of avoidance and minimization measures listed in Section 2.3.3. Avoidance and minimization measures in Section 2.3.4 for California red-legged frogs would also minimize impacts to the Santa Cruz black salamander and California giant salamander.

The California red-legged frog (CRLF) is federally threatened and considered a species of special concern by the California Department of Fish and Wildlife. No protocol surveys were conducted for the California red-legged frog, and the species was not seen during general wildlife surveys; however, the Biological Study Area provides marginally suitable breeding and upland habitat for California red-legged frogs at post miles 2.62, 3.46, and 3.53; however, the sites are immediately surrounded by urban development and roadways, and presence is unlikely. However, there are known occurrence records for California red-legged frogs in the vicinity of the Biological Study Area, and thus, the presence of the species in the Biological Study Area is inferred.

Construction work that involves the repair or replacement of culverts or other drainage improvements has the potential to impact CRLF, especially those areas that are associated with other waters/streams and wetlands. The potential need to capture and relocate CRLF would subject these animals to stresses that could result in impacts to the species. Injury or mortality could occur via accidental crushing by worker foot traffic or construction equipment.

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. The basis for this determination is that California red-legged frog presence has been inferred, and there could be potential for take of the species during construction. Caltrans anticipates the proposed

project would 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. Applicable measures from the Programmatic Biological Opinion that would be implemented for this project are listed in Section 2.3.4 Threatened and Endangered Species.

Potential nesting behaviors were observed, and nesting habitat for a variety of bird species occurs throughout the Biological Study Area. Direct impacts to nesting birds could result if the removal of vegetation occurs during the nesting season. These direct effects would result in the injury or mortality of nesting birds or harassment that could alter nesting behaviors. Indirect impacts could also result from noise and disturbance associated with construction during the nesting season, which could alter nesting behaviors. The implementation of preconstruction nesting surveys and buffer exclusion zones (if necessary) would reduce the potential for impacts to nesting birds. Avoidance and minimization measures are recommended to protect nesting birds in Section 2.3.3 Animal Species.

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—There is a total of 0.236 acre (10,285 square feet) of Regional Water Quality Control Board/ California Department of Fish and Wildlife jurisdictional streambank and vegetated riparian habitat within the project Biological Study Area. A total of about 18 square feet (less than 0.001 acre) of this vegetated riparian habitat may be permanently impacted. A total of approximately 3,659 square feet (0.084 acre) of Regional Water Quality Control Board/California Department of Fish and Wildlife jurisdictional vegetated riparian habitat may be temporarily impacted during project construction activities. The implementation of the avoidance, minimization, and/or mitigation measures outlined in Section 2.3.2 Wetlands and Other Waters would reduce these impacts to less than significant levels.

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—One area mapped as a wetland is present within the Biological Study Area. The area is described as a palustrine emergent depressional wetland located within a landscaped on-ramp gore area. Wetlands within the Biological Study Area total approximately 3,048 square feet (0.070 acre).

A total of 915 square feet (0.021 acre) of U.S. Army Corps of Engineers/Regional Water Quality Control Board jurisdictional wetlands may be temporarily impacted. No permanent impacts to U.S. Army Corps of Engineers/Regional Water Quality Control Board jurisdictional wetlands are expected to occur as a result of project activities. The implementation of the avoidance, minimization, and/or mitigation measures outlined in Section 2.3.2 Wetlands and Other Waters would reduce impacts to less than significant levels.

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—The drainage systems selected for this drainage improvement project are small-diameter culverts (18 to 24 inches) or very deep and long (with no line-of-sight through the culvert). No evidence of wildlife usage was observed at culverts during wildlife surveys for this project. Additionally, these locations carry only stormwater or ephemeral waters with small watersheds and are not suitable fish habitats. The project would not substantially change habitat permeability for wildlife and is not expected to have permanent negative impacts to terrestrial wildlife movement. Wildlife connectivity would be unchanged except where currently buried and plugged culverts would be restored and, in some cases, upsized. Upsizing of culverts could potentially improve wildlife connectivity in the project area. No native wildlife nursery sites were identified in the Biological Study Area.

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

No Impact—The County of Santa Cruz does not have any local policies or ordinances protecting biological resources that would apply since the project site is not within the Coastal Zone or subject to development review by the County or City of Scotts Valley. Therefore, no conflict would occur (see Chapter 2, “Coastal Zone” and “Consistency with State, Regional, and Local Plans and Programs”).

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—No conflict would occur because the project site is not within or next to any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. More detailed information on biological resources can be found in Section 2.3 (Biological Environment).

3.2.5 Cultural Resources

CEQA Significance Determinations for Cultural Resources

Would the project:

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

No Impact—Individual elements of State Route 17 have been reviewed for the project and are exempt under Section 106. No culverts to be impacted by the project have potential historic value. Two nearby known or recorded resources, including a recorded footbridge at post mile 10.36 and a historic era retaining wall, identified by a private landowner at post mile 2.86, were also identified within the project vicinity. Both features have been determined to be outside the project's area of potential effect.

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

Less Than Significant Impact—Within the general vicinity of the project area, there are archaeological resources. However, the project area is located within and just outside the existing highway corridor, which has been previously disturbed by multiple episodes of highway construction and residential development. The likelihood of discovering a buried archaeological deposit during project construction is low.

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

Less Than Significant Impact—Because of the high level of ground disturbance around the project site, the probability of encountering human remains during construction would be low. Therefore, the project is not expected to disturb any human remains. If previously unknown human remains are discovered during project construction, it is Caltrans' standard procedure to follow the California Health and Safety Code Section 7050.5, which states that further disturbances and activities should stop in any area or nearby area suspected to overlie remains and the county coroner should be contacted. If the county coroner thinks the remains are Native American, he or she would notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, would then notify the Most Likely Descendant. The person who discovers the remains would contact the District 5 Environmental Branch so that they may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 must be followed as applicable (Cultural Resources Review, September 10, 2018).

3.2.6 Energy

CEQA Significance Determinations for Energy

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Less Than Significant Impact—The project would follow Caltrans' Standard Specifications and Caltrans' Standard Special Provisions, which include construction practices that would reduce and limit the consumption of energy resources during project construction, such as turning off idling equipment, limiting material transport, limiting night work, etc. The project would not require excessive consumption of energy resources for operation once it is completed.

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

No Impact—The project is not expected to conflict with or obstruct existing state or local energy plans for renewable energy or energy efficiency (see Section 3.3, Climate Change).

3.2.7 Geology and Soils

CEQA Significance Determinations for Geology and Soils

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less Than Significant Impact—While less than 0.2 mile of the project limits fall within the Alquist-Priolo earthquake fault zone associated with the Butano Fault, no project work locations are situated within this area. The closest project work location is 0.62 mile away from the Alquist-Priolo earthquake fault zone, according to archived documentation on the California Geological Survey's Alquist-Priolo Site Investigation Reports online database and U.S. Geological Survey's online Quaternary Fault and Fold Database of the U.S. An unnamed fault that was formed less than 1.6 million years ago passes through the project limits near post mile 10.0. The Zayante-Vergeles fault zone is inferred to cross the project limits near post mile 8.7 and was formed

less than 1.6 million years ago. No active or potentially active faults directly cross the project work locations, and the potential for surface fault rupture does not exist.

ii) Strong seismic ground shaking?

Less Than Significant Impact—Although the project area could experience strong seismic ground shaking in the event of a large earthquake that did not originate within the project area, the project would be designed according to Caltrans' Seismic Design Criteria, as provided in the Highway Design Manual, that would minimize the potential risk to construction workers and the traveling public in the event of such a large earthquake. A risk-free seismic environment does not exist anywhere in California. Generally, shaking is less severe on rock than on alluvium or fill, but ridge effects and other local phenomena may override this generalization.

iii) Seismic-related ground failure, including liquefaction?

No Impact—According to the Santa Cruz County Liquefaction Hazard Areas map (2009), all project sites would be located in areas of low liquefaction potential. The project would be designed according to Caltrans' Seismic Design Criteria, as provided in the Highway Design Manual, which would minimize the potential risk of seismic-related ground failure.

iv) Landslides?

No Impact—Based on the Landslide Hazard Areas map prepared by the Santa Cruz County GIS in November 2009, the project's limits are next to or pass through areas at risk for potential landslides between post miles 8.6-9.0, 9.3-9.7 and 12.2-12.5. There are no project work locations in these post mile intervals, so landslides resulting from project activities are not expected.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact—The proposed project would not result in significant impacts that would substantially increase existing rates of erosion, which are two to four times the natural rates within the San Lorenzo River watershed. The project would decrease soil erosion and the loss of topsoil by repairing deteriorating culverts, which serve as source points for excess sediment discharge into the watershed.

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?

Less Than Significant Impact—Lateral spreading due to steeply sloping ground conditions may exist and would be evaluated at the trenchless culvert locations. According to the Santa Cruz County Liquefaction Hazard Areas

map (2009), all project sites would be located in areas of low liquefaction potential. Additional subsurface investigation would be conducted before project construction to identify subsurface conditions and to help determine appropriate final design elements required to protect against potential instability caused by underlying geologic units or soils at project work locations.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact—The general locations of expansive soils are in the coastal terraces in the southern portions of Santa Cruz County and near the City of Watsonville. However, the project limits pass through smaller pockets of expansive soils that exist throughout Santa Cruz County. According to Santa Cruz County Expansive Soils map (2009), no expansive soils are along State Route 17, north of the City of Scotts Valley; therefore, no expansive soils would be encountered during trenchless construction methods at post miles 8.20 and 10.61. All other post mile locations would disturb surficial deposits along the edges of pavement, which feature a substantial component of non-expansive, imported artificial fill.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact—There are no septic tanks or alternative wastewater disposal systems included in the project, so no impacts would be expected.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact With Mitigation Incorporated—There are no unique geologic features in the project area, and views of the surrounding mountain peaks are generally obscured by vegetation.

For 11 of the 13 total project locations, paleontological resources would not be impacted because earthwork would be minimal and primarily limited to previously disturbed deposits, which have no paleontological potential.

For the work locations at post miles 8.20 and 10.61, there is a potential for fossiliferous discovery when the excavations for the jack and bore pits are dug. Incorporating a mitigation measure that requires a paleontological monitor to be present during excavation at these post mile locations would reduce the potential impacts to less than significant levels.

3.2.8 Greenhouse Gas Emissions

CEQA Significance Determinations for Greenhouse Gas Emissions

Would the project:

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

Less Than Significant Impact—The project would not generate enough greenhouse gas emissions to significantly impact the environment. Construction-related greenhouse gas emissions would be unavoidable due to material processing, delivery, onsite construction equipment, and potential traffic delays. Emissions would be produced at different levels throughout the construction phase. Frequency and occurrence could be reduced through innovations in plans and specifications and by implementing better traffic management and traffic control during construction phases.

The greenhouse gas emission discussion is based on climate change guidance provided by Caltrans' Division of Environmental Analysis. According to the guidance, there are several categories of projects that would most likely have minimal or no increase in operational greenhouse gas emissions, including roadway improvement projects, such as this project. Greenhouse gas emissions are discussed further in Section 3.3, Climate Change.

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

No Impact—The project would not change the existing highway capacity or alignment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Construction contracts would include all of Caltrans' Standard Specifications that require compliance with the California Air Resources Board's air district rules, regulations, ordinances, and statutes, some of which could contribute to reducing construction greenhouse gas emissions, such as idling equipment restrictions, appropriate source point, etc.

3.2.9 Hazards and Hazardous Materials

CEQA Significance Determinations for Hazards and Hazardous Materials

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact—During project construction, the project may use and/or encounter potentially hazardous substances, such as petroleum-

derived products, industrial chemicals, compounds, materials, etc. These materials would be transported into and out of the project site as needed.

Any potentially hazardous substances used and/or encountered during construction would be regulated and controlled to ensure that their potential for affecting the public or the environment would be avoided, minimized, and/or mitigated to comply with Caltrans' Standard Specifications and state and federal requirements. If project construction encounters an unknown substance, appropriate testing would be conducted. If the unknown substance is identified as a hazardous substance, it would be treated and handled appropriately to comply with Caltrans' Standard Specifications and state and federal requirements. The project would incorporate Caltrans' Standard Specifications and Measures to ensure that potentially hazardous substances would not significantly affect the public or the environment (Hazardous Waste Technical Memo, February 14, 2018).

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?

Less Than Significant Impact—Construction activities have the potential to cause spills and/or the release of potentially hazardous substances. The project would incorporate Caltrans' Standard Specifications to prevent and control spills and releases, which would reduce the potential for hazardous substances to significantly affect the public or the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Less Than Significant Impact—Vine Hill Elementary School and California Connections Academy Monterey Bay are located 0.11 and 0.21 mile away from the project limits, respectively.

Operating equipment during construction would produce emissions and air pollutants, but the concentrations of emissions and air pollutants are not expected to reach hazardous levels (see Section 3.2.8). The project would incorporate Caltrans' Standard Specifications to reduce potential emissions and air pollutants generated from equipment operations. During project construction, the project may use and/or encounter potentially hazardous substances, such as petroleum-derived products, industrial chemicals, compounds, materials, etc. Any potentially hazardous substances used and/or encountered during construction would be regulated and controlled to ensure that their potential for affecting the public or the environment would be avoided and/or minimized to comply with Caltrans' Standard Specifications and state and federal requirements. The project would incorporate Caltrans' Standard Specifications and Measures to ensure that potentially hazardous

substances would not significantly affect the public or the environment (Hazardous Waste Technical Memo, February 14, 2018).

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—The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment (Hazardous Waste Technical Memo, February 14, 2018).

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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—According to Federal Aviation Administration maps, there are no airports of any kind within 2 miles of the project limits. The project would not expose workers or residents within the project area to safety hazards or excessive noise associated with airport operations.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact—Although access on State Route 17 would be maintained during project construction, the roadway capacity within the project limits would be temporarily reduced, which could cause more than normal traffic congestion. More than normal traffic congestion could potentially delay emergency response times or emergency evacuations in the project area. The project would implement Caltrans' Standard Specifications and Caltrans' Standard Special Provisions that pertain to coordinating with emergency service providers and emergency response planners. During project construction, both groups would be notified of project activities that have the potential to affect emergency response plans or evacuation plans.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Less Than Significant Impact—The project limits pass through two local responsibility areas (Santa Cruz and Scotts Valley) in addition to state responsibility areas. All three responsibility areas are located in areas of "moderate" fire hazard severity. The drainage system repairs are not expected to change existing conditions in a way that would affect wildfire incidents or be more susceptible to wildfire damages than under the current conditions. After the project is completed, regular vegetation maintenance would be conducted within the State right-of-way to help minimize the presence of fire fuels. The project would implement fire prevention

procedures during construction, including a fire prevention plan, as required by Caltrans 2018 Revised Standard Specifications Section 7-1.02M(2) and recommended in the California Division of Occupational Safety and Health – Fire Protection and Prevention Guidance.

3.2.10 Hydrology and Water Quality

CEQA Significance Determinations for Hydrology and Water Quality

Would the project:

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

Less Than Significant Impact—The proposed project would have temporary and minor impacts on water quality and would result in minimal waste discharge as noted in Section 2.2.2 (Water Quality and Stormwater Runoff). Compliance with applicable regulations and permits would ensure that water quality standards or waste discharge requirements would not be violated, and surface and groundwater quality would not be substantially degraded.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact—The project would not increase the amount of impervious surface and would not significantly decrease the amount of area available for infiltration as identified in Section 2.2.2 (Water Quality and Stormwater Runoff). The impact of rock slope protection installed as part of the project would be negligible on groundwater resources. This project proposes to provide treatment for 13.39 acres of impervious surfaces, which would aid in groundwater recharge.

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?

No Impact—The proposed project would not result in significant impacts that would substantially alter the existing drainage pattern of the site or area, including substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on or off the site.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17 without changing their configuration. The project would not result in significant impacts that would substantially alter the existing drainage pattern of the site or area, including substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on or off the site. The project would improve various drainage system facilities and implement Design Pollution Prevention Best Management Practices to reduce sediment transport from stormwater runoff.

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?

No Impact—Repaired or replaced drainage systems associated with the project would be designed to have the capacity to adequately handle runoff and would not provide substantial additional sources of polluted runoff. The project would reduce the amount of stormwater runoff polluted with excess sediment.

iv) Impede or redirect flood flows?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17 without changing their configuration so flood flows would not be redirected. Culverts would be replaced with pipes equal to or larger than the existing diameter so flood flows would not be impeded.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact—The project is not located in any flood hazard, tsunami, or seiche zones. All project work locations are determined to be outside the 0.2 percent annual chance floodplain. While the project limits pass through areas that are deemed floodway areas, according to the Federal Emergency Management Agency, no work locations are next to these areas. All portions of the project limits that pass through floodway areas are spanned by bridges of sufficient height to accommodate any flooding. The project is not located in the Coastal Zone or next to any semi- or fully enclosed bodies of water.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact—The project would not conflict with or obstruct the implementation of any water quality control plan or sustainable groundwater management area as evaluated in Section 2.2.2 (Water Quality and Stormwater Runoff) of this document. This project was initiated to reduce sediment loading from the highway facility to the San Lorenzo River watershed to satisfy a regulatory order from the Central Coast Regional

Water Quality Control Board, called a Total Maximum Daily Load that was set in 2003.

3.2.11 Land Use and Planning

CEQA Significance Determinations for Land Use and Planning

Would the project:

a) Physically divide an established community?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not physically divide an established community.

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—Most project activities would occur within an existing State right-of-way. The project would require seven permanent drainage easements to ensure future access for drainage system repair and maintenance. However, the permanent easements associated with the project are not expected to conflict with any existing land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.2.12 Mineral Resources

CEQA Significance Determinations for Mineral Resources

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact—Based on mapping provided by the California Department of Conservation, there are no mineral resources that would be of value to the region and the residents of the state within the project area.

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—Based on Santa Cruz County zoning maps, there are no existing or planned resource recovery sites within the project area.

3.2.13 Noise

CEQA Significance Determinations for Noise

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?

Less Than Significant Impact—The project would not add capacity to the highway and would repair or replace drainage systems at the same locations. Long-term ambient noise levels in the project vicinity are not expected to change once the project is completed. Construction activities have the potential to cause short-term increases in ambient noise levels. Construction-related noise would vary based on the activities and their proximity to nearby receptors. Noise generated during project construction would be temporary, intermittent, and is not expected to substantially exceed ambient noise levels in the project area. Construction activities are not expected to cause harmful noise conditions in the surrounding area. Construction activities are not expected to exceed 86 A-weighted decibels at 50 feet from the source during nighttime operations. The project would include Caltrans' Standard Specifications that pertain to noise control and minimization measures to reduce the project's potential for noise impacts.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact—The project would use trenchless drainage system replacement methods at two locations. Construction involving trenchless methods would last a few days and is not expected to cause excessive groundborne vibrations or excessive noise levels.

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 2 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—According to Federal Aviation Administration maps, there are no airports of any kind within 2 miles of the project limits. The project would not expose people living or working in the project area to excessive noise levels because it is outside the range of airport traffic or other airport operations.

3.2.14 Population and Housing

CEQA Significance Determinations for Population and Housing

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact—The project would repair or replace drainage systems at the same locations on an existing highway without altering the current highway capacity. The project would not change accessibility or influence growth. No direct or indirect impacts on unplanned population growth in the area would occur.

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

No Impact—Most project activities would occur within an existing State right-of-way. The project would require seven permanent drainage easements to ensure future access for drainage system repair and maintenance. However, the permanent easements associated with the project are not expected to displace any existing homes or businesses, result in acquiring the entire parcel, or affect existing properties.

3.2.15 Public Services

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—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not require altering or building facilities related to fire protection.

Police protection?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not require altering or building facilities related to police protection.

Schools?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not require altering or building facilities related to schools.

Parks?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not require altering or building facilities related to parks.

Other public facilities?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not require altering or building facilities related to other public facilities.

3.2.16 Recreation

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—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not increase demand or use at existing neighborhood and regional parks. Therefore, the project would have 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—The project would repair or replace drainage systems at the same locations along State Route 17. The project does not involve building or expanding new or existing recreational facilities. Therefore, the project would have no impact.

3.2.17 Transportation

CEQA Significance Determinations for Transportation

Would the project:

a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact—During construction, temporary lane reductions within the project area have the potential to cause more than normal traffic delays in the project area. These effects would be temporary and minor, and State Route 17 would remain open throughout construction. The project is not expected to conflict with any program plan, ordinance, or policy that addresses the circulation system, including mass transit, non-

motorized travel, and relevant components, including, but not limited to, intersections, streets, highways and freeways, and pedestrian and bicycle paths. Repairing and replacing drainage systems would ensure that the highway system continues to operate at this location.

b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not increase vehicle miles traveled.

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—The project would comply with current standards in Caltrans' Highway Design Manual.

d) Result in inadequate emergency access?

Less Than Significant Impact—During project construction, traffic control and lane reduction would be required in the project area, which could delay emergency services' response times if traveling through the project limits. It is expected that during project construction, access for emergency services would be maintained in the project area. Construction activities that could limit or restrict emergency service access would be coordinated with emergency service providers.

In addition, access to on-ramps and off-ramps within the project area would be maintained during project construction. No long-term emergency access restrictions are expected for this project. Construction activities are not expected to substantially affect existing emergency evacuation plans for the region in the event of an emergency.

3.2.18 Tribal Cultural Resources

CEQA Significance Determinations for Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, 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:

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)?

No Impact—A review of available cultural resource documentation revealed that the project area has been previously surveyed with negative results for cultural resources. A field survey of the project site confirmed that past construction activities have caused a substantial level of disturbance in the project area, which suggests a low probability for the presence of intact archaeological deposits of cultural importance. The project would not have the potential to impact cultural-related 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—Consultations with the California Native American Heritage Commission and various Native American tribes were conducted for the project. As part of the consultations, letters describing the project, a request for comment, and a request for information on Native American concerns were sent on August 8, 2022. No responses have been received to date. In addition, no tribal cultural resources have been identified in the project area. Therefore, the project would not cause impacts to any tribal cultural resource.

3.2.19 Utilities and Service Systems

CEQA Significance Determinations for Utilities and Service Systems

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact—The project would repair or replace drainage systems at the same locations along State Route 17. The project would not build new water or wastewater treatment facilities and would not require the expansion of existing facilities. There is a broadband project as part of the Middle-Mile Broadband Network in the State Route 17 corridor that is scheduled to be constructed in 2024 before the proposed construction of this project. Coordination is underway between the two projects and associated broadband infrastructure would be constructed to provide at least 2 feet of clearance to all culverts that are included in the proposed project.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less Than Significant Impact—The project would use minimal water during construction. Replacement planting would require supplemental watering, but native species that do not require excessive irrigation would be preferentially selected.

The project would involve replanting native plants as part of measures for biological resources. Caltrans complies with water conservation requirements set by executive orders that were issued during Governor Edmund G. Brown Jr.'s term. One of Caltrans' goals is to reduce water consumption by 50 percent compared to 2013 baseline usage. Caltrans often plans and designs temporary irrigation systems to minimize water consumption.

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—The project would repair or replace drainage systems for stormwater runoff at the same locations along State Route 17. The project would not generate wastewater, and no wastewater would flow through the culverts included in this project.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact—Project demolition and construction are expected to generate solid waste. However, any solid waste generated during project construction would be collected and transported to an appropriate recycling, disposal, or processing facility that is properly equipped and capable of handling solid waste materials as required by Caltrans' standards. The project is not expected to generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure. In addition, recycled materials would be incorporated into the project design where appropriate and feasible.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact—Caltrans' standards require the project to comply with federal and state statutes and regulations related to solid waste. Solid waste that can be recycled would be collected, transported, and processed at appropriate recycling facilities. It is expected that certain construction waste, such as concrete, steel, and asphalt, could be recycled and reused on other projects. The project is not expected to conflict with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.2.20 Wildfire

CEQA Significance Determinations for Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact—Traffic access within the project area would be maintained during project construction. Caltrans would coordinate with regional emergency service providers and planners to ensure that project activities do not conflict with adopted emergency response plans or emergency evacuation plans. Adopted emergency response plans or emergency evacuation plans are not expected to change as a result of the project.

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?

Less Than Significant Impact—The project limits pass through two local responsibility areas (Santa Cruz and Scotts Valley) in addition to state responsibility areas. All three responsibility areas are located in areas of "moderate" fire hazard severity. The drainage system repairs are not expected to change existing conditions in a way that would affect wildfire incidents or be more susceptible to wildfire damages than under the current conditions. The project would not expose workers to known fire risks and hazards during construction. Project activities have the potential to create an unintended fire. However, the project would incorporate precautions to prevent fire incidents from occurring during construction as part of the code of safe practices in accordance with California Division of Occupational Safety and Health – Fire Protection and Prevention guidance.

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—The project would repair or replace drainage systems at the same locations along State Route 17. No infrastructure associated with the drainage systems would exacerbate fire risk.

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?

Less Than Significant Impact—There is a potential for post-fire debris, material, and runoff to pass through the drainage systems associated with the project. In the event of an emergency, the project site is expected to be evacuated as part of the code of safe practices in accordance with California Division of Occupational Safety and Health—Fire Protection and Prevention guidance.

3.2.21 Mandatory Findings of Significance

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—Project impacts would be limited in scope and duration. Permanent impacts to jurisdictional features would occur from the installation of rock slope protection at culvert locations that require it within jurisdictional areas, including post miles 2.62, 8.20, and 11.24. A total of about 0.002 acre of U.S. Army Corps of Engineers and Regional Water Quality Control Board's jurisdictional other waters of the U.S. and California Department of Fish and Wildlife streambed may be permanently impacted. A total of about 18 square feet (less than 0.001 acre) of Regional Water Quality Control Board/California Department of Fish and Wildlife jurisdictional streambank and vegetated riparian habitat may be permanently impacted. The project, as a whole, is intended to provide an overall benefit to stormwater conveyance by reducing sediment loading from the highway facility to the San Lorenzo River watershed. This would result in an overall improvement of jurisdictional resource health in the project area.

Temporary impacts to jurisdictional features would occur due to temporary access, staging areas, and temporary stream diversion/dewatering if needed. A total of about 0.037 acre of U.S. Army Corps of Engineers and Regional Water Quality Control Board's jurisdictional other waters of the U.S. and California Department of Fish and Wildlife streambed may be temporarily impacted. A total of about 0.084 acre of Regional Water Quality Control Board/California Department of Fish and Wildlife jurisdictional vegetated riparian habitat may be temporarily impacted. A total of 0.021 acre of U.S. Army Corps of Engineers and Regional Water Quality Control Board's jurisdictional wetlands may be temporarily impacted.

Most temporary impacts would result from vegetation and tree removal and access road/staging area establishment. Site contours would be returned to preconstruction conditions as feasible and revegetated. Tree removal would be mitigated with in-kind replacement. The most significant biological impacts would be associated with jurisdictional areas and California red-legged frogs, as discussed in Section 2.3.2 and Section 2.3.4. These impacts would be reduced to a less than significant level with previously identified measures. No additional measures are necessary. Therefore, the project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less Than Significant Impact—The project would have individually limited impacts on resources determined to be in decline from historic cumulative impacts as discussed in Section 2.3.7 (Cumulative Impacts). These impacts would be temporary in nature, as would the impacts of other recently constructed, current, and reasonably foreseeable projects that would affect the same resources. Cumulative impacts to the affected resources are managed through required permits from regulatory agencies, and most of these projects would ultimately result in improvements to the resources.

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

Less Than Significant Impact—The project would emit air pollutants and greenhouse gases that have the potential to cause impacts on human beings. Demolition and construction activities would require traffic control that could delay traffic and potentially interfere with regular emergency services and evacuations during wildfire and landslide events. However, these impacts would be temporary and limited to the project site. Therefore, project impacts associated with environmental effects that cause substantial impacts to human beings, either directly or indirectly, would not be significant.

3.3 Climate Change

3.3.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions before making a decision on the action or project.

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

The federal government has taken steps to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 U.S. Code Section 6201) as amended by the Energy Independence and Security Act of 2007 and Corporate Average Fuel Economy Standards. This act established fuel economy standards for on-road motor vehicles sold in the U.S. The U.S. Department of Transportation’s National Highway Traffic and Safety Administration sets and enforces the Corporate Average Fuel Economy standards based on each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the U.S. The Environmental Protection Agency calculates average fuel economy levels for manufacturers and also sets related greenhouse gas emissions standards under the Clean Air Act. Raising Corporate Average Fuel Economy standards leads automakers to create a more fuel-efficient fleet, which improves our nation’s energy security, saves consumers money at the pump, and reduces greenhouse gas emissions.

The U.S. Environmental Protection Agency published a final rulemaking on December 30, 2021, that raised federal greenhouse gas emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. The updated greenhouse gas emissions standards will avoid more than 3 billion tons of greenhouse gas emissions through 2050. In April 2022, the National Highway Traffic Safety Administration announced corresponding new fuel economy standards for model years 2024 through 2026, which will reduce fuel use by more than 200 billion gallons through 2050 compared to the old standards and reduce fuel costs for drivers.

State

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

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

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

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

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board to set regional emissions reduction targets for passenger vehicles. The Metropolitan

Planning Organization for each region must then develop a "Sustainable Communities Strategy" that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

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

Executive Order B-16-12 (March 2012): This order requires State entities under the direction of the Governor, including the California Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015): This order establishes an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reduction targets. It also directs the California Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. Greenhouse gases differ in how much heat each trap in the atmosphere, called global warming potential. Carbon dioxide is the most important greenhouse gas, so amounts of other gases are expressed relative to carbon dioxide using a metric called "carbon dioxide equivalent." The global warming potential of carbon dioxide is assigned a value of 1, and the global warming potential of other gases is assessed as multiples of carbon dioxide. Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every three years and to ensure that its provisions are fully implemented.

Senate Bill 32, Chapter 249, 2016: This bill codifies the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

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

Senate Bill 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to the California Environmental Quality Act from a focus on automobile delay to alternative methods focused on vehicle miles traveled to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

Senate Bill 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires the California Air Resources Board to prepare a report that assesses progress made by each metropolitan planning organization in meeting its established regional greenhouse gas emission reduction targets.

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

Assembly Bill 1279, Chapter 337, 2022, The California Climate Crisis Act: This bill mandates carbon neutrality by 2045 and establishes an emissions reduction target of 85 percent below 1990 levels as part of that goal. This bill solidifies a goal included in Executive Order B-55-18. It requires the California Air Resources Board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in California, as specified.

Affected Environment

The information and analysis contained in this section are based on the Climate Change Report prepared in August 2023.

Environmental Setting

State Route 17 through the project limits is a north-south oriented conventional highway with 12-foot lanes that connects Santa Cruz County with Silicon Valley and the rest of the San Francisco Bay Area. From its southern terminus with State Route 1 in Santa Cruz, State Route 17 begins as a five-lane freeway, which narrows to four lanes after Pasatiempo Drive near post mile 0.76. The posted speed limit through this portion of the project limits is 65 miles per hour. At the northern end of the City of Scotts Valley, State Route 17 becomes a four-lane divided highway, with access at various points without interchanges, and begins a winding ascent of the Santa Cruz Mountains. The posted speed limit for this segment of State Route 17 is 55 miles per hour. Speed limits are reduced as State Route 17 approaches sharp curves in its alignment.

State Route 17 serves local and interregional traffic, predominately recreational users and local commuters, with some commercial users. Public transit in the region is somewhat limited, but Santa Cruz Metropolitan Transit provides bus service through the project limits from Santa Cruz to San Jose via its Highway 17 Express route. This route further serves as an Amtrak Thruway connecting service.

State Route 17, from its juncture with State Route 1 to the City of Scotts Valley, travels through areas predominately zoned as Residential Agriculture and Rural-Residential, with single-family homes on larger parcels. As State Route 17 passes through the City of Scotts Valley, the surrounding land is designated for a variety of residential, commercial, and industrial uses. Residential and commercial density in the Scotts Valley area consists of single-family residences in medium-density neighborhoods next to commercial retail complexes, interspersed with homes on larger parcels. From the northern edge of Scotts Valley to the Santa Clara County border, State Route 17 traverses rural areas predominately zoned as Residential Agricultural and Mountain Residential, with some minor Timber Production. State Route 17 in Santa Cruz County is eligible for designation as an Official State Scenic Highway.

The mountainous regions of Santa Cruz County are areas of great natural diversity, encompassing cool, moist coastal ecosystems and warm, dry chaparral. The area surrounding the portion of the project limits north of the City of Scotts Valley is heavily vegetated with redwood forests. The remainder of the project limits feature pockets of moderate to densely vegetated areas featuring redwood, acacia, and oak trees interspersed with developed areas.

The project area ranges from relatively flat urban areas through Santa Cruz and Scotts Valley to steep mountainous slopes as it moves north toward the summit of the Santa Cruz Mountains. The alignment of State Route 17 in Santa Cruz County roughly follows the course of Carbonera Creek, which ultimately flows into Monterey Bay.

Regional Plans

The Association of Monterey Bay Area Governments, in coordination with the Santa Cruz County Regional Transportation Commission, guides transportation development in the project area. The 1994 Santa Cruz County General Plan Conservation and Open Space element addresses greenhouse gases in the project area. The Santa Cruz County 2040 Regional Transportation Plan, developed by the Santa Cruz County 2040 Regional Transportation Commission, includes a greenhouse gas emissions inventory and forecast for Santa Cruz County. California Air Resources Board sets regional greenhouse gas reduction targets for California's 18 metropolitan planning organizations to achieve through planning future projects that will cumulatively achieve those goals and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy. Targets are

set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels. The applicable metropolitan planning organization for the project location is the Association of Monterey Bay Area Governments. The regional reduction target for the Association of Monterey Bay Area Governments is negative 6 percent by 2035. The Association of Monterey Bay Area Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy for the project area is the 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy: Moving Forward Monterey Bay 2045. The project is included in the Metropolitan Transportation Plan/Sustainable Communities Strategy. Implementation of the 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy is expected to achieve a 4 percent per capita reduction by 2020 and a nearly 7 percent per capita reduction by 2035.

The regional transportation planning agency for the project is the Santa Cruz County Regional Transportation Commission. The Santa Cruz County Regional Transportation Commission's Regional Transportation Plan for the project area is the 2045 Regional Transportation Plan for Santa Cruz County, and the project is included in the Regional Transportation Plan. The 2045 Regional Transportation Plan aims to reduce per capita greenhouse gas emissions by 50 percent by 2030 and 78 percent by 2045. The Santa Cruz County Regional Transportation Commission's 2045 Regional Transportation Plan identifies three primary approaches for reducing greenhouse gas emissions from transportation by 40 percent by 2030 and 70 percent by 2045 (compared to 2005):

- Improvements in vehicle technology creating greater fuel efficiencies such as zero-emission and partial zero-emission vehicles.
- Improvements in low-carbon fuels
- Reduction in the number of vehicle miles traveled.

The Open Space and Conservation Element of the Santa Cruz County 1994 General Plan features policy 5.18.9 Greenhouse Gas Reduction, which mandates the implementation of state and federal legislation promoting the national goal of a 35 percent reduction in carbon dioxide and other greenhouse gases by 2000. The Santa Cruz County Board of Supervisors approved a Sustainability Update to the General Plan in 2022, and the update is now awaiting final certification by the Coastal Commission. The general plan is complemented by the adoption of the 2022 Climate Action and Adaptation Plan to further address climate change in Santa Cruz County in the 21st century.

Project Adaptation Analysis

Sea Level Rise

The project is outside the coastal zone and not in an area subject to sea level rise. The project location is about 1 mile northeast and 293 feet higher in elevation than the furthest extent of coastal inundation expected from 10 feet of sea level rise.

Temperature, Precipitation, and Flooding

The Santa Cruz Mountain region is characterized by a mild coastal climate, warm dry summers, and cool, wet winters. Temperatures range from 30 to 60 degrees Fahrenheit in the winter and from 60 to 80 degrees Fahrenheit in the summer. The average precipitation ranges from 35 to 45 inches per year, which falls mostly between November and April.

While the project limits pass through areas that are deemed floodway areas, according to the Federal Emergency Management Agency, no work locations are next to these areas. The floodway is defined as the channel of a stream plus any nearby floodplain areas that must be kept free of encroachment so that the 1 percent annual chance flood can be carried without substantial increases in flood height. All portions of the project limits that pass through floodway areas are spanned by bridges of sufficient height to accommodate any flooding.

Wildfire

The California Department of Forestry and Fire Protection provides a Fire Hazard Severity Zone Mapping Tool that helps in assessing the project location's vulnerability to future wildfire events. The fire hazard severity zones are developed using a science-based and field-tested model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Many factors are considered, such as vegetation, topography, climate, crown fire potential, ember production and movement, and fire history of the area. There are three levels of hazard used in this mapping tool: moderate, high, and very high. The project limits pass through two local responsibility areas (Santa Cruz and Scotts Valley) in addition to state responsibility areas. All three responsibility areas are located in areas of "moderate" fire hazard severity.

Environmental Consequences

Environmental Setting

The project would result in the removal of trees and other vegetation from the project limits. About 51 trees are estimated for removal over seven locations. This amount of tree and vegetation removal would not substantially change the moderately to densely vegetated nature of the project area, especially with the replacement of trees at a 1-to-1 or greater ratio upon the completion of construction.

Regional Plans

The project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The proposed project would not increase the vehicle capacity of the roadway or cause an increase in vehicle miles traveled; therefore, the project would not impede any goals listed in regional plans that aim to reduce greenhouse gas emissions due to transportation.

Operational and Construction Emissions

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

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

An Air Quality, Noise, Greenhouse Gas, and Water Quality Technical Assessment was prepared for this project in July 2022. Construction of a typical Stormwater and drainage project is expected to last for about 145 working days. Construction-generated greenhouse gas emissions were quantified based on the default settings for a stormwater and drainage project using the Caltrans Construction Emissions Tool, which largely models the emissions from construction equipment. Greenhouse gas emissions would total about 88 tons of carbon dioxide equivalent during the estimated 145 days of project construction. Carbon dioxide equivalent is a measure used to compare emissions from various greenhouse gases based on their global warming potential. Calculating the carbon dioxide equivalent includes converting the emissions of other gases to the equivalent amount of carbon dioxide with the same global warming potential and then totaling the emissions together (European Environment Agency, 2001). Note that this estimate is based on assumptions made during the environmental planning phase of the project and is considered a “ballpark” estimate of carbon dioxide equivalent emissions, relying on limited data inputs and default modeling. In addition to construction emissions, it should be noted that traffic delays during construction may result in increased greenhouse gas emissions from vehicles and that the production and processing of construction materials, such as concrete, would also produce emissions.

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7-1.02C, Emissions Reduction, requires contractors to comply with all laws applicable to the project and to certify they

are aware of and will comply with all ARB emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

The project is not expected to result in any increase in operational greenhouse gas emissions because the project would not increase the vehicular capacity of State Route 17. Temporary construction-related activities are expected to generate minor amounts of greenhouse gases. The implementation of avoidance and minimization measures, combined with the use of standard construction dust and emission minimization practices and procedures during construction, would minimize the amount of greenhouse gas emissions generated by the project.

Project Adaptation Analysis

Sea Level Rise

The project is not expected to be vulnerable to the effects of sea level rise, including inundation, cliff retreat, wave impacts, and coastal flooding. State Route 17 is far enough away from the coastline and at a high enough elevation that the project location is not expected to be inundated under even the extreme H plus plus climate scenarios.

Temperature, Precipitation, and Flooding

The project area is subject to rising average maximum and minimum temperatures compared to historical averages. The rising average temperatures have implications for the health and comfort of people traveling through the project limits, as well as for the design of the project: changes in daily temperature can affect pavement quality and durability. Changes in daily temperature can affect the quality and durability of roadway pavement. Exposure to high temperatures can cause roadway pavement to deform, which can result in buckling, cracking, and other damages or deteriorations.

Culverts replaced using the cut-and-fill method would require rehabilitation of any roadway surfaces that are damaged during construction via repaving. Per the Caltrans Highway Design Manual Chapter 612 Section 5, Roadway Rehabilitation, the minimum pavement design life for roadway rehabilitation shall be 20 years, which is about 2047 for the project. The average minimum temperature within the project limits is expected to increase by about 1 to 2 degrees by 2025, 3 to 4 degrees by 2055, and 6 to 7 degrees by 2085. The average seven-day maximum temperature within the project limits is expected to increase by about 2 to 3 degrees by 2025, 4 to 5 degrees by 2055, and 8 to 9 degrees by 2085. These increases are expected to fall within the acceptable temperature ranges for the “Central Coast” pavement type used in Santa Cruz County. Further, expectations of future temperature increases in the region are considered when designing new roadway pavements.

Roadway pavements are often replaced every 20 to 40 years, so the pavement used within the project limits can be replaced with material that is suitable for future temperature changes. Therefore, temperature changes during the project's design life that would require adaptive changes in pavement design or maintenance practices are not expected.

Under future climatic conditions in the southwest U.S., it is expected that there will be less precipitation overall, but with the potential for heavier individual rainstorms. Indications of increased precipitation in the project area mean that Caltrans must assume higher rainfall and associated flooding and must anticipate more extreme storm events. Heavy rain events can affect highways by causing flooding, landslides, washouts, or structural damage. The project would improve existing culvert systems on State Route 17, which would increase the overall resiliency to future rain events. The project is expected to minimize flooding and washouts along State Route 17. Therefore, the construction of this project is expected to make State Route 17 in Santa Cruz County more resilient to changes in future precipitation as a result of changing climate conditions.

Wildfire

Wildfire risk levels are expected to increase under future climatic conditions within the project area. Wildfires directly affect highways by burning infrastructure such as wooden posts for signs and guardrails. Wildfires indirectly affect highways because they can contribute to the risks of landslides and flooding exposure by burning off soil-stabilizing vegetation and reducing the capacity of soils to absorb rainfall. This effect is exacerbated by predicted increases in precipitation and extreme storm events caused by climate change (Caltrans 2019a). Wildfire smoke can also affect visibility and the health of the public and Caltrans staff.

The project would improve existing culvert systems on State Route 17 and would not alter their functions. After the project is completed, regular vegetation maintenance would be conducted within the State right-of-way to help minimize the presence of fire fuels. The project would implement fire prevention procedures during construction, including a fire prevention plan, as required by Caltrans' 2018 Revised Standard Specifications Section 7-1.02M(2) and recommended in the California Division of Occupational Safety and Health – Fire Protection and Prevention Guidance. The project is not expected to exacerbate the impacts of wildfires intensified by climate change or be more susceptible to wildfire damages than under the current conditions.

CEQA Conclusions

While the project would result in greenhouse gas emissions during construction, it is expected that the project would 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 the implementation of construction greenhouse gas-reduction measures, construction-related greenhouse gas impacts would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project related to construction activities:

GHG-1: Schedule truck trips outside of peak morning and evening commute hours when possible.

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

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

GHG-3: Use alternative fuels such as renewable diesel or solar power for construction equipment when available. If the use of alternative fuels is not possible, substitute gasoline-powered equipment for diesel-powered equipment. Comply with Section 3-517-Equipment of the California Department of Transportation Construction Manual.

GHG-4: Supplement existing construction environmental training with information on methods to reduce greenhouse gas emissions related to construction. This information would be shared using a handout. The information in the handout should include, but not be limited to the following:

- For improved fuel efficiency from construction equipment, maintain equipment in proper tune and working condition, use the right-sized equipment for the job, and use equipment with new technologies.
- Limit idling to five minutes for delivery and dump trucks and other diesel-powered equipment.
- Reduce construction waste. For example, reuse or recycle construction and demolition waste. Maximize the use of recycled materials for project construction to the extent feasible. See Caltrans' Standard Specifications Section 14-10, Solid Waste Disposal and Recycling.
- Use on-road heavy-duty trucks that meet the CARB’s 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation. See Caltrans' Standard Specifications Section 7-1.02C, Emissions Reduction, and comply with Construction Manual Section 7-1.04A (1) Air Quality.

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U.S. Department of Commerce

National Oceanic and Atmospheric Administration

National Marine Fisheries Service—West Coast Region

501 West Ocean Boulevard, Suite 4200

Long Beach, California 90802-4250

Department of the Army

San Francisco District, Corps of Engineers

Regulatory Division

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California Department of Fish and Wildlife

Bay Delta Region 3

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Central Coast Regional Water Quality Control Board

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Sheriff Headquarters

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Scotts Valley Fire District

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Scotts Valley, California 95066

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Appendix A Title VI/Non-Discrimination Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

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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"

Appendix B Avoidance, Minimization and/or Mitigation Measures Summary

With implementation of the following minimization measures, the project would be consistent with the aesthetic and visual resource protection goals along State Route 17, and potential visual impacts would be reduced:

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

VIS 2: Revegetate all disturbed areas with native plant species appropriate to each specific work location.

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

VIS 4: All visible concrete drainage elements, including, but not limited to, headwalls, drain inlet aprons, etc., should be colored to blend with the surroundings and reduce reflectivity. The specific colors of these concrete elements shall be determined by a Caltrans District 5 Landscape Architect.

VIS 5: All visible metal components related to down drains and inlets, including but not limited to flared end sections, connectors, anchorage systems, safety cable systems, etc., should be darkened or colored to blend with the surroundings and reduce reflectivity. The specific color shall be determined by a Caltrans District 5 Landscape Architect.

VIS 6: All visible rock slope protection should be placed in natural-appearing shapes rather than in geometric patterns to the greatest extent possible to reduce its engineered appearance.

VIS 7: Following the placement of rock slope protection, the visible rock should be colored to blend with the surroundings and reduce reflectivity. The specific color shall be determined by a Caltrans District 5 Landscape Architect.

VIS 8: Following construction, regrade and recontour all new construction staging areas and other temporary uses as necessary to match the surrounding pre-project topography.

No cultural resource-related measures are required for the State Route 17 Drainage Improvement project.

The project would include the following Caltrans Standard Special Provisions that deal with the chance discovery of previously unknown cultural materials or human remains during project construction:

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

CR 2: If human remains are discovered during construction, California Health and Safety Code Section 7050.5 states that further disturbances and activities would stop in any area or nearby area suspected to overlie remains, and the county coroner would be contacted. If the remains are thought by the coroner to be Native American, the coroner would notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, would then notify the Most Likely Descendent. At this time, the individual who discovers the remains would contact the District 5 Environmental Branch so they can work with the Most Likely Descendent on the respectful treatment and arrangement of the remains. Additional provisions of Public Resources Code Section 5097.98 must be followed, as applicable.

The following measure would be implemented for the project to avoid and/or minimize potential impacts associated with geological resources in the project area:

GEO 1: Additional subsurface investigation would be conducted before project construction to identify subsurface conditions and to help determine appropriate final design elements required to protect the drainage systems from potential geologic hazards.

The following mitigation measures would ensure that potential impacts to paleontological resources are reduced to less than significant levels:

PAL 1: Develop a Paleontological Mitigation Plan during the project design phase once more detailed project plans and geotechnical investigations are available. The Paleontological Mitigation Plan shall be prepared by a principal paleontologist who meets Caltrans qualifications, conforms to Caltrans guidelines (Standard Environmental Reference, Volume 1, Chapter 8), and includes a reevaluation of potential project impacts.

PAL 2: Implement a Paleontological Mitigation Plan during construction. Caltrans shall retain a Principal Paleontologist who meets Caltrans qualifications to implement the prepared Paleontological Mitigation Plan during construction. Implementation of the Plan will follow Caltrans standards and involve conducting paleontological monitoring of earthwork operations during construction, evaluation, and collection of discovered scientifically

significant fossils and preparation, identification, and curation of collected fossils into an accredited scientific repository.

The following avoidance and minimization measures are recommended to reduce adverse effects to natural communities as a result of project activities:

BIO 1: The project shall minimize tree removal to the greatest extent possible. All native trees within project limits with a diameter at breast height greater than 4 inches shall be shown on roadside clearing plans to properly account for tree impacts. Trees not proposed for removal shall have tree protection fencing and shall be shown on plans as an environmentally sensitive area.

BIO 2: To reduce the amount of ground disturbance, vegetation within the Coast redwood forest that is removed in temporarily disturbed areas would be cut off at ground level, where feasible, rather than clearing and grubbing with heavy equipment.

BIO 3: During construction, the resident engineer and biologist shall determine the placement of ESA fencing based on the project plans. Environmentally sensitive area fencing shall consist of a Temporary High-Visibility Fence and shall be maintained in good condition until construction is complete.

BIO 4: All native trees with a diameter at breast height greater than 4 inches that are removed in upland areas shall be replaced at a 1-to-1 ratio.

The following avoidance and minimization measures would be implemented to reduce the potential impacts on the U.S. Army Corps of Engineers, Regional Water Quality Control Boards, and California Department of Fish and Wildlife jurisdictional areas resulting from the project:

BIO 5: Before construction, Caltrans shall obtain a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from Regional Water Quality Control Boards, and a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife. All permit terms and conditions would be incorporated into construction plans and implemented.

BIO 6: Before any ground-disturbing activities, environmentally sensitive area fencing shall be installed around jurisdictional features 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 before the start of construction activities.

BIO 7: Construction activities in jurisdictional waters and temporary stream diversion, if needed, 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 a seasonal minimum. Deviations

from this work window would only be made with permission from the relevant regulatory agencies.

BIO 8: 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 on-site at all times during construction.

BIO 9: Erosion control measures shall be implemented during construction. Silt fencing, fiber rolls, and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitats. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.

BIO 10: During construction, the staging areas shall conform to Best Management Practices. 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 11: Stream contours shall be restored as close as possible to their original condition.

The following compensatory mitigation measures would reduce impacts to jurisdictional areas to less than significant levels:

BIO 12: Temporary impacts to jurisdictional areas would be restored at a 1-to-1 ratio (acreage).

BIO 13: Permanent impacts to jurisdictional areas would be restored at a 3-to-1 ratio (acreage)

BIO 14: Replacement plantings would include appropriate native tree and understory species.

BIO 15: All trees removed within jurisdictional areas with a diameter at breast height greater than 4 inches would be replaced at a minimum 3-to-1 ratio.

Avoidance and minimization measures in Section 2.3.4 for California red-legged frogs would also minimize impacts on the Santa Cruz black salamander and California giant salamander. In addition to those measures, the following are recommended:

BIO 16: A Caltrans-approved biologist shall survey the project site no more than 48 hours before the start of work activities in suitable habitat for the Santa Cruz black salamander and California giant salamander. In addition to visual surveys, the biologist shall inspect under rocks and debris, where feasible. If found, the biologist shall relocate the species at the shortest distance possible to a location that contains suitable habitat and cover and

would not be affected by project activities. The relocation site shall be in the same watershed to the extent practicable.

BIO 17: Before any project activities begin, a Caltrans-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the Santa Cruz black salamander and California giant salamander and their habitat, the specific measures that are being implemented to conserve these species for the current project, and the boundaries within which the project may be accomplished.

The following avoidance and minimization measures are recommended for the San Francisco Dusky-footed woodrat:

BIO 18: Before the implementation of proposed project activities, a preconstruction visual survey would be conducted within suitable San Francisco Dusky-footed woodrat habitat in the API to determine the presence or absence of woodrat nests.

BIO 19: If woodrat nests are located during this survey, avoid them, and establish an ESA with a 25-foot buffer around each to the extent feasible.

BIO 20: To the extent feasible, project activities requiring grading or vegetation removal within the 25-foot protective buffer should only occur during the non-breeding season (October 1 through December 31) to avoid noise impacts to any breeding woodrats that may occupy the nest from January through September.

BIO 21: If project activities cannot avoid impacting or removing the nest, then it should be dismantled by hand before grading or vegetation removal activities. The dismantling shall occur during the non-breeding season (October 1 through December 31) and shall be conducted so that the nest material is removed, starting on the side where most impacts would occur and ending on the side where the most habitat would be undisturbed, which would allow for any woodrats in the nest to escape into nearby undisturbed habitat.

BIO 22: If young are encountered during nest dismantling, the dismantling activity should be stopped, the material should be replaced back on the nest, and the nest should be left alone and rechecked in two to three weeks to see if the young are out of the nest or capable of being out on their own (as determined by a qualified biologist); once the young can fend for themselves, the nest dismantling can continue.

The following avoidance and minimization measures are recommended for mountain lions:

BIO 23: Before the start of construction, a Caltrans-approved Biologist shall conduct a worker environmental training program, including a description of the mountain lion and its habitats, its legal/protected status, proximity to the

project site, avoidance/minimization measures to be implemented during the project, and the implications of violating relevant permit conditions.

BIO 24: Construction work areas must be restored to pre-project conditions, where feasible, and no new features that could impede wildlife movement over or under the highway are permitted.

The following avoidance and minimization measures are recommended to protect nesting birds:

BIO 25: Before construction, vegetation removal shall be scheduled to occur from September 2 to January 31, outside of the typical nesting bird season, if possible, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 feet of potential habitat during the nesting season (February 1 to September 1), a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than 10 calendar days before construction. If an active nest is found, Caltrans shall implement an appropriate buffer or monitoring strategy based on the habits and needs of the species. The buffer area or monitoring strategy shall be implemented until a qualified biologist has determined that juveniles have fledged, or nesting activity has otherwise ceased.

BIO 26: During construction, active bird nests shall not be disturbed, and eggs or young of birds covered by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time.

BIO 27: Trees to be removed would be noted on design plans. Before any ground-disturbing activities, ESA fencing shall be installed around the dripline of trees to be protected within project limits.

BIO 28: All clearing/grubbing and vegetation removal shall be monitored and documented by the biological monitor(s), regardless of the time of year.

Caltrans anticipates the proposed project would 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.* The following measures are the applicable measures from the Programmatic Biological Opinion that would be implemented to avoid and/or minimize adverse effects to the species as a result of project activities:

BIO 29: Only a U.S. Fish and Wildlife Service-approved biologist shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs. Biologists authorized under this PBO do not need to resubmit their qualifications for subsequent projects conducted pursuant to this PBO unless we have revoked their approval at any time during the life of this PBO.

BIO 30: Ground disturbance would not begin until written approval is received from the Service that the biologist is qualified to conduct the work unless the individual(s) has/have been approved previously and the Service has not revoked that approval.

BIO 31: A U.S. Fish and Wildlife Service-approved biologist shall survey the project site no more than 48 hours before the start of work activities. If found, the U.S. Fish and Wildlife Service-approved biologist shall relocate the California red-legged frogs to the shortest distance possible to a location that contains suitable habitat and would not be affected by project activities. The relocation site shall be in the same drainage to the extent practicable.

BIO 32: 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.

BIO 33: A U.S. Fish and Wildlife Service-approved biologist shall be present at the project site until all California red-legged frogs have been removed, workers have been instructed, and initial disturbance of habitat has been completed. If work is stopped because California red-legged frogs would be affected in a manner not expected by Caltrans and the U.S. Fish and Wildlife Service during review of the proposed action, they shall notify the resident engineer immediately. When work is stopped, the U.S. Fish and Wildlife Service shall be notified as soon as possible.

BIO 34: 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.

BIO 35: All refueling, maintenance, and staging of non-stationary equipment and vehicles shall occur at least 60 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. If stationary equipment must be refueled within 60 feet of riparian habitat or water bodies, secondary containment best management practices shall be implemented. The Caltrans biologist shall ensure contamination of habitat does not occur during such operations. Before the start of work, Caltrans shall ensure that a plan is in place for a 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 36: 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 culvert repair/replacement and drainage improvements 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 37: The number of access routes, the size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. ESAs shall be established to confine access routes and construction areas to the minimum area necessary to complete construction and minimize the impact on 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 38: 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).

BIO 39: To control sedimentation during and after project construction, 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.

BIO 40: 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 project completion.

BIO 41: 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 42: 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.

BIO 43: Caltrans shall not use herbicides as the primary method to control invasive, exotic plants.

BIO 44: Upon project completion, 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.

The following avoidance and minimization measures are recommended to avoid and/or minimize potential invasive species impacts caused by project construction activities.

BIO 45: During construction, Caltrans would ensure that the spread or introduction of invasive exotic plant species would be avoided to the maximum extent possible.

BIO 46: Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed of. Any plant species rated as “High” on the Cal-IPC Invasive Plant Inventory that are removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. The 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 47: Construction equipment shall be inspected to verify it is clean and 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 to avoid/minimize the spread of invasive plants and/or seeds within the construction area. If wash stations onsite are infeasible due to the site’s space constraints, construction equipment shall be cleaned offsite and then driven only on paved roads to the site.

To minimize impacts to water quality and stormwater runoff, the following measures would be implemented:

Temporary Soil Stabilization

WQ 1: Minimize active Disturbed Soil Areas during the rainy season using scheduling techniques.

WQ 2: Preserve existing vegetation to the maximum extent feasible.

WQ 3: Implement temporary protective cover/erosion control on all non-active Disturbed Soil Areas and soil stockpiles.

WQ 4: Control erosive forces of stormwater 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

WQ 5: 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.

WQ 6: Implement appropriate wind erosion controls year-round.

Non-Stormwater Management

WQ 7: The appropriate non-stormwater best management practices would be implemented year-round as follows:

WQ 8: Water conservation practices are implemented on all construction sites and wherever water is used.

WQ 9: Paving and grinding procedures are implemented where paving, surfacing, resurfacing, grinding, or saw cutting may pollute stormwater runoff or discharge to the storm drain system or watercourses.

WQ 10: 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.

WQ 11: The following activities must be performed at least 100 feet from concentrated flows of stormwater, 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, and fueling and maintaining vehicles and equipment.

The following construction site best management practices are expected to be included in this project:

- Job Site Management
- Prepare Water Pollution Control Program
- Temporary Fiber Roll
- Temporary Large Sediment Barrier
- Temporary Concrete Washout
- Temporary Fence (type ESA)

In addition to Caltrans' Standard Specification Section 14-8, Noise and Vibration, the following control measures would be implemented to minimize noise and vibration during periods of construction:

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. 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: Shield loud pieces of stationary construction equipment if complaints are received.

NOI 3: Locate portable generators, air compressors, etc., away from sensitive noise receptors as feasible.

NOI 4: Limit grouping major pieces of equipment operating in one area to the greatest extent feasible.

NOI 5: 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; and,

NOI 6: Consult district noise staff if complaints are received during the construction process.

The following general recommendations are made to reduce the overall decline in the health of the identified resources in addition to the previously identified measures:

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

CUM-1: Agencies with regulatory authority of jurisdictional areas include the U.S. Army Corps of Engineers, Central Coast Regional Water Quality Control Board, and California Department of Fish and Wildlife. 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

CUM-2: Agencies with regulatory authority over California red-legged frogs include the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife. Efforts should continue to be made by these agencies to support projects that improve habitat acreage and function for this species through enhancement and creation. Providing suitable contiguous habitat would make both of these resources more resilient and resistant to decline.

State Route 17 Viewshed

CUM-3: Agencies with regulatory authority over the State Route 17 Viewshed include the City of Santa Cruz, the City of Scotts Valley, and the County of Santa Cruz. To maintain the good health and stability of Visual Resources along the State Route 17 Corridor, these agencies should continue to implement and enforce planning policies and guidelines that protect the aesthetic character of the region and the project area.

The following measures would also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project related to construction activities:

GHG-1: Schedule truck trips outside of peak morning and evening commute hours when possible.

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

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

GHG-3: Use alternative fuels such as renewable diesel or solar power for construction equipment when available. If the use of alternative fuels is not possible, substitute gasoline-powered equipment for diesel-powered equipment. Comply with Section 3-517-Equipment of the California Department of Transportation Construction Manual.

GHG-4: Supplement existing construction environmental training with information on methods to reduce greenhouse gas emissions related to construction. This information would be shared using a handout. The information in the handout should include, but not be limited to the following:

- For improved fuel efficiency from construction equipment, maintain equipment in proper tune and working condition, use the right-sized equipment for the job, and use equipment with new technologies.
- Limit idling to five minutes for delivery and dump trucks and other diesel-powered equipment.
- Reduce construction waste. For example, reuse or recycle construction and demolition waste. Maximize the use of recycled materials for project construction to the extent feasible. See Caltrans' Standard Specifications Section 14-10, Solid Waste Disposal and Recycling.

- Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation. See Caltrans' Standard Specifications Section 7-1.02C, Emissions Reduction, and comply with Construction Manual Section 7-1.04A (1) Air Quality.

List of Technical Studies Bound Separately

Air Quality, Noise, Greenhouse Gas, and Water Quality Technical Assessment (July 28, 2022)

Climate Change Technical Report (September 1, 2023)

Cumulative Impact Report (August 25, 2023)

Historical Property Survey Report (December 21, 2022)

- Historic Resource Evaluation Report
- Historic Architectural Survey Report
- Archaeological Survey Report

Initial Site Assessment (March 14, 2022)

Location Hydraulic Study (May 2, 2023)

Natural Environment Study (June 22, 2023)

Paleontological Identification Report (September 13, 2023)

District Preliminary Geotechnical Report (September 12, 2023)

Visual Impact Assessment (October 7, 2022)

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

Lara Bertaina
District 5 Environmental Division
California Department of Transportation
50 Higuera Street, San Luis Obispo, California 93401

Or send your request via email to: lara.bertaina@dot.ca.gov
Or call: 805-779-0792

Please provide the following information in your request:

Project title: State Route 17 Drainage Improvement

General location information: In Santa Cruz County from State Route 1/17 Separation to Santa Clara County Line

District number-county code-route-post mile: 05-SCr-17-PM 0.0-12.5

Project ID Number 0518000233

Project EA: 05-1K670