U.S. 101 Corte Madera Creek Bridge Rehabilitation Project

MARIN COUNTY, CALIFORNIA
DISTRICT 4 – MRN – 101 (PM 8.47)
04-0W210/0420000192

Draft Initial Study with Proposed Negative Declaration and Section 4(f) Evaluation

Prepared by the
State of California, Department of Transportation

February 2024

Caltrans

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General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study (IS) with Proposed Negative Declaration (ND) for the proposed United States Highway 101 (U.S. 101) Corte Madera Creek Bridge Rehabilitation Project (Project), in the City of Larkspur, Marin County, California, at post mile (PM) 8.47. The Project would rehabilitate the existing on-ramps from Sir Francis Drake Boulevard onto the southbound lane of U.S. 101 at Corte Madera Creek Bridge (Bridge No. 27-008K) (Bridge) and would improve the Bridge deck, a Bridge abutment, and the Bridge support columns. Additional Project information is provided in Chapter 2.

As the lead agency under the California Environmental Quality Act (CEQA), Caltrans has prepared this IS/ND, which describes why the Project is being proposed, how the existing environment could be affected by the Project, potential environmental impacts, and proposed Project features and avoidance and minimization measures.

What you should do:

- Please read this document.

  The document, maps, and Project information are available to download at https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs. Additionally, the document will be made available at the following two locations in the vicinity of the proposed Project:

  Corte Madera Library
  707 Meadowsweet Drive
  Corte Madera, CA 94925

  Larkspur Library
  400 Magnolia Avenue
  Larkspur, CA 94939

- We would like to hear what you think. Send comments by the March 28, 2024 deadline to:

Caltrans, District 4
ATTN: David J. Moore, Acting Branch Chief
Office of Environmental Analysis
P.O. Box 23660, MS-8B
Oakland, CA 94623-0660

What happens next:

Per CEQA Section 15073, Caltrans will circulate the IS/ND for review for at least 30 days from February 23 to March 28, 2024. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the comments and respond to them after the 30-day public review period.

After comments have been received from the public and reviewing agencies, Caltrans may grant environmental approval to the proposed Project, conduct additional environmental studies, or abandon the Project. If the Project is granted environmental approval and funding is obtained, Caltrans could design and construct all or part of the Project.

Alternative Formats:

For individuals with sensory disabilities, the document can be made available in Braille, in large print, on audiocassette, or on computer disk by writing to the above address or email or by calling **California Relay Service (800) 735-2929 (TTY)**, **(800) 735-2922 (Voice)**, or **711**.

An accessible electronic copy of this document is available to download at: https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

Initial Study with Proposed Negative Declaration

04-MRN-101	8.47	04-0W210
Dist. – Co. – Rte.	PM	E.A.

Project title:	U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	David J. Moore, Acting Branch Chief, Office of Environmental Analysis (209) 986-9607
Project location:	Marin County, California
General plan description:	Highway
Zoning:	Transportation Corridor
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements); CEQA Responsible Agencies are denoted with an asterisk (*):	• Clean Water Act Section 404 Nationwide Permit and Section 10 Navigable Water Permit from the U.S. Army Corps of Engineers • Clean Water Act Section 401 Water Quality Certification from the San Francisco Bay Regional Water Quality Control Board • Navigational Impact Report approval from the U.S. Coast Guard • Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement and Section 2081 Incidental Take Permit from the California Department of Fish and Wildlife • Biological Opinion from the U.S. Fish and Wildlife Service • Biological Opinion from the National Marine Fisheries Service • San Francisco Bay Conservation and Development Commission Consultation • City of Larkspur Concurrence with Section 4(f) *de minis* Determination

The document, maps, and project information are available for review and download at https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

Larry E. Bonner — 2/20/2024

Lawrence Bonner
Office Chief, Office of Environmental Analysis
District 4, California Department of Transportation

Date

Proposed Negative Declaration

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study (IS) with Proposed Negative Declaration (ND) for the proposed United States Highway 101 (U.S. 101) Corte Madera Creek Bridge Rehabilitation Project (Project), in the City of Larkspur, Marin County, California, at post mile (PM) 8.47. The Project would rehabilitate the existing on-ramps from Sir Francis Drake Boulevard onto the southbound lane of U.S. 101 at Corte Madera Creek Bridge (Bridge No. 27-008K) (Bridge) and would improve the Bridge deck, a Bridge abutment, and the Bridge support columns. Additional Project information is provided in Chapter 2.

Determination

This proposed ND is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a ND for this Project. This does not mean that Caltrans decision regarding the Project is final. This ND is subject to change based on comments received by interested agencies and the public.

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

- The proposed Project would have no effect on agriculture and forest resources, cultural resources, geology and soils, land use and planning, mineral resources, population and housing, tribal cultural resources, and utilities and service systems.

- In addition, the proposed Project would have less than significant effects on aesthetics, air quality, biological resources, energy, greenhouse gas emissions, hazards and hazardous waste, hydrology and water quality, noise, public services, recreation, transportation and traffic, and wildfire.

_____ _____

Chris Caputo
Deputy District Director
Division of Environmental Planning and Engineering
District 4, California Department of Transportation

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) for the United States Highway 101 (U.S. 101) Corte Madera Creek Bridge Rehabilitation Project (Project) at Post Mile (PM) 8.47 in the City of Larkspur, Marin County, California (Figure 1-1). The Project would rehabilitate the existing on-ramps from Sir Francis Drake Boulevard onto the southbound lane of U.S. 101 at Corte Madera Creek Bridge (Bridge No. 27-008K) (Bridge) and would repair the Bridge deck, a Bridge abutment, and the Bridge support columns.

The existing on-ramp from the eastbound lane of Sir Francis Drake Boulevard (henceforth referred to as the D line) is approximately 12 feet wide and has an approximately 2-foot-wide shoulder. A separated 8-foot-wide pedestrian and bicycle lane on the west side of the D line on-ramp is part of the San Francisco Bay Trail (Bay Trail), carrying cyclists over Corte Madera Creek to connect with trail segments off the highway. The existing on-ramp from the westbound lane of Sir Francis Drake Boulevard (the D1 line) is also approximately 12 feet wide with an approximately 2-foot-wide shoulder. The D line and D1 line on-ramps are each a single lane, becoming two 12-foot-wide lanes with 2-foot-wide shoulders upon their merge. The two lanes are then reduced to one lane before entering the mainstem U.S 101 highway. Figure 1-2 shows the existing D line and D1 line and trails within the Project area.

Within Marin County, the U.S. 101 North Corridor is a north-south, mostly eight-lane highway, including two High Occupancy Vehicle (HOV) lanes, beginning at the Golden Gate Bridge on the southern end and ending at the Sonoma/Marin County line, just before Petaluma in Sonoma County. As a multimodal corridor, U.S. 101 serves local and regional movement of people and goods in a variety of transportation modes. The Project would be funded by the State Highway Operation and Protection Program (SHOPP) under program code 201.110 (Bridge Preservation) for the 2025/2026 construction fiscal year. The Project total cost estimate, including capital and support costs, is $7,750,000.

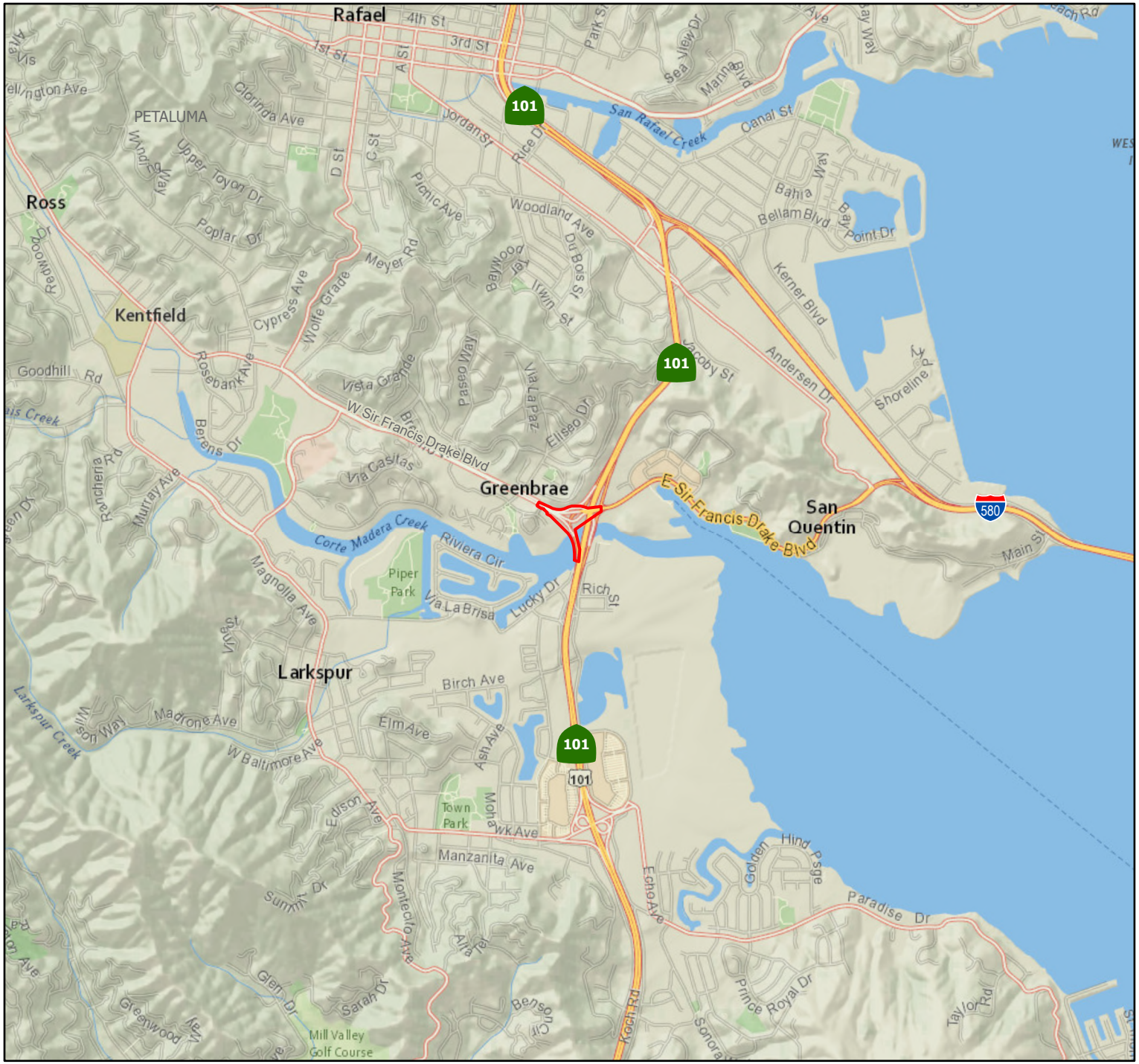

FIGURE 1-1
Project Location

U.S. 101 Corte Madera Creek
Bridge Rehabilitation Project
04-0W210/0420000192
Marin County, California

Caltrans

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LEGEND

- Project Area
- Corte Madera Pathway
- Central Marin Ferry Connection Multiuse Pathway
- San Francisco Bay Trail
- Post Mile (PM)

N

0 400 800 Feet

FIGURE 1-2
Existing Conditions

U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210/0420000192
Marin County, California

Caltrans

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1.2 Purpose and Need

The purpose of the Project is to extend the Bridge's service life by rehabilitating the Bridge deck and protecting the rectangular columns in the tidal zone.

The Project is needed because the Caltrans *Bridge Inspection Report* identified the Bridge deck to be in poor condition and noted the need for corrosion protection on the rectangular columns in the tidal zone, which if not addressed would affect the structural integrity of the Bridge.

Photos from Bridge Inspection Report: Existing Column Conditions

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Chapter 2 Project Description

2.1 Introduction

The Project would include rehabilitation of the Corte Madera Creek Bridge deck and on-ramps, replacement of joint seal at Abutment D-16, installation of a galvanic anode jacket system onto rectangular columns in the Corte Madera Creek tidal zone (D-7 through D-15), and drilling of a minimum of two vent holes in the Span 7 soffit.

2.2 Existing Structure

The existing structure was built in 1959 and is 1,648 feet long (Figure 1-2). It is described in the bridge inspection report as a Continuous Reinforced Concrete (RC) box girder (3 and 4 cell) on RC pier wall and an "L"- type abutment at the north end. In 1995, a seismic retrofit bolstered outrigger RC piercaps to new Cast-in-Steel-Shell (CISS) pile extension columns. The D line width varies from 26 feet to 28 feet 10 inches with an approach roadway width of 28 feet. The D and D1 line lanes are 12 feet wide with a minimum shoulder width of 2 feet and no median. A separated 8-foot-wide pedestrian and bicycle lane on the west side of the D line on-ramp is part of the Bay Trail, carrying cyclists over Corte Madera Creek to connect with trail segments off the highway. The vertical clearance under the bridge, on Sir Francis Drake Boulevard, is 15 feet 2 inches. National Oceanic and Atmospheric Administration (NOAA) navigational charts identify the navigational vertical clearance on Corte Madera Creek, under the bridge, as 21 feet at mean higher high water (MHHW), and a navigational horizontal width of 35 feet. A tide board located on column D-9 indicates the vertical clearance to mariners based on existing water elevations.

2.3 Proposed Project

The Project includes rehabilitation of the Corte Madera Creek Bridge deck and on-ramps, replacement of joint seal at Abutment D-16, drilling of vent holes in the Span 7 soffit, and protection of the rectangular bridge columns at D7 through D-15 using a galvanic anode jacket system (Figure 2-1).

2.3.1 Rehabilitate Bridge Deck

The Project would patch the Bridge deck spalls, prepare the concrete Bridge surface (i.e., cold mill the Bridge deck, grind the pavement, and remove the traffic striping), and treat the concrete Bridge surface with methacrylate. The Project would then

overlay the Bridge deck with an approximately 1-inch-thick layer of polyester concrete. Replacement striping would be thermoplastic and replacement pavement markers would be retroreflective.

The Project would drill a minimum of two vent holes in the Span 7 soffit to allow evaporation of water that has seeped into the closed box girder cells. These vents are not bridge deck drains; they would allow built-up moisture a path out of the closed box girder cells where bridge inspections noted evidence of moisture seeping out of the soffit.

The Project also would remove, clean, and replace the joint seal at Abutment D-16.

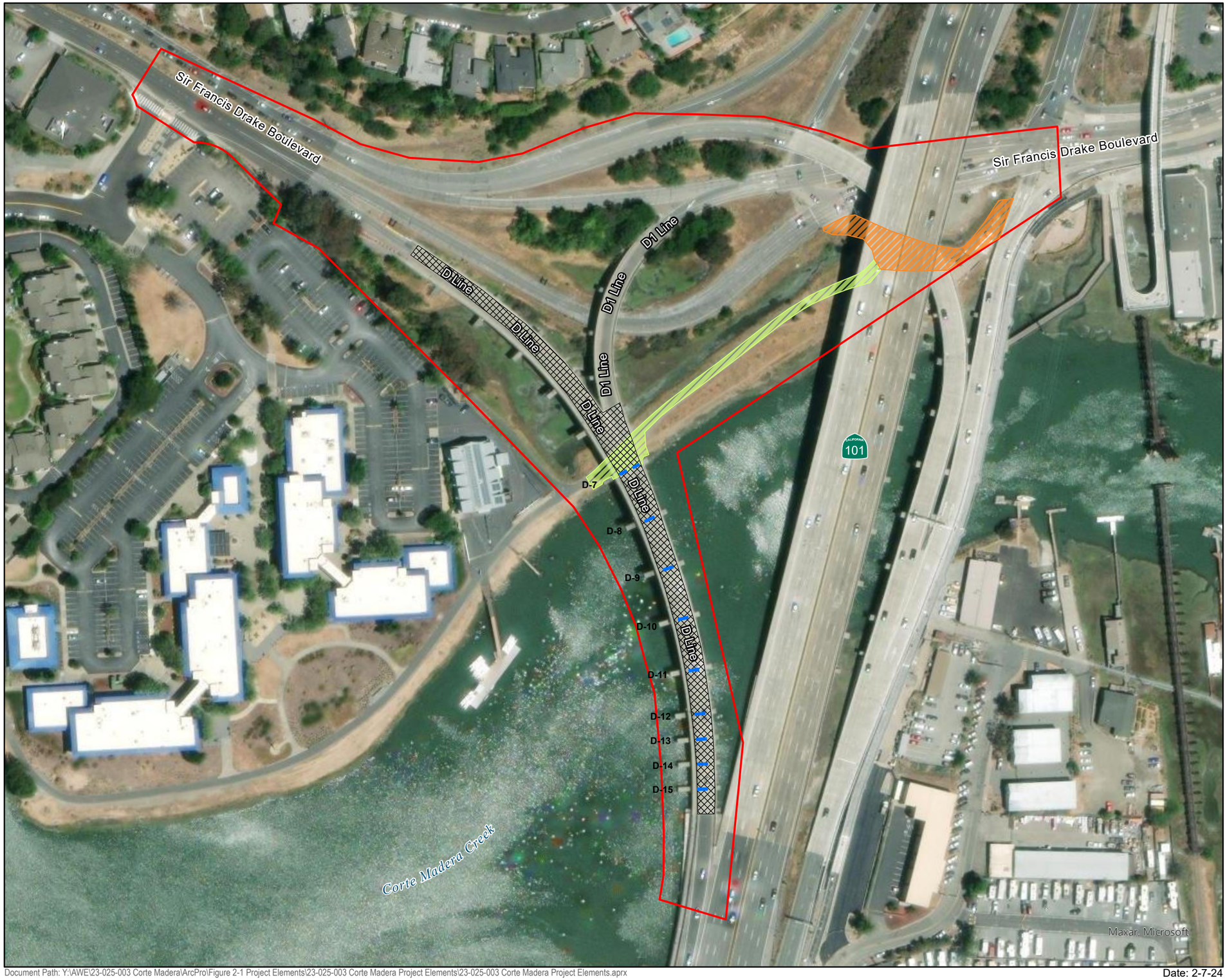
2.3.2 Improve Bridge Columns

To repair and control corrosion on bridge columns, the Project would install a galvanic anode jacket system (also referred to as "jacket system") around the rectangular columns from D-7 to D-15 (Figure 2-1). The galvanic anode jackets (jackets) are a marine pier repair system intended to control corrosion and consist of galvanic (zinc) anode units that encase the bridge columns, providing cathodic protection in the tidal zone without the need for an external power source. The jackets have an expected service life of 10 to 35 years (Vector Corrosion Technologies 2023). The jackets would be approximately 11 feet tall, 2 to 6 inches thick (1/8-inch minimum form with 2- to 6-inch annular space) and extend at least 2 feet below the mean low water line.

2.4 Construction Methodology

This section discusses how construction of the proposed Project would occur. The scope of work for the Project includes construction, staging, equipment, and materials storage. The Project footprint would encompass the maximum extent of construction-related activities, including staging and disturbed areas.

Prior to the beginning of ground disturbing activities, construction area signs, environmentally sensitive area (ESA) fencing, and best management practices (BMPs) would be installed. The Project would be built in three stages. The first stage would include installing ESA fencing and construction BMPs. The second stage would include rehabilitating the Bridge. The third stage would include removal of construction area signs, ESA fencing, and BMPs.



LEGEND

- Project Area
- Polyester Concrete Overlay
- Galvanic Jacket
- Potential Staging Area
- Potential On-Land Access

0 200 400 feet

FIGURE 2-1
Project Elements

U.S. 101 Corte Madera Creek
Bridge Rehabilitation Project
04-0W210/0420000192
Marin County, California

Caltrans

Document Path: Y:\AWE\23-025-003 Corte Madera\ArcPro\Figure 2-1 Project Elements\23-025-003 Corte Madera Project Elements\23-025-003 Corte Madera Project Elements.aprx

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2.4.1 Bridge Deck Construction, Staging and Traffic Management

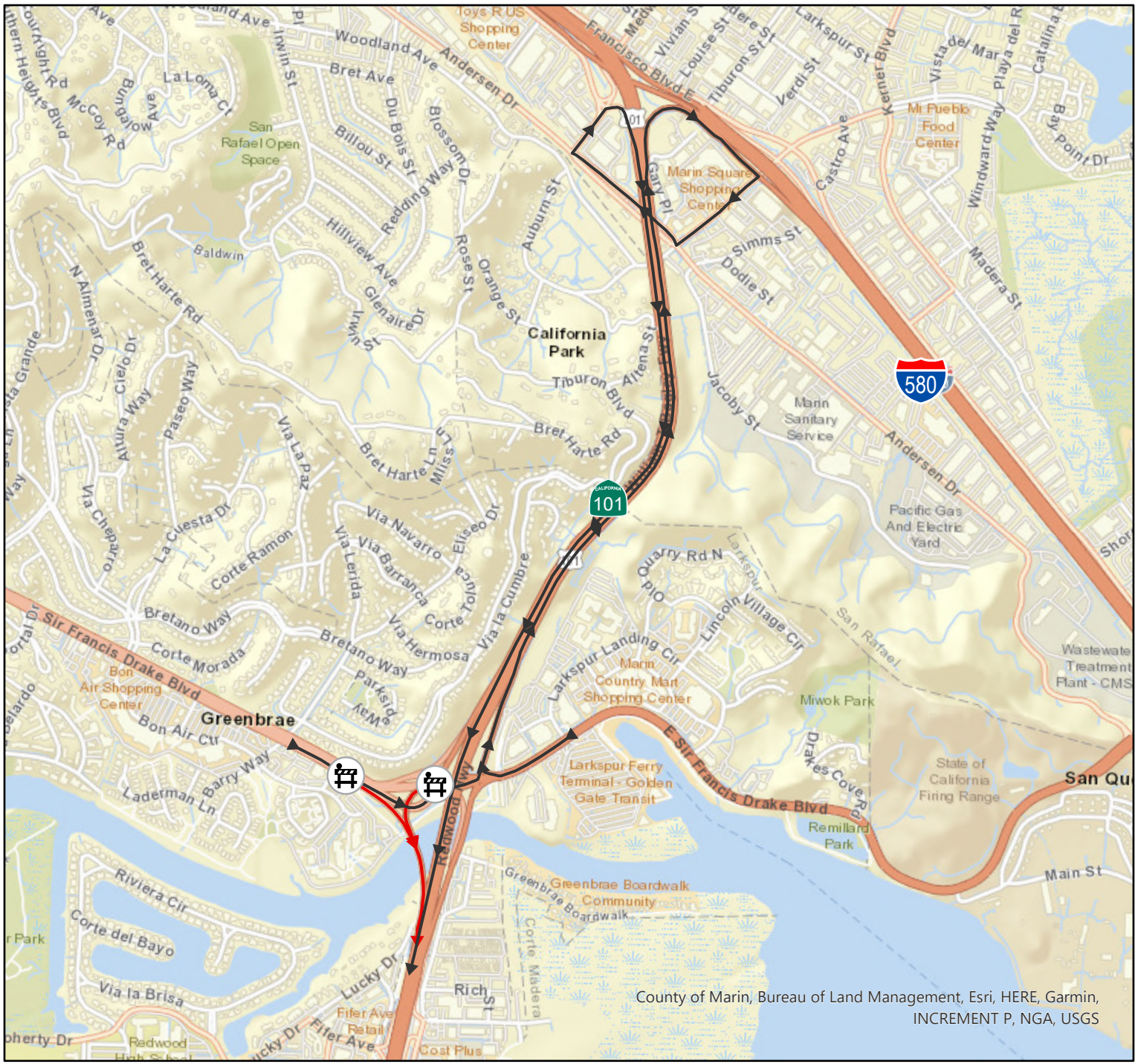
Temporary full closure of the D and D1 line on-ramp for deck treatment and restoration is anticipated. Construction staging for bridge deck work would primarily occur within the on-ramp closure. Portable cones would be used during ramp closure.

The construction strategy would be to close the D and D1 lines at the Sir Francis Drake Boulevard approach and detour traffic. Traffic would be directed to the northbound on-ramp for U.S. 101 from Sir Francis Drake Boulevard. Traffic would then be directed to take the next northbound exit: exit 451 Richmond Bridge and Francisco Boulevard, turn right onto Bellam Boulevard, then right onto Andersen Drive, followed by a right onto West Francisco Boulevard, before joining the on-ramp to southbound U.S. 101 (Figure 2-2). All work on the bridge deck would occur only during nighttime hours and take an estimated 90 working days. Staging strategies, particularly traffic handling, will be studied and evaluated in more detail in the design phase.

A Transportation Management Plan (TMP) would be developed for this proposed Project during the design phase. Elements currently proposed in the draft TMP include, but are not limited to, public notification, employing portable changeable message signs, traffic control system (ground mounted signs), and providing funds for a Construction Zone Enhanced Enforcement Program (COZEEP) that would enhance safety at the Project location during construction.

2.4.2 Galvanic Anode Jacket System Installation and Temporary Work in Corte Madera Creek

Temporary access to Corte Madera Creek would be necessary for installation of the galvanic anode jacket system on the rectangular columns at D-7 through D-15. Work in the navigational channel would be conducted from one or more barge platforms, between 62 and 84 feet in length depending on the size of the equipment required, moored in the creek. Barge(s) would be loaded with a crane, vibratory hammer system, and other equipment/materials and likely launched from Richmond or Vallejo. Before installing the jacket system, deteriorated concrete would be removed using pneumatic hammers, marine growth would be removed using pressure washers, and the column cleaned. If no exposed steel (rebar) is present, concrete would be removed to allow connection to the existing steel. A containment system would be used to control debris from entering the creek during the preparation and installation process. Once the columns are prepared, brackets would be installed on the columns,



Document Path: Y:\AWE\23-025-003 Corte Madera\ArcPro\Figure 2-2 Detour\23-025-003 Corte Madera Detour\23-025-003 Corte Madera Detour.aprx

Date: 2-7-24

FIGURE 2-2
Detour Route

U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210/0420000192
Marin County, California

Caltrans

then jackets would be lifted with a crane onto the bracket and joined together with a bolted or clamped system. Once in place, the jacket would be braced and the space between the jacket and the existing column filled with cement-based grout or concrete. Depending on the vertical clearance of the structure, dredging may be required around the rectangular column at many of the columns prior to installation of the brackets. To allow for a dewatered work zone around the columns and to keep wash water separate from creek water, a temporary containment system (e.g., using cofferdams) would be constructed around each column, and dewatering would occur prior to cleaning of the columns and placement of the brackets and jacket system. The temporary cofferdams would be constructed of sheet piles and installed using a vibratory method; no pile driving would occur.

The horizontal navigational clearance under the bridge is 35 feet. Work would occur such that barges would not obstruct the navigational channel, allowing boat traffic to pass through during construction. The navigational vertical clearance under the bridge is 21 feet. Temporary impacts to horizontal and vertical clearance (e.g., from use of cofferdams, barges, and containment systems) would be submitted in a Navigational Impact Report to the U.S. Coast Guard at least 30 days prior to initiation of the Project.

The rectangular columns at D-7 would be accessed from the land side, in addition to access from the creek. A work area around D-7 would temporarily infringe on public use of the Corte Madera Pathway, a paved multiuse pathway along the north shore of Corte Madera Creek. The contractor will be required to maintain public use of the trail during construction using flaggers and/or temporary traffic control. Nightwork may also be used at this location to avoid prime trail use hours. Corte Madera Pathway would be used for temporary access to this location, necessitating temporary and periodic trail closures for the movement of equipment and materials during the estimated 2-week work period at D-7. Equipment using the trail would include trucks, small excavators, and telescopic forklifts to move material and install the jacket system. Although construction equipment use is not anticipated to cause damage to the trail, the trail condition would be documented before and after construction activities and any damage attributable to the construction activity would be repaired.

2.4.3 Additional Equipment and Materials Staging Area

Areas for overnight storage of equipment and materials are anticipated to occur within Caltrans right of way (ROW), in locations such as a cleared gravel area under U.S. 101 accessed from eastbound Sir Francis Drake Boulevard (Figure 2-1).

2.4.4 Construction Equipment

Construction equipment would include, but not be limited to, excavators, pavement grinders, concrete saws, concrete pumps, concrete trucks, dump trucks, compactors, air compressors, vacuum equipment, street sweepers, striping equipment, portable generators, barges, vibratory hammer system, cranes, telescopic forklifts, trucks, small excavators, and portable lighting.

2.4.5 Order of Activities

Construction would generally proceed as follows for work on the highway and under the bridge:

WORK ON THE HIGHWAY

- Provide public notification of construction activities.
- Install construction area and detour signs.
- Close on-ramp lanes at night and detour traffic.
- Remove existing damaged concrete deck pavement with grinding.
- Place methacrylate polymer.
- Place a 1-inch-thick layer of polyester concrete.

WORK UNDER THE HIGHWAY/BRIDGE

- Conduct work on columns in the creek from one or more barges.
- Install temporary cofferdams and dewater.
- Remove/excavate soil, if needed (e.g., at D-7 and D-15).
- Prepare rectangular columns and install galvanic anode jacket system.

2.4.6 Construction Schedule

Construction would take approximately 150 working days over 7.5 months, or one construction season, to complete. The Project would occur between April 2026 and February 2027. Construction in the creek would be limited to the period between May 1 and November 31. Construction-related activities would be completed using a combination of day shifts (for column rehabilitation) and night shifts (for deck rehabilitation).

2.4.7 Utility Relocation

Utility relocations are not anticipated. The Project would require utility verification; however, no potholing would be required. Existing nearby utilities include Pacific Gas and Electric Company (PG&E) natural gas and electric lines, Comcast fiber optic lines, American Telephone and Telegraph (AT&T) telephone lines, and local water and sewer lines. There are light poles and a ramp metering system on the bridge, as well as an electrical conduit that runs along the outside of the bridge railing.

2.4.8 Vegetation and Tree Trimming/Removal

Vegetation and tree trimming/removal is not anticipated for the Project. If required, high-visibility fencing, flagging, or other methods would be utilized to delineate the limits of the work area and protect vegetation and trees outside the work area from construction-related activities.

2.4.9 ROW Requirements

The segment of Corte Madera Creek in the Project limits is located on sovereign lands, owned by the California State Lands Commission. The California State Lands Commission granted a highway easement to Caltrans in 1954 for right of way and protection of a state highway, which encompasses this segment of Corte Madera Creek. Construction would occur entirely within Caltrans ROW. No ROW acquisitions are anticipated to be required for the Project.

2.5 Project Features

Project Features (PFs), which can include both design elements of the Project and standardized measures (such as BMPs) that are applied to all or most Caltrans projects, and measures included in the standard plans and specifications, or as standard special provisions, are integral to the proposed Project. PFs were not developed in response to any specific environmental impact resulting from the proposed Project. Such PFs have been considered prior to any significance determinations. These PFs are detailed in Chapter 3 and included in Appendix B, and are distinguished from Avoidance and Minimization Measures (AMMs), which relate to the impacts resulting from the Project.

2.6 No-Build Alternative

The No-Build Alternative would mean that the Project would not be constructed, and there would be no improvements to the Bridge. As such, the Bridge deck and columns

would continue to deteriorate. This alternative does not meet the purpose and need for the Project.

2.7 Permits and Approvals Needed

Table 2-1 lists the permits, licenses, agreements, and certifications that are anticipated to be required for Project construction. All considerations under Title VI of the Civil Rights Act of 1964, also have been included in this project, as demonstrated by Caltrans' Title VI Policy Statement, signed by the Director (Appendix A).

Table 2-1. Required Permits

Agency	Permit	Permit Status
U.S. Army Corps of Engineers	Clean Water Act Section 404 Nationwide Permit 14 and Section 10 Navigable Waters Permit	Application submittal anticipated during Project design phase
San Francisco Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification	Application submittal anticipated during Project design phase
U.S. Coast Guard	Navigational Impact Report approval before construction	Construction work plan to be submitted to USCG for approval at least 30 days before construction start date.
California Department of Fish and Wildlife	Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement and Section 2081 Incidental Take Permit	Application submittal anticipated during Project design phase
U.S. Fish and Wildlife Service	Federal Endangered Species Act Biological Opinion	Application submittal anticipated during Project design phase
National Marine Fisheries Service	Federal Endangered Species Act Biological Opinion	Application submittal anticipated during Project design phase
San Francisco Bay Conservation and Development Commission	Maintenance Permit and/or Individual Permit	Application submittal anticipated during Project design phase
City of Larkspur	Concurrence with Section 4(f) *De minimis* finding	In progress

Chapter 3 California Environmental Quality Act Evaluation

The following sections evaluate potential environmental impacts related to the CEQA checklist to comply with State CEQA Guidelines (Title 14 California Code of Regulations, Division 6, Chapter 3, Section 15091). The environmental analysis considers potential impacts of the proposed Project, as detailed in Chapter 2.

3.1 Environmental Factors Potentially Affected

As part of the scoping and environmental analysis carried out for the proposed Project, the following environmental issues were considered, but no impacts were identified: agricultural and forest resources, cultural resources, energy, geology/soils, land use/planning, mineral resources, population and housing, tribal cultural resources, and utilities/service systems. The environmental factors checked would be potentially affected by this Project, with less-than-significant impacts. Further analysis of these environmental factors is included in the following chapter.

X	Aesthetics		Agriculture and Forest Resources	X	Air Quality
X	Biological Resources		Cultural Resources		Energy
	Geology/Soils	X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials
X	Hydrology/Water Quality		Land Use/Planning		Mineral Resources
X	Noise		Population/Housing	X	Public Services
X	Recreation	X	Transportation/Traffic		Tribal Cultural Resources
	Utilities/Service Systems	X	Wildfire	X	Mandatory Findings of Significance

3.2 Determination

On the basis of this initial evaluation:

X	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Larry E. Bonner	**Date:** 2/20/2024
Printed Name: Lawrence Bonner, Office Chief, Office of Environmental Analysis	

3.3 CEQA Environmental Checklist

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

Project Features (PFs) are measures incorporated into Caltrans projects to reduce environmental impacts that can include both design components of the project and standardized measures that are applied to most, if not all Caltrans projects, such as construction site BMPs and measures included in the Caltrans Standard Plans and Standard Specifications or as Standard Special Provisions. They are considered to be an integral part of the Project and have been considered prior to any significance determinations documented in this chapter. AMMs are additional measures to avoid and/or minimize a project's environmental impacts but are more specifically tailored to a given project's particular impacts. The PFs and AMMs incorporated into the Project are described in this chapter and are compiled in Appendix B. Sections 3.3.1 through 3.3.21 present the CEQA determinations under Appendix G of the CEQA Guidelines. The CEQA determinations depend on the level of potential environmental impact that would result from the Project. The level of significance determination is defined as follows:

- No Impact: Indicates no physical environmental change from existing conditions.
- Less than Significant Impact: Indicates the potential for an environmental impact that is not significant with or without the implementation of avoidance and minimization measures.
- Less than Significant Impact with Mitigation Incorporated: Indicates the potential for a significant impact that would be mitigated with the implementation of a mitigation measure to a level of less than significance.
- Potentially Significant Impact: Indicates the potential for significant and unavoidable environmental impact.

3.3.1 Aesthetics

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

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

CEQA Significance Determinations for Aesthetics

A *Visual Impact Assessment* (Caltrans 2023a) was prepared by the Caltrans Office of Landscape Architecture for the Project, and a summary of the findings is presented in this section.

The Project site is located on U.S. 101 at PM 8.47. U.S. 101 in Marin County at PM 8.47, which is not listed as eligible for State Scenic Highway designation nor is it a Classified Landscaped Freeway. This area does not include landscape plants installed or maintained by Caltrans.

The visual environment of U.S. 101 within and adjacent to the project limits is diverse. Because the on-ramps are elevated and bordered by “transparent” traffic barriers, views are expansive. Multiple highway structures are within the viewshed, but the waters, shoreline activity, development along Corte Madera Creek, and Mount Tamalpais are also visible. The area is highly developed with residences and commercial buildings, yet also highly scenic. The roadway is very heavily traveled, with stop and go traffic at times, affording extended viewing opportunities. The multiple elevated concrete highway structures in the area mean that the highway plays a major role in the visual landscape. However, the expansive nature of the views means that the nonhighway elements are visually dominant (Caltrans 2023a).

a, b) No Impact

The proposed Project would not have a substantial adverse effect on a scenic vista, or damage scenic resources. The Project would be compatible with the existing visual character and quality of the corridor. The Project would not impact or degrade the existing visual character or quality of the Project area.

The Project would not adversely affect any designated scenic resource (such as a rock outcropping, tree grouping, or historic property), as defined by CEQA statutes or guidelines, or Caltrans policy. Existing vistas would remain unaltered by the Project improvements. The Project elements would not substantially affect the appearance of the highway corridor and would be visually consistent with the character of the surrounding area. There would be no impact.

c) Less than Significant Impact

The VIA concluded that the visual quality of the existing corridors would not be altered by the proposed Project. The Project would not degrade the existing visual character or quality of public views of the site and its surroundings. Temporary visual impacts from construction of the Project would not be substantial. Temporary visual impacts during construction would include the appearance of construction equipment, temporary construction area lighting, staging of materials, and removed debris. Specific impacts to scenic characteristics along the Project corridor would be reduced with implementation of PF-AES-1 through AES-6, which would minimize visual changes that could occur as part of the Project. Project features for aesthetics (PF-AES) are listed in the following section and included in Appendix B. Upon completion of the Project, the appearance of the Project area would be largely unchanged; therefore, the impact would be less than significant.

d) Less than Significant Impact

The Project would not create a new source of substantial light or glare. Day and nighttime construction activities would temporarily add new sources of light and glare for businesses and local motorists along the Project corridor. These visual impacts would be minimized through implementation of PF-AES-4 and AES-5. The Project impact on light and glare would be less than significant.

Project Features

Caltrans would incorporate the following standard measures into the Project to offset or avoid potential impacts on aesthetics.

PF-AES-1: Minimize Impacts to Vegetation. Minimize impacts to vegetation to the greatest extent possible while allowing the project to be implemented. Revegetate disturbed soil areas and disturbed portions of the riparian corridor with native and climatically appropriate species.

PF-AES-2: Construction Staging. Staging areas should not be located where they require the removal of non-weedy vegetation. Preferably staging areas should be placed on a paved area.

PF-AES-3: Storage of Construction Materials. Construction materials and equipment should be stored in screened staging areas beyond the direct view of the motoring public and residential properties to the extent feasible.

PF-AES-4: Construction Lighting. For any night work, limit construction lighting to the area of work and use directional lighting and/or shielding to minimize light trespass to nearby areas.

PF-AES-5: Architectural Treatments. The need for the architectural treatment of proposed project elements such as the application of an anti-glare coating of MGS railings and similar treatments should be investigated by the Caltrans Office of Landscape Architecture during the PS&E phase of design and incorporated as appropriate.

PF- AES-6: Erosion Control Measures. Apply erosion control seeding and similar measures to all areas of disturbance where they are beyond paved areas.

3.3.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California 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:

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

CEQA Significance Determinations for Agriculture and Forest Resources

The Project site is located on U.S. 101 and is within the City of Larkspur in Marin County. The site is identified on the California Important Farmland database as urban and built-up land (California Department of Conservation [CDOC] 2022a).

a-e) <u>No Impact</u>

The Project area is designated by the Farmland Mapping and Monitoring Program as urban and built-up land (CDOC 2022a). Therefore, there would be no impact on agricultural and farming resources. In addition, the California Timberland Productivity Act discourages premature or unnecessary conversion of timberland to urban and other uses and discourages expansion of urban services into timberland (California Department of Tax and Fee Administration 2024). The California

Timberland Productivity Act does not apply because there are no forest resources or timberlands in the Project vicinity or in the Project area.

Further, no portion of the Project area is zoned agricultural, forest land or timberland, nor is it under a Williamson Act contract (CDOC 2017). Therefore, there would be no impact on or conflict with any agricultural, forest land or timberland, or Williamson Act contract land resources.

3.3.3 Air Quality

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

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	Less than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR AIR QUALITY

The Project is located in the San Francisco Bay Area Air Basin (SFBAAB), which is regulated by the Bay Area Air Quality Management District. The SFBAAB is in federal and state nonattainment for ozone and fine particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers ($PM_{2.5}$) (USEPA 2023a) and in state nonattainment for particulate matter with aerodynamic diameter equal to or less than 10 micrometers (PM_{10}) (CARB 2021a). The SFBAAB is in attainment or unclassified for other state and federal air quality standards.

a, b) Less than Significant Impact

The Project would not add capacity to the roadway or alter traffic patterns or volumes, and therefore would not result in operational degradation of air quality. The Project would fall under the category of "widening narrow pavements or reconstructing bridges (no additional travel lanes)" and, therefore, would be exempt from air quality conformity determination under 40 *Code of Federal Regulations* 93.126.

Project construction is limited in duration and area of disturbance; a substantial amount of pollutants would not be generated during construction that would result in a cumulatively considerable net increase of criteria pollutants. Emission reduction measures would be implemented as standard PFs. A detour is anticipated for the on-ramp to southbound U.S. 101 from Sir Francis Drake Boulevard to accommodate

nighttime closures during construction. The detour would be in use during the nighttime hours, when there is less traffic on the roadway to be affected. This detour is estimated to add 3.5 miles to a vehicle trip. The increase in vehicle miles traveled would result in an increase in vehicle-emitted pollutants while the detour is in use. The Project would not conflict with or obstruct implementation of an applicable air quality plan or result in a cumulative net increase in any criteria pollutant. The temporary construction-related impacts would be less than significant.

c, d) Less than Significant Impact

The Project would be required to comply with Caltrans Standard Specification 14-9, Air Quality, which requires compliance with air-pollution control rules, regulations, ordinances, and statutes that apply in the Project area. Construction-generated air pollutants are expected to be minimal and short term. Construction-generated air pollutants include emissions resulting from material processing by onsite construction equipment, workers commuting to and from the Project, and traffic delays or longer (detoured) trips due to construction. Potential impacts to air quality, including exposure of sensitive receptors to pollutants and creation of odors, are not anticipated based on the temporary nature of construction-related activities, scope of the proposed improvements, and distance to sensitive receptors (residences). The Project meets the BAAQMD preliminary screening criteria for construction projects (BAAQMD 2022), indicating that the Project would result in a less-than-significant impact related to criteria air pollutants and precursors. Impacts to air quality during construction would be minimized through implementation of PFs AQ-1, AQ-2 and AQ-3, which use construction BMPs to minimize fugitive dust and pollutants from construction equipment. The Project would have no long-term impacts on air quality and temporary construction-related impacts would be less than significant.

Project Features

Caltrans would incorporate the following standard measures into the Project to minimize or avoid potential impacts on air quality.

PF-AQ-1: Control Measures for Construction Emissions of Fugitive Dust. Dust control measures would be implemented to minimize airborne dust and soil particles generated from construction. For disturbed soil areas, the use of tackifier to control dust emissions would be included in the construction contract. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

PF-AQ-2: Construction Vehicles and Equipment. Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.

PF-AQ-3: Limit Idling. Limit idling times either by shutting construction-related equipment off when not in use or reducing the maximum idling time to 5 minutes.

3.3.4 Biological Resources

Would the project:

Question	CEQA Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or NOAA Fisheries?	Less than Significant Impact
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
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
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
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact

CEQA Significance Determinations for Biological Resources

A Natural Environment Study was prepared for the Project to evaluate the effects of this project on biological resources, including sensitive plant and wildlife species (Caltrans 2024a). This section summarizes the findings of the study.

The biological study area (BSA) includes the Project footprint, which encompasses the area where ground-disturbing activities will occur, such as construction and staging, an additional 20-foot buffer area surrounding the Project footprint, and a 400-foot buffer area at the northern terminus of the Project footprint to capture the sensitive salt marsh habitat on the north side of Corte Madera Creek (Figure 3-1). The BSA was surveyed to evaluate habitat and identify and quantify the natural resources associated with the Project area. The BSA encompasses 11.11 acres and primarily

consists of major roads and developed land cover, but also includes small, fragmented salt marsh habitats and open waters of Corte Madera Creek. The Project footprint is within the Caltrans ROW on either side of the Sir Francis Drake Boulevard on-ramps to southbound U.S. 101.

Within the BSA, there are small portions of remnant marsh habitat along the north bank of Corte Madera Creek. There are no undisturbed natural communities (i.e., intact vegetation communities found naturally in California) in the BSA. The BSA has been developed and crossed by transportation infrastructure, and the banks of Corte Madera Creek are affected by boat wakes and wind waves. The 620-acre Corte Madera Marsh Ecological Reserve, classified as salt marsh habitat, is located approximately 0.4 mile east of the BSA.

Upland habitat within the BSA is primarily represented by grassland, ruderal, and woodland vegetation types. Wetland drainages are present throughout the BSA; most connect to a main drainage into Corte Madera Creek, which flows into San Francisco Bay. The BSA consists of the following habitats: Corte Madera Creek, California annual and perennial grassland, ruderal disturbed (non-native vegetation and areas devoid of vegetation due to human activities), landscaped (planted or garden escapee trees and shrubs), California coastal scrub, California broadleaf forest and woodland, temperate Pacific saltmarsh, salt grass flat, pickleweed flat, California cord grass marsh, and jurisdictional waters (Figure 3-1).

A total of 11 federal or state listed, threatened or endangered species were identified as having the potential to occur within the BSA. These species include the California Ridgway's rail [RIRA] (*Rallus obsoletus obsoletus*), California black rail [BLRA] (*Laterallus jamaicensis coturniculus*), San Pablo song sparrow [SPSS] (*Melospiza melodia samuelis*), salt marsh harvest mouse [SMHM] (*Reithrodontomys raviventris*), Point Reyes salty bird's-beak [PRSB] (*Chloropyron maritimum* ssp. *palustre*), longfin smelt [LFS] (*Spirinchus thaleichthys*), Central California Coast steelhead [CCC steelhead] (*Oncorhynchus mykiss*) Distinct Population Segment (DPS), Central Valley steelhead [CV steelhead] (*Oncorhynchus mykiss*) DPS, Central Valley spring-run chinook salmon [CVCH] (*Oncorhynchus tshawytscha*) Evolutionary Significant Unit (ESU), Sacramento River winter-run chinook salmon [SRCH] (*Oncorhynchus tshawytscha*) ESU, North American green sturgeon [GS] (*Acipenser medirostris*) Southern DPS. Additionally, Corte Madera Creek qualifies as critical habitat for CCC steelhead, CCC coho, and GS, as well as designated essential fish habitat (EFH) for CCC coho and CVCH.

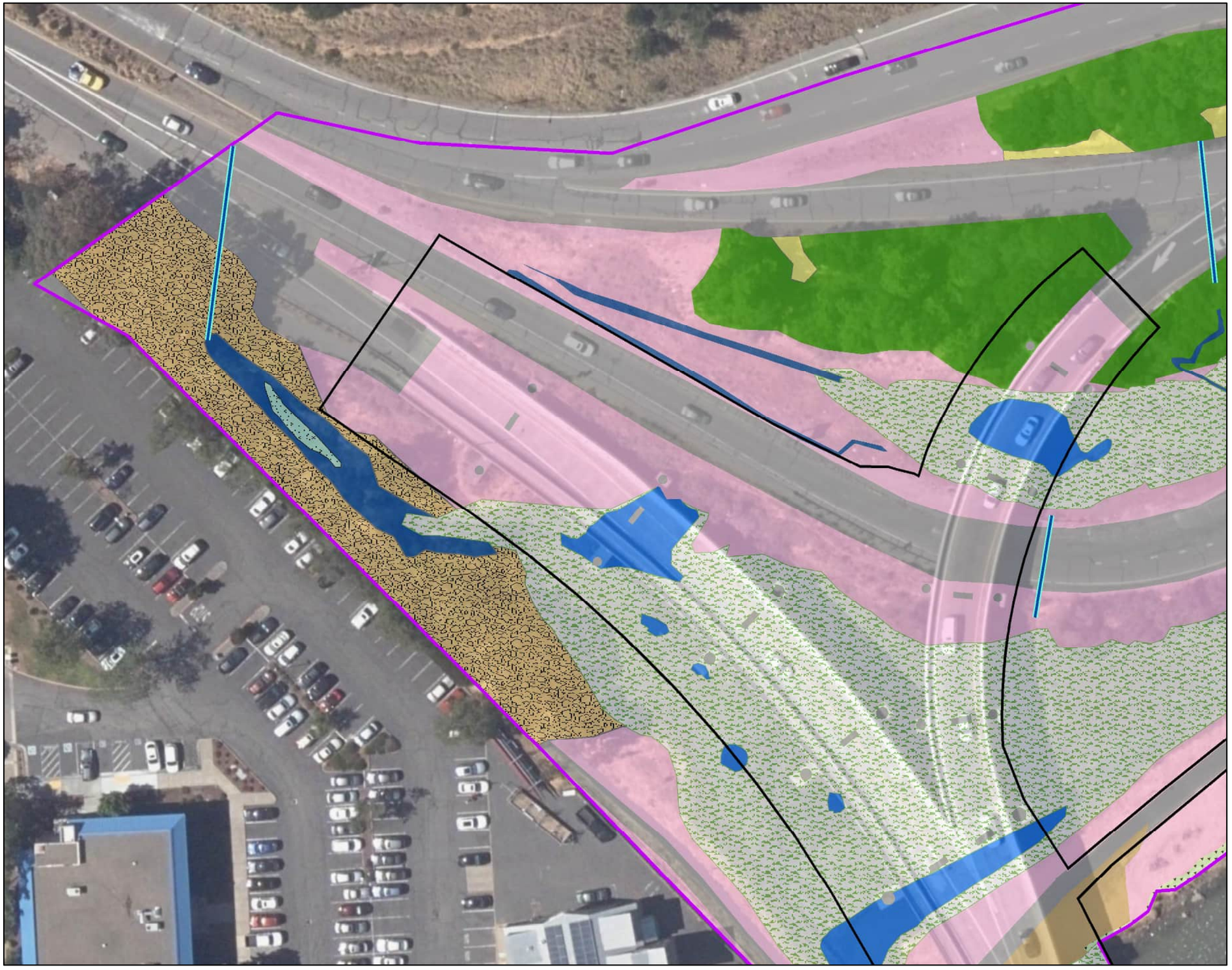
Sensitive natural communities within the BSA include salt marsh habitat, Corte Madera Creek, and the creek's tidal channels. The salt marsh habitat and tidal channels along the northern banks of Corte Madera Creek provides marginally suitable habitat for RIRA, BLRA, SPSS, SMHM, and PRSB. Corte Madera Creek provides suitable habitat for LFS, CCC steelhead, CCC coho, CVCH, and GS.

Other species listed as endangered or threatened under federal Endangered Species Act or California Endangered Species Act, defined by CDFW as a species of special concern, or included in California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants, were eliminated from further consideration due to the BSA location outside of the species' range and/or a lack of suitable habitat present in the BSA to support the species.

Biological Studies

Databases were used to identify special-status species with potential to occur in the region, described as the USGS 7.5-minute quadrangle map for San Rafael. Database searches included review of all CDFW California Natural Diversity Database (CNDDB) special-status plant and wildlife species occurrence records within 5 miles of the BSA (CDFW 2023); species list and critical habitat from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation website for the Project footprint (USFWS 2023); the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California for the region (CNPS 2023); and a NMFS species list for the region (NMFS 2023). A complete list of the special-status species that may occur in the region is provided in Appendix C. In addition to database queries, biologists completed an aquatic resources delineation, habitat assessment, and botanical surveys.

Additional sources of information reviewed included the USFWS National Wetlands Inventory database for wetlands and special-status aquatic species potential habitat analysis; Natural Resources Conservation Service (NRCS) soils information for wetlands and special-status plant species potential habitat analysis; and Western Regional Climate Center (2023) climatic information for wetlands analysis.



Legend

- Project Area
- Biological Study Area
- Culverted Waters

Vegetation Types and Aquatic Resources

- Bare Ground (0.550 acre)
- CA Annual and Perennial Grassland (0.122 acre)
- Coast Live Oak Woodland (0.806 acre)
- Developed (3.222 acres)
- Emergent Marsh (0.007 acre)
- Ephemeral Drainage (0.094 acre)
- Landscaped (0.364 acre)
- Pickleweed Flat (0.098 acre)
- Ruderal (2.677 acres)
- Salt Marsh (1.448 acres)
- Waters of U.S. (1.513 acres)

Imagery Source:
Marin County June 13-23, 2018

N

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Caltrans

FIGURE 3-1
Map 1 of 4
Vegetation Characterization
U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210 MRN-101-PM-8.47
Marin County, California

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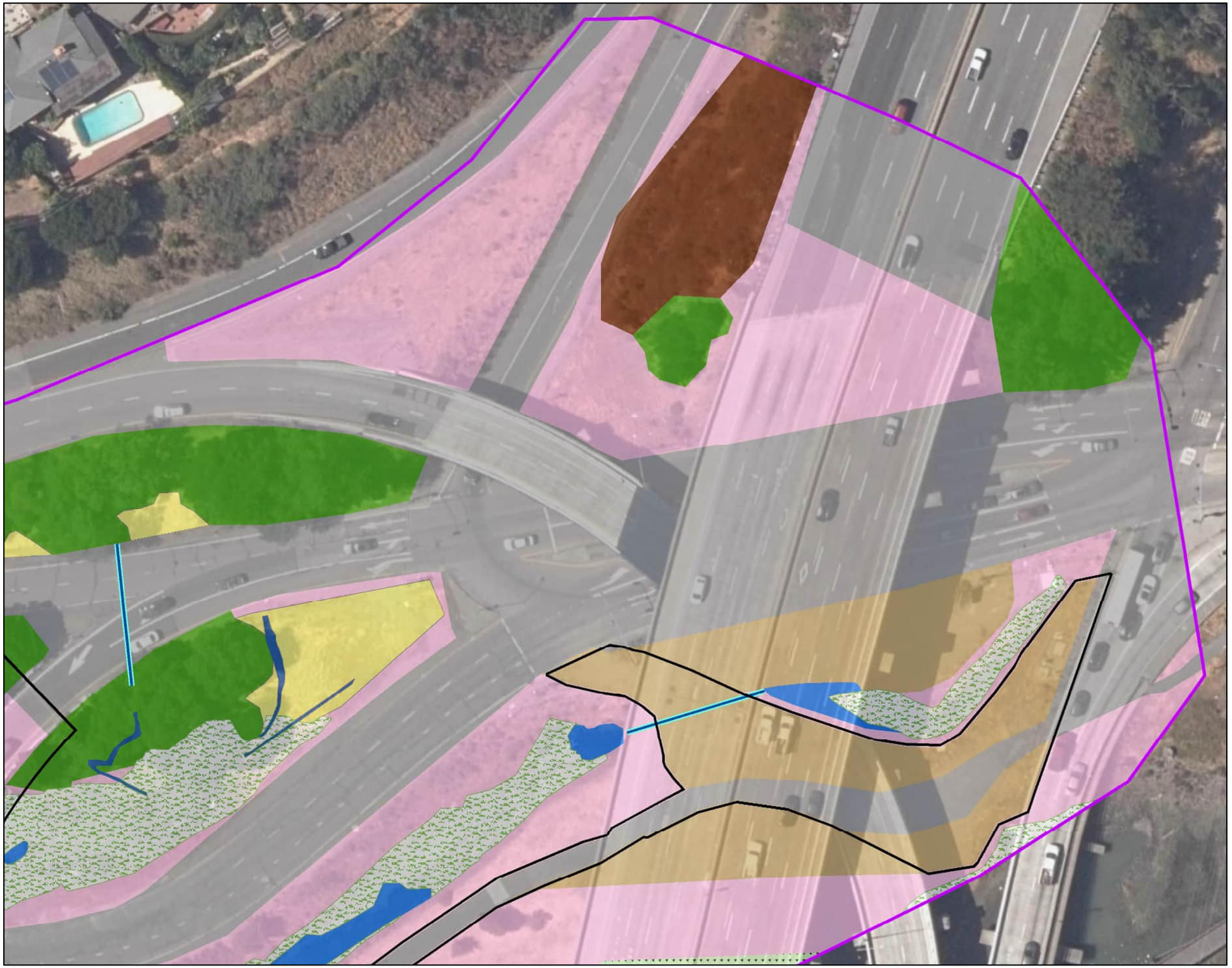

Legend

- Project Area
- Biological Study Area
- Culverted Waters

Vegetation Types and Aquatic Resources

- Bare Ground (0.550 acre)
- Black Sage Scrub (0.184 acre)
- CA Annual and Perennial Grassland (0.122 acre)
- Coast Live Oak Woodland (0.806 acre)
- Developed (3.222 acres)
- Ephemeral Drainage (0.094 acre)
- Pickleweed Flat (0.098 acre)
- Ruderal (2.677 acres)
- Salt Marsh (1.448 acres)
- Waters of U.S. (1.513 acres)

Imagery Source:
Marin County June 13-23, 2018

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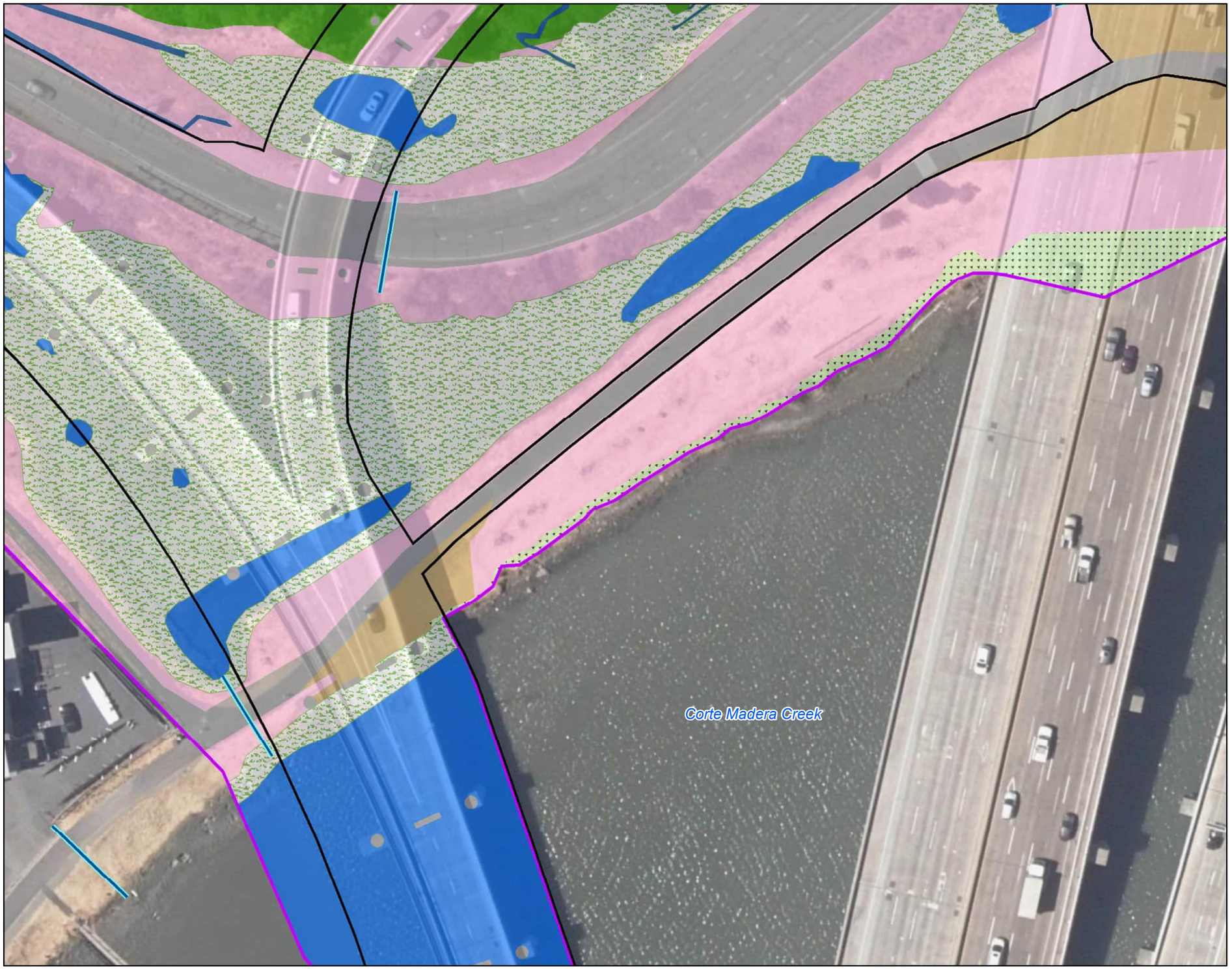
Caltrans

FIGURE 3-1
Map 2 of 4
Vegetation Characterization
U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210 MRN-101-PM-8.47
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\0W210_US101_CORTE_MADERA_BRIDGE\MAPFILES\REPORT\2024\NES\01_JAN\FIG3-1_VEGETATION_CHARACTERZATION_0W210.MXD



Legend

- Project Area
- Biological Study Area
- Culverted Waters

Vegetation Types and Aquatic Resources

- Bare Ground (0.550 acre)
- Coast Live Oak Woodland (0.806 acre)
- Developed (3.222 acres)
- Ephemeral Drainage (0.094 acre)
- Pickleweed Flat (0.098 acre)
- Ruderal (2.677 acres)
- Salt Marsh (1.448 acres)
- Waters of U.S. (1.513 acres)

Imagery Source:
Marin County June 13-23, 2018

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FIGURE 3-1
Map 3 of 4
Vegetation Characterization
U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210 MRN-101-PM-8.47
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\0W210_US101_CORTE_MADERA_BRIDGE\MAPFILES\REPORT\2024\NES\01_JAN\FIG3-1_VEGETATION_CHARACTERZATION_0W210.MXD

Legend

Project Area

Biological Study Area

Vegetation Types and Aquatic Resources

Developed (3.222 acres)

Waters of U.S. (1.513 acres)

Imagery Source:
Marin County June 13-23, 2018

N

0 50 100

Feet

Caltrans

FIGURE 3-1
Map 4 of 4
Vegetation Characterization
U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210 MRN-101-PM-8.47
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\0W210_US101_CORTE_MADERA_BRIDGE\MAPFILES\REPORT\2024\NES\01_JAN\FIG3-1_VEGETATION_CHARACTERZATION_0W210.MXD

a) Less than Significant Impact

With implementation of PFs and AMMs identified in the following subsection, the Project would have a less than significant impact, either directly or indirectly through habitat modifications, on any candidate, sensitive, or special-status species identified in local or regional plans, policies, or regulations, or by CDFW, USFWS, or NMFS. Special-status species potentially present within or adjacent to the BSA are discussed in the following subsections, followed by PFs and species-specific AMMs as necessary. A full description of the PFs and AMMs is included at the end of this section and in Appendix B.

Plants

Point Reyes salty bird's-beak: PRSB is a California rare plant, ranked as 1B.2 (a plant that is rare, threatened, or endangered in California and elsewhere). The species is found in coastal salt marshes and swamps, and it flowers from June through October (CNPS 2023). There are nine occurrences of PRSB within 5 miles of the BSA, however, two occurrences are considered possibly extirpated. The closest extant occurrence of PRSB is in the northern portion of Corte Madera Marsh, within 0.5 mile of the BSA. PRSB was not observed during the August 2023 habitat assessment, which fell within the bloom period for the species. Marginally suitable habitat with saline soils and associated plant species (*Salicornia* and *Distichlis*) are present in the BSA, therefore, PRSB has moderate potential to occur in the BSA.

In addition to the Project features that protect salt marsh habitat and provide biological oversight and protection (PFs BIO-3, BIO-4 and BIO-7 through BIO-11), potential direct impact to individual PRSB will be minimized and avoided with the incorporation of AMM BIO-15. The new galvanic jacket system would encompass essentially the same footprint as the columns; therefore, there would be no permanent loss to salt marsh habitat from installation of the jacket system on bridge columns located at D-7 within the salt marsh habitat along the northern bank of Corte Madera Creek. The presence of the new jacket system would not diminish salt marsh habitat within the BSA. The Project would have less than significant impact on PRSB.

Birds

The noise from construction activities could temporarily modify foraging behavior, as birds present in the immediate vicinity of the Project footprint may leave the area for the duration of the activity. Birds would be expected to return when the noise ceases.

For foraging birds, this is a short term and transitory impact that would not have long-lasting or substantial negative impacts on bird health or fitness.

California Ridgway's Rail: RIRA is listed as federally endangered, state endangered, and is a state fully protected species. The USFWS considers the species sensitive to disturbance. RIRA is known to occur within the tidal wetlands of Corte Madera Marsh, approximately 0.15 miles (800 feet) east of the BSA. There are 5 recorded CNDDB occurrences of RIRA identified within 5 miles of the BSA. Some of the nearest records include observations from salt marshes along Corte Madera Creek within 0.75 mile of the BSA (CDFW 2023). Although the last recorded observation was in 2017, this occurrence is presumed extant. Salt marsh habitat located in the BSA is poor to marginally suitable for RIRA due to a lack of access to tidal channel networks and dense vegetation for nesting and foraging. RIRA are unlikely to nest within the marshes in the BSA due to the proximity of significant anthropogenic disturbance from the roadway and adjacent walking trails; however, RIRA may forage within the marshes in the BSA. Because of the proximity of the Project to historic occurrences of RIRA and known breeding habitat at the nearby Corte Madera Marsh, RIRA has a low potential to forage in the BSA.

The Project features that protect salt marsh habitat and provide biological oversight and wildlife protection (PFs BIO-3 through BIO-11) minimize potential impacts to foraging RIRA. The incorporation of AMMs BIO-17 would further minimize potential disturbance to foraging birds. Auditory disturbance to foraging RIRA would be minimized through implementation of PFs Noise-1 and Noise-2 (described in *Section 3.3.13 Noise*). The new galvanic jacket system would encompass essentially the same footprint as the columns; therefore, there would be no permanent loss to salt marsh habitat from installation of the jacket system on bridge columns located at D-7 within the salt marsh habitat along the northern bank of Corte Madera Creek. The presence of the new jacket system would not diminish foraging habitat within the BSA. The Project would have no impact on RIRA.

California Black Rail: BLRA is a state threatened and state fully protected species. There are 8 recorded CNDDB occurrences of BLRA within 5 miles of the BSA. The nearest record included an observation from Corte Madera Marsh within 0.15 mile of the BSA (CDFW 2023). Although the last recorded observation was in 2017, this occurrence is presumed extant. Marginally suitable salt marsh habitat is located in the BSA. BLRA are unlikely to nest within the marshes in the BSA due to the proximity of significant anthropogenic disturbance from the roadway and adjacent walking

trails. BLRA may forage within the marshes in the BSA, however, the species prefers larger, uninterrupted areas of water. Because of the proximity of the Project to historic occurrences of BLRA and known breeding habitat at the nearby Corte Madera Marsh, BLRA has a low potential to forage in the BSA.

In addition to the Project features that protect salt marsh habitat and provide biological oversight and wildlife protection (PFs BIO-3 through BIO-11), potential direct impact to individual BLRA will be minimized and avoided with the incorporation of PFs Noise-1 and Noise-2 (described in *Section 3.3.13 Noise*) and AMM BIO-17. The new galvanic jacket system would encompass essentially the same footprint as the columns; therefore, there would be no permanent loss to salt marsh habitat from installation of the jacket system on bridge columns located at D-7 within the salt marsh habitat along the northern bank of Corte Madera Creek. The presence of the new jacket system would not diminish foraging habitat within the BSA. The Project would have no impact on BLRA.

San Pablo song sparrow: SPSS is a state species of special concern. There are 7 recorded CNDDB occurrences of SPSS within 5 miles of the BSA. The nearest records included an observation from Corte Madera Marsh within 0.2 mile of the BSA. Although the last recorded observation was in 2005, this occurrence is presumed extant. Salt marsh habitat located in the BSA is only marginally suitable for SPSS due to a lack of dense vegetation cover for nesting and foraging. Foraging SPSS may enter the BSA margins from Corte Madera Marsh located east of the Project, particularly the eastern portion of the BSA where dense vegetation exists. Because of the proximity of the Project to historic occurrences of RIRA and known breeding habitat at Corte Madera Marsh, SPSS has a low to moderate potential to occur in the BSA.

Project features that protect salt marsh habitat and provide biological oversight and wildlife protection (PFs BIO-3 through BIO-11) will minimize and avoid impact to SPSS. The new galvanic jacket system would encompass essentially the same footprint as the columns; therefore, there would be no permanent loss to salt marsh habitat from installation of the jacket system on bridge columns located at D-7 within the salt marsh habitat along the northern bank of Corte Madera Creek. The presence of the new jacket system would not diminish foraging habitat within the BSA. The Project would have no impact on SPSS.

Mammals

Salt marsh harvest mouse: SMHM is federally endangered, state endangered, and a state fully protected species. The species is primarily nocturnal, with some activity identified at sunset and sunrise. There are 7 recorded CNDDB occurrences of SMHM within 5 miles of the BSA. Some of the nearest records included observations from Corte Madera Marsh and from salt marshes along the edges of Corte Madera Creek within 0.75 mile of the BSA. Although the last recorded observation was in 2015, this population is presumed extant. Marginally suitable habitat is present in the BSA, however, SMHM are not anticipated to enter the BSA because of the presence of developed areas and anthropogenic disturbances within the BSA. Because of the proximity of the Project to historic occurrences of SMHM and known breeding habitat at Corte Madera Marsh, SMHM has a low potential to occur in the marsh habitat north of Corte Madera Creek in the BSA.

Project features that protect salt marsh habitat and provide biological oversight and wildlife protection (PFs BIO-3 through BIO-11), as well as AMM BIO-17 will minimize and avoid impact to SMHM. The new galvanic jacket system would encompass essentially the same footprint as the columns; therefore, there would be no permanent loss to salt marsh habitat from installation of the jacket system on bridge columns located at D-7 within the salt marsh habitat along the northern bank of Corte Madera Creek. The presence of the new jacket system would not diminish SMHM habitat within the BSA. The Project would have no impact on SMHM.

Fish

The Project footprint is located within a tidal reach of Corte Madera Creek that connects to San Pablo Bay. Depending upon freshwater flows from Corte Madera Creek and the Sacramento and San Joaquin rivers, the salinity within the Project footprint will vary, but it will always be brackish. Special-status fish species with the potential to be present within the BSA include LFS, GS Southern DPS, CCC steelhead DPS, CV steelhead DPS, CVCH spring-run ESU, and SRCH winter-run ESU. Specific accounts of each of the special-status fish species, and measures to minimize impacts from the Project, are further discussed in the sections that follow.

Sheet piles for the temporary cofferdams at the bridge columns in Corte Madera Creek would be installed with a vibratory hammer, which would limit hydroacoustic impacts on fish. Installation of the sheet piles for the temporary cofferdams would temporarily degrade water quality by increasing turbidity and sediment mobilization.

However, once installed, the temporary cofferdams would contain debris that would otherwise be released as a result of preparing the columns for galvanic jacket installation, minimize the generation of turbidity plumes in Corte Madera Creek from construction activities, dampen hydroacoustic impacts, and prevent fish from entering the work area during the installation of galvanic jackets.

Installation of the temporary cofferdams around the bridge columns may result in fish stranding. The temporary cofferdams would be closed off during low tide to avoid fish entrapment to the maximum extent possible. Given that vibratory pile-driving activities would be required to form the temporary sheet pile cofferdams, it is highly unlikely that fish would remain within the cofferdam area while the cofferdam is being installed. The area within the temporary cofferdams would be dewatered, during which a NMFS-approved biologist would be onsite to observe dewatering activities, and rescue and relocate any fish observed in isolated areas during dewatering activities if safe to do so. The installation of the temporary cofferdams would result in a temporary loss of aquatic habitat in the creek. The new galvanic jacket system would encompass essentially the same footprint as the columns; therefore, there would be negligible permanent loss to aquatic habitat from the jacket system. The presence of the new jacket system would not diminish foraging habitat and open-water habitat within the Project area.

Longfin smelt: LFS is listed as state threatened and is a federal candidate for listing. Species is known to occur in deeper waters in the San Pablo and San Francisco Bays and may occasionally be present in the BSA. Direct, temporary, and permanent impacts to the open waters of Corte Madera Creek (LFS habitat) would occur as a result of the placement of galvanized jackets around rectangular bridge columns. The Project would result in a permanent loss of 0.0005 acre (about 20 square feet) of tidal marsh on the north bank of Corte Madera Creek at the D-7 columns and a permanent loss of 0.003 acre (about 130 square feet) of open water habitat around the D-8 through D-15 columns. This impact would not adversely affect the quality of the habitat for LFS in the BSA. Underwater noise (hydroacoustic disturbance) during construction can result in direct temporary impacts to fish; however, the vibratory hammer methods used to install the cofferdams and would not exceed the NMFS standard physical injury threshold (87 dB) for fish greater than 2 grams in weight within 187 feet of the disturbance.

In addition to the Project features that protect aquatic resources and provide biological oversight and wildlife protection, potential direct impact to individual LFS

will be reduced and likely avoided with the incorporation of PF BIO-7 and AMMs BIO-18 through BIO-22. Dewatering would occur after placement of cofferdam sheet piles, and fish relocation/rescue would be needed, so take of this species pursuant to Section 2081 of the California Fish and Game Code (FGC) may occur, and Caltrans will work with CDFW to obtain an Incidental Take Permit. Impacts to LFS would be temporary, and the project would not substantially alter LFS habitat. The Project would have a less than significant impact on LFS.

North American green sturgeon southern DPS: GS southern DPS is listed as federally threatened and a state species of special concern and consists of a single spawning population found in the Sacramento River. The species is known to occur in San Francisco and San Pablo Bays and may occasionally be present in the BSA. The proposed in-channel work period (May 1 to November 31) would avoid the period when adults are typically migrating upstream (February to April). There is no suitable habitat in the BSA, however, sub-adults and adults could forage in Corte Madera Creek. Therefore, the potential for GS to occur in the BSA is low. GS are highly mobile; it is unlikely that any individuals would be affected by the proposed Project. In addition to the Project features that protect aquatic resources and provide biological oversight and wildlife protection, potential direct impact to individual GS will be minimized and likely avoided with the incorporation of PF-BIO-7 and AMMs BIO-18 through BIO-22. The Project would have a less than significant impact on GS.

Central California Coast steelhead DPS: CCC steelhead DPS is listed as federally threatened. There is no suitable breeding habitat in the BSA, however, the species uses the BSA for migration and spawns upstream in tributaries to Corte Madera Creek. The proposed in-channel work period (May 1 to November 31) would avoid the period when adults are typically migrating upstream (November to April) and smolts are typically emigrating downstream (early spring to May) into the bay. In addition to the Project features that protect aquatic resources and provide biological oversight and wildlife protection, potential direct impact to individual CCC steelhead will be minimized and likely avoided with the incorporation of PF-BIO-7 and AMMs BIO-18 through BIO-22. The Project would have a less than significant impact on CCC steelhead.

Central Valley steelhead DPS: CV steelhead is listed as federally threatened. There is no suitable breeding habitat in the BSA, however, the species may be present in the BSA during migration. Critical Habitat is located within the BSA. In addition to the

Project features that protect aquatic resources and provide biological oversight and wildlife protection, potential direct impact to individual CV steelhead will be reduced and likely avoided with the incorporation of PF-BIO-7 and AMMs BIO-18 through BIO-22. The Project would have a less than significant impact on CV steelhead.

Central Valley spring-run Chinook salmon ESU: CVCH ESU is listed as federally and state threatened. There is no suitable breeding habitat in the BSA. CVCH are not expected to rear or forage in Corte Madera Creek and would only be present during migration. In addition to the Project features that protect aquatic resources and provide biological oversight and wildlife protection, potential direct impact to individual CVCH will be reduced and likely avoided with the incorporation of PF-BIO-7 and AMMs BIO-18 through BIO-22. The Project would have a less than significant impact on CVCH.

Sacramento River winter-run Chinook salmon ESU: SRCH ESU is listed as federally and state endangered. There is no suitable breeding habitat in the BSA. SRCH are not expected to rear or forage in Corte Madera Creek and may only be present during migration. Critical Habitat is located within the BSA. In addition to the Project features that protect aquatic resources and provide biological oversight and wildlife protection, potential direct impact to individual SRCH will be reduced and likely avoided with the incorporation of PF-BIO-7 and AMMs BIO-18 through BIO-22. The Project would have a less than significant impact on SRCH.

Protected Marine Mammals

Two marine mammals with low potential to occur within the BSA are the California sea lion (*Zalophus californianus*) and the Pacific harbor seal (*Phoca vitulina*). Neither of these species are federally or state listed as threatened or endangered; however, all marine mammals are protected under the Marine Mammal Protection Act (MMPA) of 1972 and harassment of these mammals from underwater noise requires authorization from NMFS. These species may infrequently occur within or immediately adjacent to the BSA within the Corte Madera Creek and San Francisco Bay. Marine mammals exposed to noise may experience masking of other environmental noises and change their behaviors in response to the noise, such as moving away from the activity, startle responses, and changes to underwater vocalizations. Such noise masking and behavioral effects would be temporary, localized, and less than significant.

Suitable Pacific harbor seal and California sea lion foraging habitat is present within the open waters of Corte Madera Creek within the BSA. It is unlikely these species

would be found hauled out in the terrestrial portions of the BSA, but there is a moderate potential to encounter sea lions in Corte Madera Creek and a moderate to high potential to encounter harbor seals in Corte Madera Creek during work on the bridge columns.

The Project would not include pile driving, therefore, marine mammal incidental harassment authorization would not be required. Impacts on marine mammals during construction would be minimized through implementation of PFs BIO-3, BIO-7, and BIO-8, as well as Noise-1 and Noise-2 (described in *Section 3.3.13 Noise*) and AMM BIO-23. The Project would have less than significant impact on marine mammals.

Roosting Bats

Several species of bats, both common and special status, are known to occur or have the potential to occur within the vicinity of the BSA. Based on queried CNDDB occurrence data, special status species including Pallid bat (*Anatropous pallidus)*, and Townsend's Big-eared bat *(Corynorhinus* Townsend) have been observed within 5 miles of the BSA. These species are both considered CDFW species of special concern.

No specific habitat assessment was performed on the Corta Madera Bridge; however, based on the presence of suitable habitat, expansion joints at various locations along the structure and potential night roosting habitat, it was determined that special-status bat species could be expected to occur within the BSA. Overnight roosting below the bridge or within adjacent trees may occur during migration or with more commonly occurring bat species. Impacts on roosting bats would be avoided and minimized through implementation of PF-BIO-12 and AMM-BIO-16. The Project would have less than significant impact on roosting bats.

b) <u>Less than Significant Impact</u>

The Project would not have a substantial, adverse effect on sensitive natural communities, critical habitat, or essential fish habitat.

Sensitive Natural Communities

CDFW-designated sensitive natural communities recorded within the BSA (CDFW 2023) include salt marsh and emergent marsh habitats. The predominant wetland type in the BSA is salt marsh habitat, found along the north bank of Corte Madera Creek and in tidally influenced areas between Sir Francis Drake Boulevard and Corte

Madera Creek (Figure 3-1). The salt marsh habitat is fragmented by pedestrian trails and roadways. Within the BSA, dominant species in the salt marsh habitat include pickleweed (*Salicornia pacifica*), saltgrass (*Distichlis spicata*), bulrush (*Scirpus californicus*), and cordgrass (*Spartina* sp.). A patch of emergent wetland is present within an ephemeral drainage in the northwest portion of the BSA and is dominated by slender leaved cattail (*Typha angustifolia)*. The natural land cover types mapped within the BSA are outlined in Table 3-1 and shown in Figure 3-1.

Construction within the Corte Madera Creek would be conducted from barges. The barges presumably would have been moored in other water bodies, giving them potential to transport invasive aquatic species from one location to another. To avoid potential aquatic invasive species impacts to the creek and surrounding wetlands, PF BIO-9 would be implemented.

Construction at D-7 would be conducted from a barge and also from the north bank of Corte Madera Creek where a narrow strip of salt marsh habitat is present along the creek bank. The new galvanic jacket system would encompass essentially the same footprint as the columns; therefore, there would be negligible (<0.001 acre) permanent loss to salt marsh habitat from installation of the jacket system on bridge columns located at D-7. The presence of the new jacket system would not permanently diminish the function and value of salt marsh habitat within the BSA. The Project would have a less than significant impact on salt marsh habitat. The Project would have less than significant impact on sensitive natural communities.

Table 3-1. Natural Land Cover Types in the BSA

Habitat Type	Acreage within Project BSA	Temporary Impacts in Project Footprint (acres)	Permanent Impacts in Project Footprint (acres)
California Annual and Perennial Grassland	0.122	-	-
Ruderal Vegetation	2.677	0.007	-
Landscaped	0.364	-	-
Developed	3.222	-	-
Bare Ground	0.550	-	-
Black Sage Scrub	0.184	-	-
Coast Live Oak Woodland	0.806	-	-
Emergent Marsh	0.007	-	-
Ephemeral Drainage	0.094	-	-
Salt Marsh, Pickleweed Flat	0.098	0.0001	-
Salt Marsh	1.448	0.021	0.0005
Open Water (Corte Madera Creek)	1.513	0.308	0.003
Total Habitat	11.085	0.3361	0.0035

Designated Critical Habitat and Essential Fish Habitat

Corte Madera Creek is a perennial, brackish creek that receives freshwater runoff from upstream and tidal influences from the Bay. Within the BSA, the width of the creek ranges from 300 to 500 feet, from bank to bank. The Project is located within a tidal reach of Corte Madera Creek that connects to San Pablo Bay. Depending upon freshwater flows from Corte Madera Creek and the Sacramento and San Joaquin rivers, the salinity within the Project footprint will vary, but it will always be brackish. As such, the Project footprint is located within Marine essential fish habitat (EFH) for central California coast coho (CCC coho) and CVCH. Corte Madera Creek within the BSA also is identified as critical habitat for CCC steelhead, CCC coho, and GS. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (72 *Federal Register* 19862). Designated by USFWS and NMFS, critical habitat is specific areas within a listed species' geographic range that contain the physical or biological features essential to the conservation of listed species (USFWS 2017).

Within the BSA, Corte Madera Creek is not suitable spawning habitat for listed anadromous fish. Corte Madera Creek and the adjacent salt marsh habitat provide

migratory and potential foraging habitat. The limited area of salt marsh habitat within the BSA has small tidal channels that may provide refuge to adults or juveniles, although access to this area is limited by degraded culverts, and salt marsh is generally recognized as providing forage for anadromous fish.

CCC Steelhead Critical Habitat: Corte Madera Creek has been designated as critical habitat for the CCC steelhead ESU. For the purposes of this study, the limits of the designated critical habitat include the open waters of Corte Madera Creek and tidal channels up to the mean high tide line.

Construction activities associated with the proposed Project would have a negligible direct permanent impact on open waters of Corte Madera Creek (critical habitat and EFH). In-water activities may result in temporary increases in turbidity and sound levels within the BSA. Turbidity is expected to subside quickly, and increased noise levels would only occur during vibratory installation of the cofferdams around each rectangular column. With the incorporation of BMPs, there are no anticipated direct or indirect impacts on the primary constituent elements of CCC steelhead critical habitat. The Project would have a less than significant impact on CCC steelhead critical habitat.

CCC Coho Critical Habitat and EFH: Corte Madera Creek has been designated as critical habitat and EFH for the CCC coho ESU. For the purposes of this study, potential CCC coho critical habitat and EFH in the BSA include areas designated as the open waters of Corte Madera Creek (including tidal channels up to the mean high tide line) and the adjacent salt marsh habitat.

In-water activities may result in temporary increases in turbidity and sound levels within the BSA. Turbidity is expected to subside quickly, and increased noise levels would only occur during vibratory installation of the cofferdams around each rectangular column. With the incorporation of BMPs, there are no anticipated direct or indirect impacts on the CCC coho EFH or primary constituent elements of CCC coho critical habitat. The Project would have less than significant impact on CCC coho EFH and critical habitat.

CVCH EFH: Corte Madera Creek has been designated as EFH for the CVCH. EFH for the CVCH includes all streams, estuaries, marine waters, and other water bodies occupied or historically accessible in the San Francisco Bay and San Pablo Bay hydrologic units (Federal Register 58:33212).

In-water activities may result in temporary increases in turbidity and sound levels within the BSA. Turbidity is expected to subside quickly, and increased noise levels would only occur during vibratory installation of the cofferdams around each rectangular column. With the incorporation of BMPs, there are no anticipated direct or indirect impacts on CVCH EFH. The Project would have less than significant impact on CVCH EFH.

GS Southern DPS Critical Habitat: Corte Madera Creek has not been specifically designated as critical habitat for GS, however, the reach of Corte Madera Creek that is tidally influenced within the BSA is considered critical habitat. Critical habitat for the southern DPS of GS encompasses "all tidally influenced areas of San Francisco Bay, San Pablo Bay, and Suisun Bay up to the elevation of mean higher high water" (Federal Register 74:52346).

In-water activities may result in temporary increases in turbidity and sound levels within the BSA. Turbidity is expected to subside quickly, and increased noise levels would only occur during vibratory installation of the cofferdams around each rectangular column. With the incorporation of BMPs, there are no anticipated direct or indirect impacts on the primary constituent elements of GS critical habitat. The Project would have less than significant impact on GS critical habitat.

c) Less than Significant Impact

Construction of the project would result in minor permanent, direct impacts to open water habitat in Corte Madera Creek, a jurisdictional aquatic resource, and a narrow strip of salt marsh habitat along the northern bank of Corte Madera Creek, a jurisdictional wetland (Figure 3-1). The installation of galvanized jackets on the rectangular columns would permanently affect approximately 0.003 acre (about 130 square feet) of Corte Madera Creek waters, and installation at D-7 would permanently affect approximately 0.0005 acre (about 20 square feet) of salt marsh habitat along the creekbank. Given the creek's size, volume, and daily tidal fluctuations, this permanent loss would be negligible and have no effect on the ecological function and value of the jurisdictional waters.

Temporary, direct impacts to jurisdictional open waters of the U.S. would occur from the use of temporary cofferdams for the placement of the galvanized jackets. Approximately 0.308 acre of Corte Madera Creek open water and 0.022 acre of salt marsh habitat at the creekbank would be temporarily affected by cofferdam placement and construction access. Impacts on Corte Madera Creek during

construction would be minimized with the installation of temporary cofferdams to isolate the work area from the creek and through implementation of PFs BIO-3, BIO-4, BIO-7, BIO-8 and BIO-11 and AMMs BIO-19, BIO-20, and BIO-22. The impacts on aquatic resources would be less than significant.

d) Less Than Significant Impact

The open channel of Corte Madera Creek has historically provided, and currently provides, passage for anadromous fish to upstream spawning areas. A visual inspection of the U.S. 101 bridges (highway travel lanes and off-ramps) over Corte Madera Creek determined that there are no existing barriers to fish passage. Construction (placement of galvanized jackets onto rectangular columns) will occur within the open waters of Corte Madera Creek; however, temporary or permanent obstruction of fish passage would not occur.

The Project is not located within the California Essential Habitat Connectivity Plan and is ranked low on the California WildCAT database. The existing bridge is free-spanning and currently accommodates wildlife crossing.

Although the proposed Project would not create a barrier to fish passage, PFs BIO-4, BIO-7, and BIO-8 and AMMs BIO-18 through BIO-22. would be implemented to maintain conditions within Corte Madera Creek and avoid potential impacts to migrating fish. Impacts on migration and movement of fish and wildlife would be less than significant.

e) No Impact

This Project would not conflict with any local policies or ordinances protecting biological resources; therefore, there would be no impact.

f) No Impact

There are no Habitat Conservation Plans or Natural Community Conservation Plans that apply to the Project area. This Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact.

Project Features

Caltrans would incorporate the following standard measures into the Project to minimize or avoid potential impacts on biological resources.

PF-BIO-1: Documentation at Project site. A Permit Compliance Binder will be maintained at the construction site at all times and presented to resource agency (i.e., USACE, USFWS, NMFS, RWQCB, and/or CDFW) personnel upon request. The Permit Compliance Binder will include a copy of all original permits and agreements and any extensions and amendments to the permits and agreements.

PF-BIO-2: Work According to Documents. Except as contradicted by measures within the permits and agreements, all work will be conducted in conformance with the Project description in the permits and agreements and the AMMs provided in the permits and agreements.

PF-BIO-3: Worker Environmental Awareness Training. Prior to the start of construction, a biologist will provide a training session for all work personnel to identify sensitive species that may be in the area, their basic habits, how they may be encountered in their work area, and procedures to follow when they are encountered. Any personnel joining the work crew later will receive the same training before beginning work. Upon completion of the education program, employees will sign a form stating that they attended the program and understand all protection measures. A pamphlet that contains images of sensitive species that may occur within the Project, environmentally sensitive areas (ESAs) within the Project site, and notes key avoidance measures, as well as employee guidance will be given to each person who completes the training program. These forms will be made available to the resource agencies upon request.

PF-BIO-4: Marking of Environmentally Sensitive Areas. Before construction begins, ESAs will be clearly delineated using high visibility orange fencing, flagging, or similar marking to delineate sensitive habitats. The ESA marking will remain in place throughout construction or until work is completed at a particular location. It may be removed during the wet season (and subsequently reinstalled) if needed to prevent materials from being washed away. The final Project plans will depict all locations where ESA marking will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable marking material and prohibited construction-related activities, vehicle operation, material and

equipment storage, and other surface-disturbing activities within ESAs. ESA markings will be maintained in good repair throughout the Project as needed.

PF-BIO-5: Nesting Bird Surveys. If Project activities occur from February 1 to September 30, then a pre-construction survey will be conducted for nesting birds no more than 3 days before construction. If active nests are found, then an appropriate buffer will be established, and the nest will be monitored for compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code 3503.

PF-BIO-6: Active Nest Buffers. If an active bird nest is found during construction activities, then the following ESA buffers will be established: If an active raptor nest is observed, a 300-foot ESA buffer will be implemented to avoid affecting the young until they have fledged; if an active nest of nonraptor migratory birds is observed, a 50-foot ESA buffer will be implemented to protect the young until they have fledged, or as otherwise determined by consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California FGC 3503.

PF-BIO-7: Stormwater Best Management Practices. Water pollution control and erosion control best management practices will be developed and implemented to minimize wind- or water-related erosion. Best management practices will follow the requirements of the RWQCB and standards outlined in *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017). At a minimum, protective measures will include the following:

a. Prohibiting discharge of pollutants from vehicle and equipment cleaning into storm drains or watercourses.

b. Maintaining equipment to prevent vehicles from leaking fluids such as gasoline, oils, or solvents. Hazardous materials such as fuels, oils, solvents, etc. will be stored in manufacturer approved containers in a designated location that is at least 50 feet from aquatic habitats.

c. Servicing vehicles and construction equipment, including fueling, cleaning, and maintenance, at least 50 feet from aquatic habitat unless separated by a topographic or engineered drainage barrier.

d. Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts.

e. Maintaining spill containment kits onsite at all times during construction operations, staging, and fueling of equipment.

f. Using water trucks and dust palliatives to control dust in unvegetated areas that are at least 10 feet from the MHHW, and covering of temporary stockpiles when weather conditions require.

g. Protecting graded areas from erosion using a combination of silt fences, fiber rolls or straw wattles, erosion control netting (jute or coir), hydraulic mulch, temporary cover, drainage inlet protection, or other appropriate sediment control methods as determined in the Caltrans approved SWPP plan or the RWQCB Construction General Permit. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material will not be used. Acceptable substitutes include coconut coir matting or tackifying hydroseeding compounds.

PF-BIO-8: Construction Site Management Practices. The following site restrictions will be implemented to avoid or minimize potential impacts on sensitive biological resources:

a. Enforcing a speed limit of 15 miles per hour for project vehicles in unpaved portions of the site to reduce dust and excessive soil disturbance.

b. Locating construction access, staging, storage, and parking areas within the Caltrans ROW and outside of any designated ESA. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork will be clearly marked before initiating construction.

c. Certifying, to the maximum extent practicable, that borrow material is nontoxic and weed free.

d. Enclosing food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.

e. Prohibiting pets from entering the Project area during construction.

f. Prohibiting firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

PF-BIO-9: Invasive Weed Control. To reduce the spread of invasive, nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. If noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project area will be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.

If work occurs in sensitive habitat, vehicles and equipment will be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

PF-BIO-10: Vegetation and Tree Removal. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be permanently affected or excavated. This will allow plants that reproduce vegetatively to resprout after construction.

PF-BIO-11: Restoration of Disturbed Areas. Temporarily disturbed areas will be restored as appropriate with final design to occur. Exposed slopes and bare ground, above the MHHW will be reseeded with native grasses and forbs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.

PF-BIO-12: Bat Protection. A pre-construction bat survey will be completed, and if needed, appropriate bat exclusionary measures will be implemented prior to construction during the period between March 1 and April 15 or between August 31 and October 15. Potential avoidance may include exclusionary blocking or filling

potential cavities with foam, visual monitoring, and/or staging Project work to avoid bats. If bats are known to use the structures, then exclusion netting will not be used.

PF-BIO-13: Prevention of Inadvertent Entrapment. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will be covered at the close of each working day with plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than 30 degrees. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight will be inspected before they are subsequently moved, capped, or buried.

PF-BIO-14: Night Lighting. Nighttime work will be avoided to the maximum extent practicable. For unavoidable nighttime work, lighting will be shielded and directed downward toward the active construction area to avoid exposing nocturnal wildlife to excessive glare.

Avoidance and Minimization Measures

AMM-BIO-15: Rare Plant Preconstruction. During the spring season prior to construction, Caltrans will conduct focused pre-construction surveys for the rare plants identified in the Project area. The extent and abundance of the rare plants will be mapped and flagged in the field for future relocation, salvage, and transplantation. These surveys will be conducted during the season in which the rare plants are detectable and in the phenological stage of development for correct identification (typically late spring). If a rare plant is identified within the Project footprint Caltrans may consult with regulatory agencies about how to proceed.

AMM-BIO-16: Bat Monitoring Protocols. If a bat or bat colony is observed roosting in active construction areas at the Project site, construction activities that would imminently harm bats will stop within 150 feet of the roosting location until Caltrans has consulted with the appropriate regulatory agency or agencies about how to proceed.

AMM-BIO-17: Wildlife Exclusion Fencing. Before starting construction, wildlife exclusion fencing (WEF) will be installed where wildlife could enter the project site. Locations of the WEF will be determined in coordination with the onsite biologist. WEF installation locations will be identified during the plans, specifications, and estimate phase of the project; the final plans will depict the locations where WEF will be installed and how it will be assembled/constructed. The special provisions in the

bid solicitation package will clearly describe acceptable WEF material and proper WEF installation and maintenance. The WEF will remain in place throughout the project duration while construction activities are ongoing and will be regularly inspected for stranded animals and fully maintained. The WEF will be removed following completion of construction activities or when construction is completed at that location at the discretion of the project biologist.

AMM-BIO-18: In-water Work Avoidance Construction Timeline. All work in aquatic habitat for salmonids and longfin smelt within Corte Madera Creek will take place from May 1 to November 31 to avoid the primary adult spawning and juvenile smolt outmigration seasons. The in-water work window will also prevent construction disturbance in Corte Madera Creek when most rainfall typically occurs, thus avoiding impacts to water quality and challenges to the cofferdams by increased flows that occur during rain events.

AMM-BIO-19: Dewatering Plan and Monitoring. Dewatering and discharging activities will be conducted according to standard Caltrans requirements.

- If requested by state and federal agencies, the dewatering plan will be provided for review and comment in advance of dewatering activities.
- An agency-approved biological monitor(s) will be present during dewatering activities to relocate special-status species as needed.
- For dewatering systems that require pumping, all intakes will be completely screened with wire mesh not larger than 5 millimeters (0.2 inch) to prevent wildlife from entering the pump system.

AMM-BIO-20: Placement of Non-toxic Structures in Streams. All materials placed in the creek such as pilings and retaining walls, shall be non-toxic. Any combination of wood, plastic, cured concrete, steel pilings, or other materials used for in-channel structures shall not contain coatings, treatments, or consist of substances deleterious to aquatic organisms that may leach into the surrounding environment in amounts harmful to aquatic organisms.

AMM-BIO-21: Fish Relocation and Handling. A Fish Relocation Plan for listed species will be developed during the design phase and submitted to NMFS, USFWS, and CDFW for approval prior to activities that would require fish relocation. The Fish Relocation Plan will identify specific methods and equipment for isolation of work

areas, capture and handling of individual fish, and a sequence of relocation steps. Suitable habitat for relocation will be identified in the Fish Relocation Plan.

AMM-BIO-22: Construction Behind Cofferdams. All work in aquatic habitat within Corte Madera Creek will take place within cofferdams that have been dewatered. Cofferdams will effectively isolate the work areas from Corte Madera Creek and significantly reduce potential construction effects and stressors, such as noise and vibration. Cofferdams will be designed and constructed to isolate work disturbance, avoiding disturbance of core habitat areas in the central part of the creek and allowing tidal flows to easily pass through the Project area.

AMM-BIO-23: Marine Mammal Protection. Work will cease if a marine mammal comes within 300 feet of the active work area. Activity can resume once the animal has moved away from the work area on its own. Vibratory hammer methods will be used; no piling driving will occur. Additional measures to avoid harassment may be developed in consultation with NMFS.

3.3.5 Cultural Resources

Would the project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR CULTURAL RESOURCES

A Section 106 Screening Memorandum was prepared by the Caltrans Office of Cultural Resource Studies (OCRS) (Caltrans 2023b). The investigation was performed by a Caltrans archaeologist and architectural historian who are Professionally Qualified Staff (PQS) for prehistoric archaeology and architectural history. A summary of the findings is presented here.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer*, *the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Programmatic Agreement) and the January 2015 Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Officer Regarding Compliance With Public Resources Code Section 5024 and Governor's Executive Order W-26-92 (MOU).

Caltrans PQS have reviewed the project description and drawings, the Caltrans Cultural Resource Database, highway as-built plans, the Bridge Inspection Records Information System, aerial photographs, and maps. There are no known archaeological resources within the Project area and the location has a low to moderate sensitivity for submerged resources. The Caltrans Historic Bridge Inventory shows that Caltrans found the Corte Madera Bridge (Bridge 27 0008K) not eligible for the National Register of Historic Places, and it is listed as a Category 5 bridge.

a, b, c) No Impact

There are no built environment resources eligible for the National Register of Historic Places or California Register of Historical Resources.

The proposed Project is in a developed area and would involve little to no ground disturbance. The underlying soils are mapped as "Xerorthents-Urban land complex, 0 to 9 percent slopes", which is comprised of artificial fills and reworked soils associated with developed areas and areas where fill was placed to reclaim historic marshland (NRCS 2023). The location is of low to moderate sensitivity for submerged resources.

Based upon the above review, Caltrans has determined that the proposed Project has no potential to affect historic properties. The project is therefore exempt from further review pursuant to the Programmatic Agreement, Stipulation VII, "Screened Undertakings" and Stipulation VII, "Screened Projects and Activities Exempt from Further Review" of the MOU (Caltrans 2023b). The undertaking has been screened and is exempt under **Class 1** (Pavement reconstruction, resurfacing, shoulder backing, or placement of seal coats); **Class 14** (Installation, removal or replacement of roadway markings, such as painted stripes, raised pavement markers, thermoplastic tape, raised bars, or installation of sensors in existing pavements); and **Class 19** (Any work on Category 5 bridges, including rehabilitation or reconstruction) of Attachment 2, "Screened Undertakings" in the Programmatic Agreement. Therefore, the proposed Project would have no impact on known cultural resources.

Implementation of PF-CULT-1 and CULT-2 would reduce potential impacts on undiscovered cultural resources.

Project Features

Caltrans would incorporate the following standard measures into the Project to minimize or avoid potential impacts to previously undiscovered cultural resources.

PF-CULT-1: Discovery of Cultural Resources. In the event that archaeological resources (sites, features, or artifacts) or Tribal Cultural Resources (as defined by the Tribe and CEQA) are exposed during construction activities, all construction work occurring within 60 feet of the find shall immediately stop until a qualified archaeologist, that meets the Secretary of the Interior Professional Qualifications for Archaeology, can evaluate the significance of the find in consultation with the Tribe to determine if additional study is warranted.

PF-CULT-2: Discovery of Human Remains. If remains are discovered during ground-disturbing activities, construction-related activities within a 100-foot radius of the find would be halted immediately and Caltrans' OCRS would be called. Caltrans OCRS staff would assess the remains and, if determined human, would contact the Marin County Coroner as per Public Resources Code Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code (H&SC). The Marin County Coroner is required to examine the find within 48 hours of receiving notification of such a discovery. If the coroner determines the remains to be Native American, the coroner will contact the Native American Heritage Commission (NAHC) within 24 hours of making the determination. The NAHC would assign and contact the Most Likely Descendent (MLD) regarding the discovered human remains. Caltrans would consult with the MLD on treatment and ultimate disposition of the remains. Further provisions of PRC 5097.98 would be followed as applicable.

3.3.6 Energy

Would the project:

Question	CEQA Determination
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
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR ENERGY

An *Energy Analysis Report* memorandum was completed for the Project (Caltrans 2023c). Since the Project is not capacity increasing nor will it provide congestion relief, a qualitative energy analysis has been completed to comply with CEQA. This section summarizes the findings of this report.

a) Less than Significant Impact

The operation of the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Construction activities would result in short-term energy consumption from the use of petroleum fuels by construction equipment, and from vehicles used by construction workers to travel to and from the site during construction and to deliver construction materials. The detour associated with nighttime closures of the D and D1 lines on-ramp would add 3.5 miles and six minutes to a vehicle trip. The detour would be in use for approximately 90 working days during the nighttime hours when there is less traffic on the roadway to be affected. The additional vehicle miles travelled and time on the road would equate to additional consumption of energy resources while the detour is required. Activities that consume energy also generate by-products. Greenhouse gases, discussed in Section 3.3.8 Greenhouse Gas Emissions, are the most closely studied by-products of energy consumption because they are linked to climate change. There would be a less than significant impact on energy consumption.

b) No Impact

The Project is not a capacity-increasing transportation project and, once construction is complete, would not increase use of energy resources. Traffic volumes and types of vehicles using the highway would not change as a result of the Project. The Project

may result in improved ride quality, which could improve vehicle operations, reduce emissions, and reduce energy consumption. The Project would not conflict with or obstruct state and local plans for renewable energy and energy efficiency. There would be no impact.

Project Feature

Caltrans would incorporate the following standard measure into the Project to minimize potential energy consumption.

PF-Energy-1: Minimize Energy Consumption from Construction Activities. The use of construction BMPs would minimize energy consumption from construction activities, including, but not limited to: limit idling of vehicles and equipment; use solar power as a power source, if feasible; ensure regular maintenance of construction vehicles and equipment; and, if feasible, recycle nonhazardous waste and excess materials to reduce disposal offsite.

3.3.7 Geology and Soils

Would the project:

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

CEQA Significance Determinations for Geology and Soils

The Project is located within the California Coast Ranges geomorphic province. The Coast Ranges are northwest-trending mountain ranges and valleys that run subparallel to the San Andreas Fault. In general, the Coast Ranges consist of complexly folded Mesozoic and Cenozoic sedimentary, metamorphic, and volcanic rock (CDOC 2002).

The Project area is underlain by artificial fill over marine and marsh deposits (Quaternary) geologic unit (U.S. Geological Survey [USGS] 2000). The geologic unit consists of mud, including much organic material, silty mud, silt, and sand overlain by artificial fill.

a(i) – (iv) No Impact

The Project would not affect geologic or native soil conditions. It also would not disturb the native subsurface because the Project would be located on previously disturbed ground. There are no known sensitive geologic or paleontological resources in the Project limits. There would be no additional impacts to the public from earthquakes, landslides, liquefaction, or other geologic hazards.

The Project would be subjected to strong ground shaking from nearby faults; however, the Project would not directly or indirectly increase the potential for surface rupture, or strong ground shaking, or expose the public to increased risk of loss, injury, or death.

The Project would not expose the public to hazards from landslides, erodible soils, soft soils, expansive, nor collapsible soils. Soils may be subject to liquefaction during a strong seismic event; however, Project elements would not further add to the hazard. Therefore, the Project would not increase the potential risk of loss, injury, or death resulting from seismically related liquefaction. There would be no impact.

b) No Impact

Bridge rehabilitation work would not result in substantial soil erosion or the loss of topsoil; therefore, there would be no impact.

c, d) No Impact

The Project would not create hazards related to seismic induced hazards such as liquefaction. Proposed project elements would not expose the public to impacts from landslides, soft soils, erodible soils, nor expansive soils; therefore, no impact would occur.

e) No Impact

No septic tanks or alternative wastewater delivery systems would be constructed or affected by the Project; therefore, no impact would occur.

f) No Impact

There are no sensitive geologic or mineral resources in the Project limits. The proposed Project would have limited excavation located on engineered (artificial) fill. These units are not fossil bearing; therefore, there would be no impact.

3.3.8 Greenhouse Gas Emissions

Would the project:

Question	CEQA Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR GREENHOUSE GAS EMISSIONS

A *Construction-Related Greenhouse Gas (GHG) Emissions Analysis* memorandum was completed for the Project (Caltrans 2023d). This section summarizes the findings of this memorandum.

a) Less than Significant Impact

The GHG emissions resulting from construction activities would not result in long-term impacts on the environment. Construction-generated GHG would include emissions resulting from material processing by onsite construction equipment, workers commuting to and from the Project site, traffic delays resulting from construction, and the additional vehicle miles travelled on the detour route. The emissions would be produced at different rates throughout the Project, depending on the activities involved at various phases of construction.

The GHG analysis prepared for this Project focused on vehicle emitted GHGs. Carbon dioxide (CO_2) is generally used as the benchmark for quantifying the emissions levels of a project because CO_2 is emitted in such vastly higher quantities that it accounts for the majority of vehicle-emitted GHGs, including when compared to methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), and black carbon. The Caltrans Construction Emissions Tool (CAL-CET 2021), version 1.0.2, was used to estimate the amount of CO_2 produced due to construction; construction-related CO_2 emissions are estimated as 89 tons. Although the BAAQMD does not establish a threshold of significance for construction-related CO_2 emissions, the project meets the BAAQMD preliminary screening criteria for construction projects (BAAQMD 2022). Additionally, the frequency and occurrence of GHG emissions would be reduced through PF-GHG-1, described at the end of this section. The Project impact on GHG emissions would be less than significant.

b) No Impact

The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions from GHGs. The Project would not increase operational capacity or affect travel demand or travel patterns that would contribute to a long-term increase in GHG emissions. The amount of GHG emissions generated during construction of the Project and as a result of the detour would be minor. With innovations such as longer pavement life, improvements in traffic management, and changes in materials, construction related GHG emissions produced during construction would be offset to some degree by longer intervals between maintenance and rehabilitation activities (Caltrans 2023d). There would be no impact.

Project Feature

Caltrans would incorporate the following standard measure into the Project to minimize greenhouse gas emissions.

PF-GHG-1: Control Measures for Greenhouse Gases. Measures would be implemented during construction to ensure regular maintenance of construction vehicles and equipment; limit idling of vehicles and equipment on site; recycle nonhazardous waste and excess material if practicable; and use solar-powered signal boards, if feasible.

3.3.9 Hazards and Hazardous Materials

Would the project:

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

CEQA Significance Determinations for Hazards and Hazardous Materials

There is the potential for encountering hazardous materials during grinding of the bridge deck surface, removal of existing joint seal, concrete chipping on columns, and striping removal. The materials generated by grinding, removal of joint seal, chipping, and striping removal require standard provisions for handling and testing to verify appropriate disposal options. Limited testing may need to be conducted to screen for Asbestos-Containing Material (ACM), Lead-Containing Paint (LCP), and Aerially Deposited Lead (ADL), as required by the U.S. Environmental Protection Agency's National Emission Standards for Hazardous Pollutants when a concrete bridge structure is renovated. A hazardous materials investigation may also include testing the columns for chloride contamination.

Environmental regulatory databases, including the State Water Resource Control Board's (SWRCB) GeoTracker and California Department of Toxic Substances Control's (DTSC) EnviroStor, were screened to identify known hazardous materials or hazardous waste sites in the immediate vicinity of the Project. The SWRCB GeoTracker database identified seven completed case-closed sites, one open eligible for closure site, and one open-inactive cleanup program site within a 0.50-mile radius of the Project area that have impacted or have the potential to impact groundwater and surface water quality (SWRCB 2023). The closest of the GeoTracker identified facilities to the Project site are two Leaking Underground Storage Tank (LUST) facilities located more than 800 feet west of the Project. The Chevron service station, located at 301 Sir Francis Drake Boulevard, reported a gasoline leak from an Underground Storage Tank (UST) in 1984. The San Francisco Regional Water Quality Control Board (RWQCB) confirmed completion of a site investigation and corrective action associated with the LUST and found that no further action related to the petroleum release at this site was necessary in a letter dated March 23, 2006. The Shell service station, located at 295 Sir Francis Drake Boulevard, reported a gasoline leak from an UST in 1986. The San Francisco RWQCB confirmed completion of a site investigation and remedial action for the LUST and found that no further action related to the petroleum release at this site was necessary in a letter dated February 5, 1998.

A screening of the DTSC EnviroStor database identified one facility within a 0.50-mile radius of the Project area that has impacted or has the potential to impact groundwater and surface water quality (DTSC 2023). The New WinCup Holdings former foam cup manufacturing facility, located more than 2,200 feet south of the Project, was closed in 2011. Site closure reports indicate that soils contaminated with cadmium and polychlorinated biphenyls (PCBs) were removed from the site and a letter of no further action required was issued by the DTSC dated May 30, 2014.

Based on the no further action required letter issued for each of the two nearby LUST facilities and the former foam cup manufacturing facility identified on the EnviroStor and GeoTracker databases, there is no impact anticipated on the Project soil and groundwater.

a, b) <u>Less than Significant Impact</u>

The Project would not involve the routine transport, use, or disposal of hazardous materials once the Project becomes operational.

During construction, the Project is expected to temporarily involve the transport, storage, use, and disposal of hazardous materials (e.g., fuels, paints, cleaners, solvents, and lubricants) that could pose a significant threat to human health and the environment if they are not properly managed. A methacrylate treatment would be applied to the concrete bridge deck as a barrier against water and chemical ingress prior to an overlay with polyester concrete. A galvanic anode jacket system would be installed on bridge columns in the tidal zone and filled with a slurry of concrete or grout. The transport, storage, use, and disposal of hazardous materials are subject to local, state, and federal hazardous waste regulations designed to reduce risks associated with hazardous materials, including potential risks associated with accidental release of hazardous materials. Compliance with the existing regulations is mandatory; therefore, implementation of the Project is not expected to create a significant hazard to construction workers, the public, or the environment through the routine transport, use, or disposal of hazardous materials. The impact would be less than significant.

Caltrans standard specifications and BMPs would be implemented to prevent spills or leaks from construction equipment, as well as from storage of materials, such as fuels, lubricants, and solvents. All aspects of the Project associated with removal, storage, transportation, and disposal would be in strict accordance with the appropriate regulations of the California H&SC. Handling of hazardous materials would comply with Caltrans Standard Specification 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste. Implementation of the Project is not expected to 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. Potential impacts due to hazards and hazardous materials would be reduced through PF-HAZ-1 through HAZ-3, described at the end of this section. The impact would be less than significant.

c) <u>No Impact</u>

The nearest school to the Project, Redwood High School, is located 2,900 feet to the southwest at 395 Doherty Drive in Larkspur, CA. The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school because there are no existing or proposed schools within one-quarter mile of the Project. There would be no impact.

d) No Impact

The Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

There are no reported releases in the immediate Project area that have affected soil and/or groundwater and the Project does not include substantial soil disturbance; therefore, implementation of the Project would not create a significant hazard to the public or the environment. Compliance with Caltrans Standard Specifications 14-11, Hazardous Waste and Contamination, is required. There would be no impact.

e) No Impact

There is one airport located within a 2-mile radius of the Project site. The San Rafael Private Heliport is located 1.5 miles east of the Project on Kerner Boulevard. Private heliports do not require an Airport Land Use Control Plan. The United States Department of Transportation (USDOT) Federal Aviation Administration requires (1) establishment of a Heliport Protection Zone (HPZ), which is an area under the approach/departure path intended to enhance the protection of people and property on the ground and extends for a distance of up to 400 feet, and (2) notification of proposed construction or alteration that would penetrate an imaginary surface extending outward and upward at a 25 to 1 ratio for a horizontal distance of 5,000 feet from the heliport (USDOT 2023a). The Project is not located within the HPZ nor will implementation of the Project penetrate the 25 to 1 imaginary surface. The next nearest airport to the Project is a private airport, San Rafael Airport, which is located more than 5 miles to the north at 400 Smith Ranch Road in San Rafael. The nearest major airport to the Project is the Oakland International Airport, located more than 20 miles to the southeast of the Project. The Project is not located within the airport influence area for the San Rafael Airport or the Oakland International Airport.

Project construction equipment would not reach heights or have the potential to pose a safety hazard to airport operations. Further, the Project would not generate excessive noise that would impact people working adjacent to the Project footprint as discussed in Section 3.3.13. There would be no impact.

f) Less than Significant Impact

Emergency response by the fire and police departments could be temporarily affected during construction. Potential traffic delays would result from nighttime closure of

the D and D1 lines on-ramp to southbound U.S. 101 from Sir Francis Drake Boulevard during construction. The detour could add up to 3.5 miles and six minutes to response time for some emergency responders, depending on their point of origin and destination. Coordination regarding ramp closures with service providers would minimize impacts to emergency response times; significant delays would not be expected.

The Project is located within a tsunami hazard area, however, most areas north of Sir Francis Drake Boulevard are located outside of the tsunami hazard area (CDOC 2023). Nighttime closure of the D and D1 lines on-ramp would have minimal impact on tsunami evacuation routes.

Sir Francis Drake Boulevard and its connection to U.S. 101 is part of the local evacuation route for portions of Greenbrae and Larkspur (Fire Safe Marin 2020). Nighttime closure of the D and D1 lines on-ramp would add 3.5 miles and six minutes to an evacuation route requiring local access to southbound U.S. 101 for a small population in Greenbrae. Alternate routes are available by continuing eastbound on Sir Francis Drake Boulevard to Interstate 580 or continuing westbound on Sir Francis Drake Boulevard to the next crossing of Corte Madera Creek on Bon Air Road. Coordination with emergency service providers would minimize impacts to evacuation times; significant delays would not be expected.

Prior to construction, a traffic management plan (TMP) (PF-TRANS-1 in Section 3.3.17 Transportation) would be developed to control traffic, minimize traffic delays, and provide alternative routes during construction. The TMP would notify emergency services and provide adequate alternatives with instructions for emergency response or evacuation in the event of an emergency. This would substantially reduce potential impacts to emergency response and evacuation. The impact would be less than significant.

g) No Impact

The Project is located within a Wildland Urban Interface (WUI) community (Marin County Fire Department 2011). The Central Marin Fire Department, which serves the Project area, is responsible for emergency services and the management of fire operations during emergency response efforts. The Larkspur Fire Station #16 is located at 15 Barry Way, approximately 800 feet west of the Project. Construction personnel would be equipped with standard incipient stage fire suppression equipment, such as fire extinguishers. The Project would not include any permanent

components that would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. There would be no impact.

Project Features

Caltrans would incorporate the following standard measures into the Project to prevent or minimize potential impacts due to hazards and hazardous materials.

PF-HAZ-1: Caltrans Standard Specifications and Hazardous Waste Regulations. The current Caltrans Standard Specifications Section 13-4, Job Site Management, will be implemented to prevent and control spills or leaks from construction equipment and from storage of fuels, paints, cleaners, solvents, and lubricants. Handling and management of hazardous materials will comply with the current Caltrans Standard Specification Section 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste.

PF-HAZ-2: Asbestos and Lead-based Paint Survey. The materials generated by grinding, chipping, striping removal, and removal of joint seal will require standard provisions for handling and testing materials to verify appropriate disposal options.

PF-HAZ-3: Aerially Deposited Lead. Caltrans will prepare a work plan for aerially deposited lead, if required, during the design phase to determine appropriate actions that would protect construction workers, future site users, and the environment.

PF-TRANS-1: Traffic Management Plan. (Described in Section 3.3.17)

3.3.10 Hydrology and Water Quality

Would the project:

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

CEQA Significance Determinations for Hydrology and Water Quality

Caltrans investigated impacts to hydrology and water quality from the proposed Project and prepared a *Stormwater Data Report* (Caltrans 2023e). This section summarizes the findings of that review.

The Project site is within the jurisdiction of the San Francisco Bay RWQCB, in the San Francisco Bay Central Hydrologic Planning Area. The direct receiving water body is Corte Madera Creek, which discharges to the San Francisco Bay approximately 0.5 mile east of the Project. Per the Federal Emergency Management Agency's Flood Insurance Rate Map number 06041C0459F, dated March 16, 2016, the Project is within a Zone AE floodplain, with a base flood elevation between 10 and 11 feet (FEMA 2016). The Project occurs within the Corte Madera Creek regulatory floodway. The water surface elevation in Corte Madera Creek, at the

Project site and further upstream, is tidally influenced by the San Francisco Bay. Both Corte Madera Creek and the San Francisco Bay are identified by the CWA Section 303(d) List as impaired waterbodies for diazinon and pesticide-related toxicity (Resolution No. R2-2005-0063).

a) Less than Significant Impact

The proposed Project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality.

Since the Disturbed Soil Area (DSA) is less than one acre, a Water Pollution Control Plan (WPCP) will be required. Deploying the WPCP and applying the water quality BMPs will reduce the potential construction water quality impacts to the maximum extent practicable.

A 401 Water Quality Certification from the RWQCB, and a 404 permit from the USACE would be required for this Project because of work and fill in Waters of the United States (WOTUS) (Corte Madera Creek). With implementation of PF-WQ-1, the Project would comply with the requirements of the 401 Water Quality Certification.

Potential temporary impacts to existing water quality would result from active construction areas, which could lead to the release of fluids, concrete material, construction debris, sediment, and litter beyond the perimeter of the site. A catchment system would be implemented to prevent concrete and other waste from bridge deck and columns from entering the waterway. Temporary impacts may include a change in localized pH and turbidity of receiving water courses. The anticipated sources for potential impacts to the water quality during construction could include, but not be limited to, the following:

- Debris and sediments from excavation
- Grinding and chipping of deteriorated concrete
- Debris from removal of marine growth on columns
- Concrete curing and waste
- Dewatering
- Earthwork and stockpiling of soil
- Contractor’s staging area
- Vegetation removal
- Oil and grease from vehicles and construction equipment

- Sanitary wastes
- Chemicals used for equipment and restriping
- Trash

Implementation of PFs would be used for debris control and material management during construction. With implementation of PF-WQ-1 through WQ-7, the Project would not substantially degrade surface water quality; the impact would be less than significant.

b) No Impact

The proposed Project would have no effect on groundwater supplies or groundwater recharge areas in the Project vicinity. There would be no impact.

c(i), (ii), (iii), (iv)) No Impact

The Project would not substantially alter the existing drainage pattern of the Project site and would not result in substantial erosion or siltation. The Project would not result in an increase of surface runoff, create runoff that would exceed existing storm drain systems, or create substantial additional sources of polluted runoff. There would be no changes to the existing bridge deck drainage.

The Project would drill a minimum of two vent holes in the Span 7 soffit to drain excess water that has seeped into the closed box girder cells. These vents are not drains; they would allow built-up moisture a path out of the closed box girder cells where bridge inspections have noted evidence that moisture has been seeping out of the soffit.

The Project would not impede or redirect flood flows. Temporary cofferdams would be installed around the pile cap at each of the columns and the area dewatered for the duration of installation of the galvanic anode jacket system. The galvanic anode jacket system would add 2- to 6-inch-thick jackets ($^{1}/_{8}$-inch minimum form and 2- to 6-inch annular space) on 10 individual columns, 9 of which are located within the regulatory floodway of Corte Madera Creek (Figure 2-1). The addition of the jacket system on existing columns would have a negligible permanent effect on hydraulic capacity and flood conditions (water surface elevations and flow rates) in the creek. The Project would have no impact on flood flows.

d) No Impact

The Project would not increase the risk of release of pollutants during inundation in a flood or tsunami hazard zone. Although the Project occurs in the Corte Madera Creek floodway and a tsunami hazard zone, repairs to the Bridge would not increase flood risks (see question c above) and would not introduce new pollutant sources in the floodway. There would be no impact.

e) No Impact

The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact.

Project Features

Caltrans would incorporate the following standard measures into the Project to minimize potential impacts to hydrology and water quality.

PF-WQ-1: Water Quality Best Management Practices: A Water Pollution Control Plan (WPCP) will be prepared and implemented for the Project, consistent with Caltrans' stormwater and water pollution control program and *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017). The BMP Manual and Section 13-2, Standard Special Provisions (SSPs) for Temporary Construction Site BMPs provide guidance for including provisions in all construction contracts to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges.

PF-WQ-2: Job Site Management: This non-stormwater discharge and waste management practice would include considerations for operations, illicit discharge detention and reporting, vehicle and equipment cleaning, vehicle and equipment fueling, and material use.

PF-WQ-3: Tracking Control Practices. Tracking control practices would include street sweeping and vacuuming and temporary (stabilized) construction entrance/exit.

PF-WQ-4: Waste Management and Materials Pollution Control. Waste management and materials pollution control measures would be as follows:

- Stockpile management: This practice is needed to reduce or eliminate air and stormwater pollution from stockpiles of soil and paving materials.

- Concrete waste management: The concrete quantity has not been determined at this phase of the Project. However, it is imperative to confirm that procedures and practices are in place to eliminate or minimize the discharge of concrete slurry to the creek or storm drain system. These measures would include, but not be limited to, the following:
    - Concrete demolition wastes
    - Concrete slurry waste-handling procedures
    - Onsite concrete washout facility
    - Transit truck washout procedures
    - Procedures for removal of temporary concrete washout facilities
- Material delivery and storage
- Spill prevention and control
- Solid waste management (e.g., debris from chipping and grinding of concrete, cleaning columns)
- Hazardous waste and contaminated soil management
- Sanitary/septic and liquid waste management

PF-WQ-5: Material and Equipment Use Over Water. This BMP must be discussed in Section 30.3.1 of the WPCP and will be in accordance with all necessary permits required for construction within or near receiving waters, such as RWQCB, USACE, CDFW, and other local permitting agencies. Collect and contain all demolished material. Includes, but is not limited to, measures such as installation of perimeter controls to contain spills and prevent materials, tools, and debris from falling off the barge(s) into Corte Madera Creek.

PF-WQ-6: Dewatering Operations. Dewatering may be needed during galvanic anode jacket system installation in Corte Madera Creek. Dewatering effluent that would be discharged from the construction site to a receiving water or storm drain would be subject to requirements of the applicable National Pollutant Discharge Elimination System permit and also would be regulated by 401 certification or waste discharge requirements administered by RWQCB. An active treatment system may be necessary to meet the effluent limits of the construction general permit for turbidity and pH in stormwater.

PF-WQ-7: Turbidity Control. During the column and abutment work where ground disturbance would be conducted below MHHW, a silt-curtain, sheet pile, or gravel-bag cofferdam, or other equivalent means, would be installed as needed to minimize the generation of turbidity plumes in nearby tidal waters. Such cofferdams would be installed when there is no surface water present (that is, at low tide).

3.3.11 Land Use and Planning

Would the project:

Question	CEQA Determination
a) Physically divide an established community?	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact

CEQA Significance Determinations for Land Use

The Project site is located on U.S. 101 within the City of Larkspur in Marin County. The Project would be constructed within Caltrans ROW on the Corte Madera Creek Bridge and within Corte Madera Creek. Surrounding land uses include commercial, parkland, industrial, and residential (City of Larkspur 2020). The City of Larkspur 2040 General Plan (City of Larkspur 2020) is a comprehensive and integrated statement of Larkspur's development policies for the City.

The Metropolitan Transportation Commission (MTC) functions as both the State-designated Regional Transportation Planning Agency (RTPA) and federally designated Metropolitan Planning Organization (MPO).

Portions of the Project are within the Bay Conservation and Development Commission (BCDC) jurisdiction, as defined by the McAteer-Petris Act and the San Francisco Bay Plan (BCDC 2023). BCDC is responsible for granting or denying permits for any proposed Project scope that involves fill; extraction of materials; or substantial changes in use of any water, land, or structure within the Commission's jurisdiction (California Government Code Section 66632). Additionally, Section 66602 of the McAteer-Petris Act states, "that maximum feasible public access, consistent with a proposed project, should be provided." Relevant areas of BCDC jurisdiction for the Project scope may include the following:

- The Project may include work within the shoreline band consisting of all territory located between the shoreline of the Bay and 100 feet landward of and parallel with the shoreline (California Government Code CGC Section 66610[b]).

- Any work that would impact public recreation, including the Bay Trail segment, within the Project area, which is potentially within the BCDC jurisdiction.

a) No Impact

No changes in land use would occur from the Project. The Project would not physically divide an established community. There would be no impact.

b) No Impact

CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS AND PROGRAMS

Land use plans, policies, and regulations that are applicable to the Project include the City of Larkspur 2040 General Plan (City of Larkspur 2020); Plan Bay Area 2050 (Association of Bay Area Governments [ABAG] and MTC 2021); and the San Francisco Bay Plan (BCDC 2022).

This rehabilitation Project would not affect existing land use or conflict with land use policies and plans. A discussion of consistency with the City of Larkspur complete streets policy follows.

City of Larkspur 2040 General Plan

In 2008, the California Complete Streets Act (Assembly Bill [AB] 1358) was passed. The Act requires local governments to amend the Circulation Element of their General Plans to support a multi-modal transportation network that meets the needs of all users (City of Larkspur 2020). The City of Larkspur Policy CIR-1.1 states:

> *Develop a coordinated system of roadways, bikeways, multiuse paths, public transit, and Transportation Demand Management (TDM) programs. Provide 'Complete Streets' that are safe, comfortable, and convenient routes for walking, bicycling, and public transportation to increase use of these modes of transportation, enable active travel as part of daily activities, reduce pollution, and meet the needs of all users of the streets for safe and convenient travel, consistent with the other goals, objectives, and policies of this plan and the City's Complete Streets Policy (Resolution No. 6/13). Street users include pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, emergency vehicles and personnel, seniors, children, youth, and families.*

Opportunities to include Complete Streets elements were evaluated to improve safety, access, and mobility for all travelers. There is an existing pedestrian and bike path at the west side of the D line on-ramp crossing the Corte Madera Creek. The shared use path is not wide enough for pedestrians and cyclists to use comfortably. This is the only north/south connection on the west side of U.S. 101. To address the Complete Streets elements needs, the recommendation is to widen the shared use path to 12 feet (8-foot-wide travelled way and 2-foot-wide shoulders). The widening of the bridge for bike/pedestrian access was deemed infeasible to be included in the project due to cost and potential environmental and water quality impacts related to widening of the bridge. Widening the bridge is also beyond the purpose and need of the Project. Caltrans prepared a *Complete Streets Decision Document* for the proposed project (Caltrans 2021a).

The Project does not conflict with local, regional, and state land use plans and policies; there would be no impact.

3.3.12 Mineral Resources

Would the project:

Question	CEQA Determination
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR MINERAL RESOURCES

a-b) No Impact

The Project would be located within an area identified by the California Department of Conservation as being within a Classification of Aggregate Resource Areas: North San Francisco Bay Production-Consumption Region (California Department of Conservation 2022). The Project would not result in the loss of availability of a known mineral resource or the loss of availability of a locally important mineral resource recovery site because U.S. 101 through the Project limits lies on engineered (artificial) fill. Therefore, no impacts on mineral resources would result from the Project.

3.3.13 Noise

Would the project result in:

Question	CEQA Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR NOISE

During construction, noise from construction activities may intermittently dominate the environment in the immediate area of construction, affecting nearby sensitive receptors (residences). Impacts to sensitive receptors and increases in noise levels would be temporary.

A noise study is not required for this Project because the proposed Project would not change the vertical or horizontal alignment of the roadway, increase vehicular capacity, or change traffic patterns, so does not qualify as a Type I or Type II project, as defined under the 23 CFR 772 and the Caltrans Traffic Noise Analysis Protocol.

a) Less than Significant Impact

The Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project. Residential properties (sensitive noise receptors) are located approximately 300 feet north of the Project footprint and at a higher elevation than the on-ramp and the columns beneath the Bridge. During construction, nighttime construction activities (e.g., grinding pavement, applying methacrylate sealant, pouring concrete overlay) associated with rehabilitation of the bridge deck would temporarily increase ambient noise levels near the Bridge. Caltrans' Standard Specification 14-08 requires that noise should not exceed 86 A-weighted decibels (dBA) (maximum) at 50 feet from the job site between the hours of 9:00 p.m. and 6:00 a.m. Due to the sound level drop off rate and the distance to the

nearest residential receptor, construction noise levels would be below 86dBA during all construction phases. During construction, daytime construction activities associated with rehabilitation of the bridge columns would also temporarily increase ambient noise levels near the Bridge. Daytime noise sources would include barge operation, vibratory installation of sheet piles for cofferdams, chipping of loose concrete from columns, pressure washing of marine layer from columns, and cranes to lift the jacket system into place on the columns. There would be no pile driving associated with the Project. PF-Noise-1 and Noise-2 describe BMPs that would be implemented to reduce noise during construction. The Project would not cause a permanent increase in ambient noise level above existing conditions. Construction noise would be temporary; the impact would be less than significant.

b) Less than Significant Impact

Construction activities would not generate excessive groundborne vibration or groundborne noise levels. PF-Noise-1: Specification for Controlling Noise and Vibration, describes BMPs that would be implemented to reduce vibration during construction. The impact would be less than significant.

c) No Impact

The Project is not located within 2 miles of a public airport. As described in Section 3.3.9, the San Rafael Private Heliport is located 1.5 miles east of the Project on Kerner Boulevard. However, the Project would not expose people residing or working in the Project area to excessive noise levels during construction or during the operation phase. There would be no impact.

Project Features

Caltrans would incorporate the following standard measures into the Project to minimize potential impacts due to noise.

PF-Noise-1: Specifications for Controlling Noise and Vibration. Noise from construction activities will not exceed 86 A-weighted decibel Lmax[1] at 50 feet from the Project site from 9:00 p.m. to 6:00 a.m., per 2023 Caltrans Standard Specifications, Section 14-8.02.

[1] Lmax noise descriptor is the highest instantaneous noise level during a specified period; in the noise analysis, that is 1 hour.

PF-Noise-2: Noise Levels During Construction. The following measures will be implemented during construction to reduce noise:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate all stationary, noise-generating, construction equipment, such as air compressors, portable power generators, or self-powered lighting systems, as far as practical from noise-sensitive receptors.
- Use quiet air compressors and other quiet equipment where such technology exists.
- As practicable, have construction equipment conform to Section 14-8.02, Noise Control, of the latest Caltrans Specifications.

3.3.14 Population and Housing

Would the project:

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

CEQA SIGNIFICANCE DETERMINATIONS FOR POPULATION AND HOUSING

a, b) No Impact

The Project would not induce substantial, unplanned, population growth either directly or indirectly because it does not increase the capacity of U.S. 101, remove barriers to future growth, or increase population or housing growth (or demand for new housing, utilities, or public services). The Project would not displace existing people or housing or necessitate the construction of replacement housing elsewhere. The Project would not add any vehicle capacity that would indirectly spur employment or residential growth in the area. There would be no impact on population and housing.

3.3.15 Public Services

Question	CEQA Determination
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?	Less than Significant Impact
Police protection?	Less than Significant Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	Less than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR PUBLIC SERVICES

Fire Protection Services

Fire protection services are provided by the Central Marin Fire Authority, which serves the Town of Corte Madera, the City of Larkspur including incorporated Greenbrae and several portions of County Service Area 31 inclusive of the Greenbrae Boardwalk, Lucky Drive, and San Quentin. Central Marin Fire operates four fire stations staffed by 36 authorized operational personnel across three separate shift platoons. Central Marin Fire provides a full range of emergency response services including, but not limited to, structure fire suppression, wildland fire suppression, response to hazardous materials incidents, urban search and rescue, water rescue, vehicle extrication, and technical rescue, as well as basic life support and advance life support medical services. Fire department emergency response personnel respond to more than 3,400 incidents annually, of which approximately 2,000 incidents are medical in nature, ranging from motor vehicle accidents and elderly falls to childbirths and heart attacks.

Fire Station 16, Greenbrae, located at 15 Barry Way and less than 0.25 mile west of the Project, serves the Project area. Fire Station 15, located at 420 Magnolia Avenue and approximately 1.1 miles southwest of the Project, is the next nearest fire station.

Police Protection Services

Police protection services are provided by the Central Marin Police Authority, which serves the Town of Corte Madera, the City of Larkspur, the Town of San Anselmo,

and portions of Greenbrae, comprising approximately 35,000 residents. Central Marin Police operate two police stations with 50 full-time employees, reserve officers, parttime cadets, and volunteers. Police department personnel responded to 33,333 calls in 2022, 41 percent of which were within the City of Larkspur. Police provide assistance to the fire department, medical agencies, and citizens, as well as perform welfare checks, traffic stops, and respond to alarms.

The Central Marin Police Authority Larkspur Station is located at 250 Doherty Drive in Larkspur, approximately 0.75 mile southwest of the Project. A California Highway Patrol facility is located approximately 1.25 miles south of the Project.

Schools

The Project is located within both the Larkspur-Corte Madera School District and the Kentfield School District, as well as the Tamalpais Union High School District. Schools in the Project area include Bacich Elementary and Kent Middle School in the Kentfield School District; Neil Cummins Elementary, The Cove School, and Henry C. Hall Middle School in the Larkspur-Corte Madera School District; and Redwood High School in the Tamalpais Union High School District. There are no schools located within a 0.25-mile radius of the Project.

Parks

Niven Park is located at 45 Elizabeth Circle in Greenbrae, approximately 0.2 mile west of the Project. Greenbrae School Park is located just east of the corner of South Eliseo Drive and Parkside Way, 0.2 mile north of the Project. Piper Park is located at 250 Doherty Drive in Larkspur, more than 0.5 mile southwest of the Project. There are no parks in the Project area.

Other Public Facilities

The Corte Madera Pathway, part of the Bay Trail, is a 3.5-mile multiuse pathway that is located along the north side of Corte Madera Creek from Larkspur to Ross. It is maintained by the City of Larkspur within the city limits and by Marin County Parks. It is heavily used by commuters who walk or bike to the ferry terminal.

The Golden Gate Bridge, Highway and Transportation District operates the Larkspur Ferry Terminal, located approximately 0.25 mile east of the Project at 101 East Sir Francis Drake Boulevard. Ferry service is provided to the San Francisco Ferry Terminal, which connects to ferry terminals in Sausalito, Tiburon, and Angel Island

State Park. The Sonoma-Marin Area Regional Transit (SMART) has a station at 600 Larkspur Landing Circle, more than 0.25-mile northeast of the Project.

a) Less than Significant Impact

The proposed Project would not result in substantial alteration of government facilities, such as fire and police protection, schools, parks, or other public facilities, in the Project area. Additionally, the proposed Project would not trigger the need for new government facilities or alter the demand for public services. There would be no impact on schools and parks.

Emergency response by the fire and police departments and other emergency responders could be temporarily affected during construction (see Section 3.3.17 Transportation). Potential traffic delays would result from nighttime closure of the on-ramp to southbound U.S. 101 from Sir Francis Drake Boulevard during construction.

Larkspur Fire Station #16, Kentfield Fire Protection District Station #17, and San Rafael Fire Station #54 are located north of Corte Madera Creek. Central Marin Police Authority Larkspur Station, Central Marin Fire Department Station #15 and the Corte Madera Fire Department are located south of Corte Madera Creek. Coordination regarding ramp closures with service providers on both sides of Corte Madera Creek would minimize impacts to emergency response times; significant delays would not be expected.

Prior to construction, a TMP (see PF-TRANS-1 in Section 3.3.17 Transportation) would be developed to control traffic, minimize traffic delays, and provide alternative routes. The TMP would notify police, fire, emergency, and medical services in the local area during construction. This would substantially reduce impacts on emergency response and evacuation. The impact would be less than significant.

Project Feature

Caltrans would incorporate the following standard measure into the Project to minimize potential impacts on public services.

PF-TRANS-1: Traffic Management Plan. (Described in Section 3.3.17)

3.3.16 Recreation

Question	CEQA Determination
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?	Less Than Significant 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

CEQA SIGNIFICANCE DETERMINATIONS FOR RECREATION

Caltrans prepared a Section 4(f) Evaluation for the Project, which discloses Project impacts on public recreation and park resources (Caltrans 2024b); refer to Appendix D. Figure 1-2 shows recreation and community resources in the vicinity of the Project.

The Corte Madera Pathway is a flat, wide, 3.5-mile multiuse pathway that follows the north side of Corte Madera Creek between Ross on the west and Larkspur on the east (Marin County Parks 2021). It is a recreational trail that is popular with hikers, joggers, people pushing strollers, cyclists, and dog walkers. It is also heavily used by commuters who walk or cycle to the Larkspur Landing Ferry Terminal for commuter ferry service south to downtown San Francisco, and to the SMART Larkspur Station for light rail service north to Sonoma County. Within the Project limits, the pathway is a Class I paved multiuse path approximately 10 feet wide, paralleling the north shore of Corte Madera Creek (Figure 1-2). It is maintained by the City of Larkspur within the city limits and by Marin County Parks.

The segment of the Corte Madera Pathway in the Project limits is located on sovereign lands, owned by the California State Lands Commission. The California State Lands Commission granted a highway easement to Caltrans in 1954 for ROW and protection of a state highway, which encompasses this segment of the Corte Madera Pathway. In 1966, Caltrans signed a freeway maintenance agreement with the City of Larkspur entitled "Freeway Maintenance Agreement with the City of Larkspur, 04-MRN-8.2/9.0." Under the maintenance agreement, the City of Larkspur maintains this segment of the Corte Madera Pathway. Based on the easement to Caltrans and freeway maintenance agreement with the City of Larkspur, the City of Larkspur is the agency with jurisdiction over this segment of the Corte Madera Pathway.

The Central Marin Ferry Connection (CMFC) Multiuse Pathway, constructed in 2014, includes the Corte Madera Creek crossing adjacent to northbound U.S. 101 (PM 14.3 to 14.7). The Transportation Authority of Marin (TAM), working with City of Larkspur, Caltrans, and BCDC, constructed the CMFC to connect the new SMART Larkspur Station to the Larkspur Landing Ferry Terminal and the Corte Madera Pathway, and provide a crossing over Corte Madera Creek to Old Redwood Highway (Figure 1-2) (TAM 2010).

The Bay Trail connects communities, parks, open spaces, schools, and transit that circle the San Francisco and San Pablo bays. The Bay Trail provides space for recreation, nature and bird watching, access to the waterfront, and active transportation to work, school, and other destinations. Near the proposed Project, the Bay Trail includes portions of the Corte Madera Pathway, the CMFC pathway, and a separated 8-foot-wide pedestrian and bicycle lane on the west side of the D line on-ramp, which carries cyclists over Corte Madera Creek to connect with trail segments off the highway (Figure 1-2). The Bay Trail in the Project vicinity is referred to as the Greenbrae interchange, a 0.77-mile trail segment that is currently connected to the Bay Trail through a combination of existing trails and on-street bike lanes, with future plans to provide additional connections to the Bay Trail. (Metropolitan Transportation Commission 2024)

The nearest parks to the Project site are Niven Park and Greenbrae School Park (Figure 1-2). Niven Park is approximately 0.2 mile west of the Project site and includes benches, picnic tables, and playground equipment within the Corte Madera Creek greenbelt managed by the City of Larkspur. Greenbrae School Park is located just east of the corner of South Eliseo Drive and Parkside Way, 0.2 mile north of the Project. Managed by the City of Larkspur, Greenbrae School Park includes a “tot lot” play structure, basketball court, and benches. The project would not affect either of these public parks.

The Marin Rowing Association is a non-profit organization that operates a state-of-the-art facility with private launch and dock from 50 Drakes Landing Road, adjacent to the west side of the Project (see Figure 1-2). The Project would not directly affect the Marin Rowing Association property and boat launch.

a) Less Than Significant Impact

The Project would not increase the current highway capacity or induce population and employment growth in Marin County. No change in demand for recreational resources would occur.

The existing separated pedestrian and bike lane (a portion of the Bay Trail) along the west side of the D line on-ramp would not be affected by the repaving of the bridge deck. There is a barrier between the bridge deck and the pedestrian/bike lane. The separated pedestrian/bike lane will remain open during construction and would not be affected by the deck rehabilitation.

The Project would require temporary use of approximately 570 feet of the Corte Madera Pathway, located within the Caltrans ROW under U.S. 101 and its southbound on-ramps from Sir Francis Drake Boulevard. The proposed Project would require a temporary construction zone around the D-7 bridge columns, which would infringe on a portion of the Corte Madera Pathway for an estimated two-week construction duration. Short, intermittent trail closures also would be required for the movement of equipment and materials from a staging area under U.S. 101 to the bridge columns at D-7 (Figure 2-1). These intermittent closures would be infrequent (occurring only a few times a day) and short in duration (lasting less than 20 minutes). Advanced signage would be placed to warn trail users of potential temporary closures and construction flaggers would be present to manage trail traffic and notify users during closures. Work at D-7 may occur at night to minimize disruption to trail users. Equipment using the trail would include trucks, small excavators, and telehandlers (also known as telescopic forklifts) to move material and install the jacket system. Construction equipment use of the trail is not anticipated to cause damage. Nevertheless, the trail condition would be documented before and after construction activities in compliance with Caltrans standard practices, and any damage to the trail attributable to the construction work would be repaired by the contractor.

The Project would not substantially impede recreational use of Corte Madera Pathway. Impacts to recreation resources during construction would be minimized through implementation of PFs REC-1 and REC-2, which requires provision of pedestrian access and notification during construction, as well as repairs to the trail, if needed, to restore it to pre-project conditions.

There would be no permanent adverse physical impacts to the Corte Madera Pathway following the completion of construction.

Although the Project would not directly affect Marin Rowing Association facilities, the use of barges in Corte Madera Creek could temporarily modify on-water boating activities. Work would occur such that barges would not obstruct the navigational channel of the creek, allowing boat traffic to pass through during construction. Temporary impacts to horizontal and vertical clearance (e.g., from use of cofferdams, barges, and containment systems) would be submitted in a Navigational Impact Report to the U.S. Coast Guard at least 30 days prior to initiation of the Project. No adverse impact on boating would occur.

The Project would have a less than significant impact on recreational resources and activities.

b) No Impact

The Project does not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, the Project would not increase demand or use of existing neighborhood and regional parks or other recreational facilities. There would be no impact.

Project Features

Caltrans would incorporate the following standard measures into the Project to minimize potential impacts on recreation resources.

PF-REC-1: Provide Pedestrian Access and Notification During Construction. The Contractor shall accommodate pedestrians, including persons with disabilities, through and around work zones consistent with Caltrans Standard Specifications Sections 7-1.04 “Public Safety”, 12 “Temporary Traffic Control”, and 12-4.04 “Temporary Pedestrian Access Routes” (Caltrans 2020b) Traffic control on the trail would be managed with flaggers and/or temporary traffic control signals. Advanced signage notification of trail closures must be provided.

PF-REC-2: Restore Trail to Pre-Project Conditions. To offset potential damage to the trail from use of heavy equipment, Caltrans will evaluate and document (with photographs) the condition of the existing Corte Madera Pathway before beginning work on the D-7 columns. Post-construction conditions will be evaluated and documented with photographs. The Contractor will repair trail damage attributable to

heavy equipment use before contract acceptance, consistent with Caltrans Standard Specifications Sections 5-1.39.

PF-TRANS-1: Traffic Management Plan: (Described in Section 3.3.17 Transportation.)

3.3.17 Transportation

Would the project:

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

CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION

The Project would be located on the Corte Madera Creek Bridge in Marin County. Within the proposed Project limits, Corte Madera Creek Bridge is a one-way conventional highway on-ramp with two lanes of travel which merge into a single lane. There is a separated bicycle and pedestrian pathway, which is part of the Bay Trail, on the western side of the D line on-ramp, and the Corte Madera Pathway parallels the north shore of Corte Madera Creek under the D and D1 lines on-ramp. No bus stop or transit facilities exist within the proposed Project limits. The Larkspur Landing Ferry terminal is located approximately 0.25-mile east of the Project at 101 East Sir Francis Drake Boulevard. Ferry service is provided to the San Francisco Ferry Terminal, which connects to ferry terminals in Sausalito, Tiburon, and Angel Island State Park. SMART has a station at 600 Larkspur Landing Circle, more than 0.25-mile northeast of the Project. The Golden Gate Transit District and Marin County Transit District provide commuter and regional bus transportation in Marin County, including on U.S. 101 through the Project area.

The MTC, which functions as both the state-designated RTPA and federally designated MPO, is responsible for regional transportation planning. MTC's Plan Bay Area 2050 serves as the San Francisco Bay Area's RTP/SCS (ABAG/MTC 2021).

Local transportation planning agencies include the TAM, which is designated as both the Congestion Management Agency and the Transportation Sales Tax Authority for Marin County.

a) Less than Significant Impact

The Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The Project would maintain and improve the existing Corte Madera Bridge and would not increase the roadway capacity. The Project would maintain all existing highway features and would not permanently alter the circulation system.

The Bay Trail, a pedestrian and bicycle trail, on the western side of the D line on-ramp, would remain open during construction. The Corte Madera Pathway, which parallels the north shore of Corte Madera Creek under the combined structure for D and D1 line on-ramp, would remain open but would experience short-term intermittent trail closures during the installation of the galvanic anode jacket system on the rectangular column at D-7 (Figure 2-1). Refer to Section 3.3.16 Recreation for more information on temporary impacts to non-motorized transportation facilities.

Golden Gate operates commuter bus route 132 from 5:00 AM to 8:30 AM, Monday through Friday, through the Project area. Bus 132 uses the D1 line on-ramp from Sir Francis Drake Boulevard to access southbound U.S. 101. Nighttime closures of the D1 line on-ramp would impact commuter bus service schedule as the bus would have to utilize the detour route, adding 3.5 miles and six minutes to a vehicle trip.

As discussed in PF-TRANS-1, a TMP would be developed to minimize potential effects from construction to all users. The TMP would include elements, such as haul routes and phasing, to reduce impacts to local residents and emergency and medical service providers. PF-REC-1 and PF-REC-2 would require the contractor to provide safe and accessible pedestrian access and notification on non-motorized pathways during construction, as well as repairs to the trail, if needed, to restore it to pre-project conditions.

Therefore, there would be no permanent impact to components of the transportation system.

b) No Impact

The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). The Project would have no permanent impact on vehicle miles traveled. Under Section 15064.3, subdivision (b), transportation projects that

have no impact on vehicle miles traveled should be presumed to cause no impact on transportation.

c) No Impact

The Project would not increase hazards because of a geometric design feature. The Project would not include design features or construction elements (such as sharp curves or dangerous intersections) that would substantially increase hazards. There would be no impact.

d) Less than Significant Impact

A detour is anticipated for the D and D1 lines on-ramp to southbound U.S. 101 to accommodate nighttime closures during construction. This would disrupt traffic accessing U.S. 101 southbound from Sir Francis Drake Boulevard. The anticipated detour route would direct traffic to the northbound on-ramp for U.S. 101 from Sir Francis Drake Boulevard. Traffic would then be directed to take the next northbound exit: exit 451 Richmond Bridge and Francisco Boulevard, turn right onto Bellam Boulevard, then right onto Andersen Drive, followed by a right onto West Francisco Boulevard, before joining the southbound on-ramp for U.S. 101 (Figure 2-2). This detour is estimated to add 3.5 miles and six minutes to a vehicle trip. The detour would be in place nightly for approximately 90 working days.

Coordination regarding ramp closures with emergency service providers on both sides of Corte Madera Creek would minimize impacts to emergency response times; significant delays would not be expected.

Under the TMP (see PF-TRANS-1), emergency service providers would be notified and provided alternatives with instructions for emergency response. This would substantially reduce potential impacts to emergency access for fire, medical, and law enforcement purposes. The impact would be less than significant.

Project Features

Caltrans would incorporate the following standard measures into the Project to minimize potential impacts on transportation.

PF-TRANS-1: Traffic Management Plan. To minimize potential effects from construction activities to motorists, bicyclists, or pedestrians using area streets and trails, a TMP will be developed by Caltrans and implemented throughout construction. The TMP will include public information, motorist information,

incident management, construction, and alternate routes. The TMP will also include elements such as haul routes, traffic control, and phasing, to reduce impacts to motorists and residents as much as feasible and to maintain access to businesses in the local area. The TMP will also provide access for police and emergency service providers. Ramp closures will be planned in coordination with Caltrans, City of Larkspur, and Marin County; planning will include notices to emergency service providers and the public in advance.

PF-REC-1: Provide Pedestrian Trail Access and Notification During Construction. (Described in Section 3.3.16 Recreation.)

PF-REC-2: Restore Trail to Pre-Project Conditions. (Described in Section 3.3.16 Recreation.)

3.3.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Question	CEQA Determination
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	No Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No Impact

CEQA Significance Determinations for Tribal Cultural Resources

Caltrans PQS initiated a search of the Sacred Land Files and requested a list of all culturally affiliated tribes from the Native American Heritage Commission (NAHC) on September 8, 2023. NAHC responded with a list of Native American individuals and reported a negative search result from the Sacred Lands File records. Caltrans initiated formal notification under Assembly Bill 52 and Section 106 of the National Historic Preservation Act with letters for each individual and/or organization on September 13, 2023. Individuals contacted include Kenneth Woodrow, Chairperson of Wuksachi Indian Tribe/Eshom Valley Band; Bunny Tarin, Tribal Administrator of Guidiville Indian Rancheria; and Greg Sarris, Chairperson of the Federated Indians of Graton Rancheria (FIGR). Follow-up phone calls and emails were made on October 30, 2023, by the Project archaeologist to all parties. No comments have been received from any contacted individuals.

a-b) No Impact

No tribal cultural resources were reported in record searches or in consultation with Native groups and individuals. The Project would not affect tribal cultural resources. There would be no impact.

Project Features

If an inadvertent discovery of potential Tribal cultural resources occurs during construction, the following PFs described in section 3.3.5 would be implemented:

- **PF-CULT-1: Discovery of Cultural Resources**
- **PF-CULT-2: Discovery of Human Remains**

3.3.19 Utilities and Service Systems

Would the project:

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

CEQA Significance Determinations for Utilities and Service Systems

The existing nearby utilities are PG&E, Comcast, AT&T, and local water and sewer. A conduit is located along the outside of the western edge of the D line on-ramp, providing electric service to light poles and a ramp metering system.

a) No Impact

The proposed Project would not result in the construction of new or expanded utilities. Existing utilities would be located and protected from possible damage during construction. Utility relocations are not anticipated. There would be no impact.

b, c, d, e) No Impact

The proposed Project would not generate a demand for potable water supplies or the services of a wastewater treatment provider. Water required during construction of the Project would be provided by water trucks. Portable toilets would be used at the construction site, as required. Therefore, there would be no impact.

The proposed Project would require removal of construction debris but would not result in substantial demands for solid waste disposal. Solid waste produced by the Project during the construction period would be hauled away and disposed of in accordance with federal, state, and local statutes. Implementation of PF-UTI-1 requires the proper disposal of construction trash. There would be no impact.

Project Features

Caltrans would incorporate the following standard measures into the Project to avoid or minimize potential impacts on utilities and service systems.

PF-UTI-1: Trash Management. All food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in closed containers and removed by the contractor at least once daily from the Project limits. A trash reduction system would also be developed by the contractor, approved by Caltrans, and implemented per Caltrans Statewide National Pollution Discharge Elimination System Permit and San Francisco RWQCB Cease and Desist Order.

3.3.20 Wildfire

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

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

CEQA Significance Determinations for Wildfire

The Project area and surrounding land uses are not located within a very high fire hazard severity zone or state responsibility area (CAL FIRE 2023). The Project is in a local responsibility area (LRA) (CAL FIRE 2008). The Central Marin Fire Department, in coordination with the Town of Corte Madera and City of Larkspur, adopted a designated WUI boundary for the application of wildfire hazard related codes and ordinances. The WUI boundary is equivalent to a Very High Fire Hazard Severity Zone. The Project area is located within the WUI boundary (Marin County Fire Department 2011). All property owners within the WUI are required to comply with locally adopted California Fire Code requirements for vegetation fuels management within 150 feet of structures. The Central Marin Fire Department, which serves the Project area, is responsible for emergency services and the management of fire operations during emergency response efforts. The Larkspur Fire Station #16 is located at 15 Barry Way, approximately 800 feet west of the Project.

a) Less than Significant Impact

Temporary on-ramp closures and traffic rerouting during construction could affect emergency response times. See Section 3.3.15 Public Services and Section 3.3.17 Transportation for more information. The impact would be less than significant.

b, c, d) No Impact

The Project would not exacerbate wildfire risks, require the installation or maintenance of infrastructure that may exacerbate wildfire risk, or expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Caltrans proposes to rehabilitate existing facilities on U.S. 101 at the Corte Madera Creek Bridge and in the Corte Madera Creek; therefore, the Project would not involve occupation or habitable structures, and would not include the installation of associated infrastructure that would exacerbate wildfire risk. There would be no impact.

Project Features

Caltrans would incorporate its standard measures into the Project to offset or avoid potential impacts on wildfire.

PF-TRANS-1: Traffic Management Plan. (Described in Section 3.3.17)

3.3.21 Mandatory Findings of Significance

Question	CEQA Determination
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
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
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less than Significant Impact

CEQA Significance Determinations for Mandatory Findings of Significance

a) Less than Significant Impact

The Project would not 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, or substantially reduce the number of or restrict the range of a rare or endangered plant or animal. The Project would not eliminate important examples of the major periods of California history or prehistory.

The Project has the potential to affect potentially jurisdictional aquatic resources and special-status species (3.3.4 Biological Resources). AMMs will be implemented to avoid and/or minimize impacts on sensitive biological resources.

The Project would also result in temporary, minor, and construction-related impacts; however, implementation of the PFs and AMMs (Appendix B) would further reduce these temporary construction impacts. This impact is less than significant.

b) Less than Significant Impact

Analysis of the proposed Project's potential cumulative environmental effects determines which resources would be significantly affected by the Project and

whether there could be a detrimental condition or deterioration of health in a resource within the context of impacts from past, present, and other reasonably foreseeable future actions. The analysis determines whether, collectively, the Project and the foreseeable condition combine to result in a cumulative impact.

The majority of impacts would be limited to the construction period. The Project involves maintenance and upgrades to existing infrastructure within a transportation corridor. The Project would occur within the Caltrans ROW. The Project would not convert lands to new or different uses, increase roadway capacity, induce growth, or otherwise change land use patterns. The Project would not result in long-term, adverse environmental effects, and so would not contribute to cumulative environmental impacts. The analysis presented in this IS/ND identifies temporary construction-related impacts on aesthetics, air quality, biological resources, GHG emissions, hazards/hazardous materials, hydrology/water quality, noise, public services, recreation, transportation/traffic, and wildfire. These impacts are minor and not cumulatively considerable when considering the larger transportation network and overall region.

Recent, ongoing, and proposed projects located within the vicinity of the proposed Project are summarized in the table below. Other planned highway improvement projects could interact and contribute to a need to develop a comprehensive TMP, if projects are constructed concurrently. Caltrans routinely coordinates with regional transportation managers and local agencies to minimize impacts in the region resulting from construction of multiple planned projects. The short duration and limited scope of this Project would not contribute to substantial cumulative environmental impacts. Project-related impacts to resources would be reduced with the proper implementation of PFs and AMMs. Therefore, the impact would be less than significant.

Table 3-2. Planned Project List

County & Route	Project ID	Description	Project Status
MRN 101	17-03-0006	Extend U.S. 101 HOV lane from Atherton Avenue to Marin/Sonoma County line in the northbound direction and from Rowland Boulevard to Marin/Sonoma County line in southbound direction.	Anticipated to begin 2025
MRN Transit	17-03-0015	Extend rail from downtown San Rafael 2.2 miles to Larkspur SMART station.	Underway 2023
MRN 101	17-03-0008	Planning and environmental assessment of alternatives to improve the U.S. 101/Tiburon Boulevard interchange.	Planning phase

County & Route	Project ID	Description	Project Status
Multi-county multi-routes	17-03-0010	Operational and capacity enhancement studies to address safety, sea level rise, and congestion on U.S. 101, HWY 1 and HWY 37. primarily focused on Interchange and ramp modifications as well as mainline improvements.	Planning phase
MRN 101 and 580	17-03-0007	Study, design and connection for a two-lane direct connector northbound U.S. 101 to eastbound HWY 580. The project would entail construction of a direct freeway to freeway interchange instead of local arterials. Study includes 580 westbound to south U.S. 101.	Planning phase
MRN 101	N/A	Harbor Bridge over San Rafael Creek on northbound U.S. 101 offramp to Second Street in Central San Rafael.	Underway, anticipated completion 2023
MRN 101	N/A	U.S. 101 repavement in both directions at Richardson Bay Bridge.	N/A
MRN Arterial	N/A	Sir Francis Drake Boulevard Lighting Update	Underway, started 2021, Phase Two anticipated complete in 2023
MRN Arterial	N/A	Sir Francis Drake Boulevard Median Trees and Entryway Replanting	Underway, started July 2023
MRN 101	2G700	Upgrade existing curb ramps in City of Corte Madera on U.S. 101 at PM 7.36	PAED phase
MRN 101	15161	Install ramp metering and traffic operations elements from PM 0 to 9.	Underway, started in 2019
MRN 101	4J860	Bridge seismic restoration and upgrade facilities to ADA standards on U.S. 101 at PM 7.37.	Anticipated construction 2025
MRN 101	3K350	Repair and replace transportation management system elements at various locations on U.S. 101 between PMs 0.7 and 15.8.	Completed in 2022
MRN 101	2AA10	Construct direct connector at Richmond-San Rafael Bridge.	PAED phase
MRN 101	2Q040	Treat bridge deck with methacrylate, remove and replace expansion joint, and repair abutment slope paving at various location on U.S. 101 between PMs 1.52 and R22.27.	Unknown
MRN 101	4AC70	Rehabilitate pavement and drainage systems, upgrade guardrail, and upgrade facilities to ADA standards on U.S. 101 between PMs 8 and 15.34,	Anticipated construction 2026
MRN 101	2AA30	Restore slope, regrade unlined ditch, and install erosion control measures between PM 6.1 and 6.3.	Anticipated construction 2026

c) <u>Less than Significant Impact</u>

This Project would not adversely affect human beings, either directly or indirectly. Project impacts are anticipated to be minor and result mostly from construction-

related delays and traffic management. Intermittent night work would occur with the potential to delay vehicles travelling through the Project area. Implementation of PFs and AMMs would address dust-, noise-, and traffic-related impacts. Temporary construction-related activities would result in less than significant environmental impacts on human beings.

3.4 Climate Change

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

Human activities generate GHGs consisting primarily of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2 that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of GHG emissions, mostly CO_2.

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

3.4.1 Regulatory Setting

For a full list of laws, regulations, and guidance related to climate change (GHGs and adaptation), please refer to Caltrans' Standard Environmental Reference, Chapter 16, Climate Change. This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

Federal

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

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project. In January 2023, the White House Council on Environmental Quality (CEQ) issued updated and expanded interim NEPA Guidance on Consideration of GHG Emissions and Climate Change (88 Fed. Reg. 1196) (CEQ NEPA GHG Guidance), in accordance with Executive Order (EO) 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, 86 FR 70935 (December 13, 2021) and EO 14008, *Tackling the Climate Crisis at Home and Abroad* (The White House 2021). The CEQ guidance does not establish numeric thresholds of significance but emphasizes quantifying reasonably foreseeable lifetime direct and indirect emissions whenever possible. This guidance also emphasizes resilience and environmental justice in project-level climate change and GHG analyses.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2022). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— "the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Early efforts by the federal government to improve fuel economy and energy efficiency to address climate change and its associated effects include The Energy Policy and Conservation Act of 1975 (42 USC Section 6201); and Corporate Average Fuel Economy (CAFE) Standards. The USDOT's National Highway Traffic and

Safety Administration sets and enforces CAFE standards for on-road motor vehicles sold in the United States. The Environmental Protection Agency (USEPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards for vehicles under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation's energy security, saves consumers money at the pump, and reduces GHG emissions (USDOT 2014). These standards are periodically updated and published through the federal rulemaking process.

State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and EOs.

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

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

3.4.2 Environmental Setting

The proposed Project is in an urban area of Marin County, within the City of Larkspur, with a well-developed road and street network. Larkspur lies within Marin County's eastern urban corridor, where most of the County's population lives. The Project area is bordered by residential, light industrial and commercial uses. The route in the Project area is heavily used during peak hours. Sir Francis Drake Boulevard is a regional commuter corridor that provides access to U.S 101, where U.S. 101 is a north-south connector of Marin communities in the eastern urban corridor.

Regional rail transit is provided by the SMART system, which provides rail service connections to the Larkspur ferry terminal. The Golden Gate Ferry operates from the Larkspur terminal and provides transportation to the San Francisco terminal, which then connects to terminals located in Sausalito, Tiburon, and Angel Island State Park. Public transportation alternatives within the Project area include Marin Transit and Golden Gate Transit. Separated bicycle and pedestrian facilities are located within the Project area, on the west side of the D line on-ramp and then continuing in a southerly direction west of U.S. 101. The Corte Madera Pathway, a dedicated bicycle and pedestrian facility, crosses the Project area and runs along the northern side of Corte Madera Creek.

A RTP/SCS, called Plan Bay Area 2050, was developed by the Bay Area's metropolitan planning organization (ABAG) and regional transportation agency (Metropolitan Transportation Commission [MTP]). Plan Bay Area 2050 guides transportation and housing development in the larger San Francisco Bay Area. Within Marin County, the TAM is the congestion management agency and is responsible for assessing regional traffic impacts from local developments and land use plans. TAM guides transportation and housing development in the project area. The City of Larkspur General Plan Sustainability element addresses GHGs and air pollution in the Project area.

GHG INVENTORIES

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

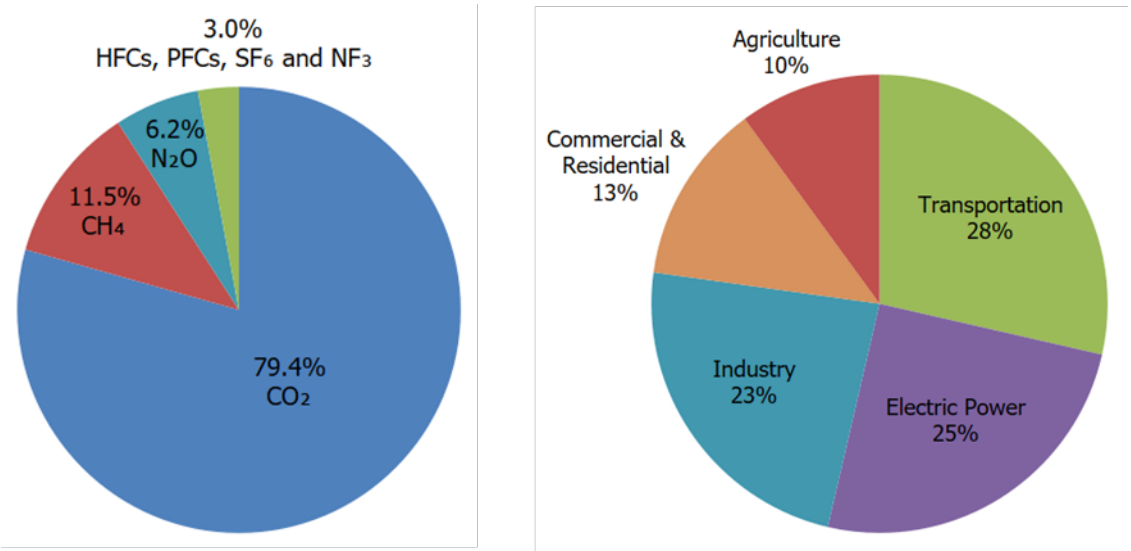
NATIONAL GHG INVENTORY

The annual GHG inventory submitted by the USEPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total national GHG emissions from all sectors in 2021 were 5,586 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector. (Land Use, Land Use Change, and Forestry provide a carbon sink equivalent

to 12 percent of total U.S. emissions in 2021 [USEPA 2023b].) While total GHG emissions in 2021 were 17 percent below 2005 levels, they increased by 6 percent over 2020 levels. Of these, 79.4 percent were CO_2, 11.5 percent were CH_4, and 6.2 percent were N_2O; the balance consisted of fluorinated gases. From 1990 to 2021, CO_2 emissions decreased by only 2 percent (USEPA 2023b).

The transportation sector's share of total GHG emissions increased to 28 percent in 2021 and remains the largest contributing sector (Figure 3-2). Transportation fossil fuel combustion accounted for 92 percent of all CO_2 emissions in 2021. This is an increase of 7 percent over 2020, largely due to the rebound in economic activity following the COVID-19 pandemic (USEPA 2023b, 2023c).

Figure 3-2 U.S. 2021 Greenhouse Gas Emissions (Source: USEPA 2023c)



STATE GHG INVENTORY

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year (Figure 3-3). It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. Overall statewide GHG emissions declined from 2000 to 2020 despite growth in population and state economic output (Figure 3-4) (CARB 2022a).

Figure 3-3 California 2020 Greenhouse Gas Emissions by Scoping Plan Category (Source: CARB 2022a)

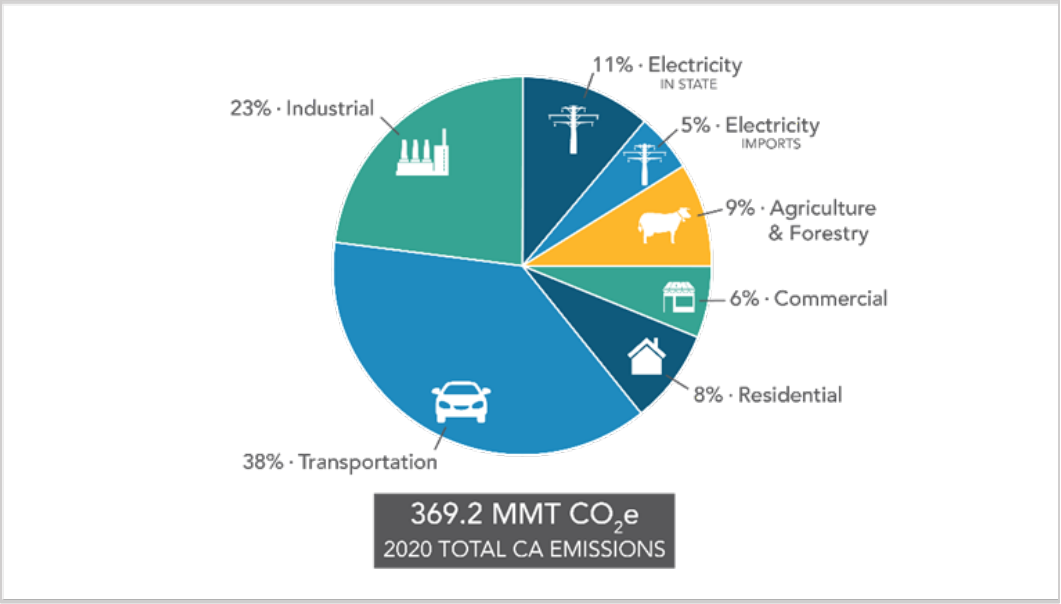
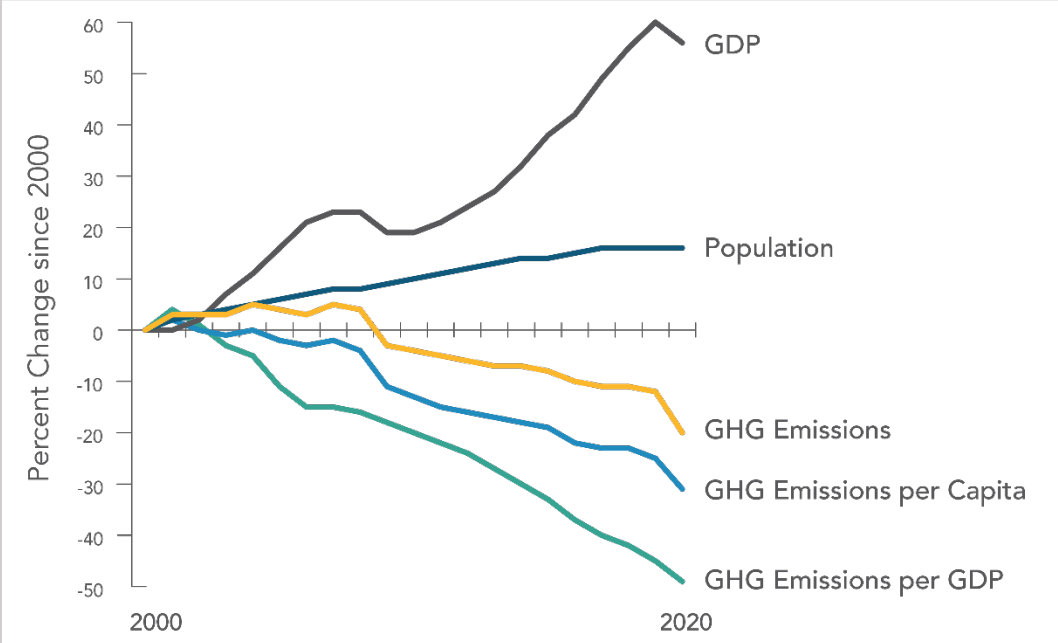


Figure 3-4 Change in California GDP, Population, and GHG Emissions since 2000 (Source: CARB 2022a)



Assembly Bill (AB) 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the

subsequent updates contain the main strategies California will use to reduce GHG emissions. CARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and Senate Bill (SB) 32. The *2022 Scoping Plan for Achieving Carbon Neutrality,* adopted September 2022, assesses progress toward the statutory 2030 reduction goal and defines a path to reduce human-caused emissions to 85 percent below 1990 levels and achieve carbon neutrality no later than 2045, in accordance with AB 1279 (CARB 2022b).

Regional Plans

As required by *The Sustainable Communities and Climate Protection Act of 2008*, CARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals, and reporting how they will be met in the RTP/SCS. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed Project is included in the RTP/SCS for the MTC. The regional reduction target for MTC is 19 percent by 2035 (CARB 2021b).

The following table provides a brief description of adopted GHG reduction plans for the proposed Project area (Table 3-3).

Table 3-3. Regional and Local Greenhouse Gas Reduction Plans

Plan Title	GHG Reduction Policies or Strategies
MTC and ABAG*, Plan Bay Area 2050*	Expand commute trip reduction programs at major employers Expand clean vehicle initiatives Expand transportation demand management initiatives Build a Complete Streets network Advance regional Vision Zero policy through street design and reduced speeds Enhance local transit frequency, capacity, and reliability Expand and modernize the regional rail network Build an integrated regional express lanes and express bus network
Bay Area Air Quality Management District, *Clean Air Plan 2017*	20 percent reduction in criteria air pollutants from refineries Electrification of Bay Area Fleet Upgrade older diesel trucks to zero-emission vehicles Upgrade locomotives

Plan Title	GHG Reduction Policies or Strategies
	Upgrade transportation refrigeration units Upgrade cargo-handling equipment at seaports
City of Larkspur, *Draft 2040 General Plan* (December 2020)	Sustainability Element Develop near arterials and public transit Provide linkages between commercial areas and neighborhoods Develop Complete Streets network New development goals for minimum percent reduction in VMT Develop paths and bike lanes to link neighboring communities New development to provide pedestrian and bike connectivity City's Bicycle & Pedestrian Master Plan encourages access Climate Action Plan to reduce VMT in City operations, support electric vehicles

3.4.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH_4 and N_2O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector. (GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP. CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent", or CO_2e. The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.)

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

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

Operational Emissions

The purpose of the proposed Project is to extend the bridge's service life and will not increase the vehicle capacity of the roadway. This type of project generally causes no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on U.S. 101, no increase in vehicle miles traveled (VMT) would occur. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions

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

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

The Caltrans Construction Emissions Tool (CAL-CET 2021), version 1.0.2, was used to estimate the amount of CO_2 produced due to construction; construction-related CO_2 emissions are estimated as 89 tons (Caltrans 2023d). Although the BAAQMD does not establish a threshold of significance for construction-related CO_2 emissions, the project meets the BAAQMD preliminary screening criteria for construction projects (BAAQMD 2022). Additionally, the frequency and occurrence of GHG emissions would be reduced through PF-GHG-1, described at the end of this section. The Project impact on GHG emissions would be less than significant.

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7-1.02C, Emissions Reduction, require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB 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, which reduce construction vehicle emissions also help reduce GHG emissions.

CEQA Conclusion

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

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

3.4.4 Greenhouse Gas Reduction Strategies

Statewide Efforts

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

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research (OPR) identified five sustainability pillars in a 2015 report: (1) Increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) Reducing petroleum use by up to 50 percent by 2030; (3) Increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) Reducing emissions of short-lived climate pollutants; and (5) Stewarding natural

resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. Reducing today's petroleum use in cars and trucks is a key state goal for reducing GHG emissions by 2030 (California Environmental Protection Agency 2015).

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

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

Caltrans Activities

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

CLIMATE ACTION PLAN FOR TRANSPORTATION INFRASTRUCTURE

The California Action Plan for Transportation Infrastructure (CAPTI) builds on EOs signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions

in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

CALIFORNIA TRANSPORTATION PLAN

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021b).

CALTRANS STRATEGIC PLAN

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

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a policy to ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. Other DPs promote energy efficiency, conservation, and climate change, and commit Caltrans to sustainability practices in all planning, maintenance, and operations. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020a) provides a comprehensive overview of Caltrans' emissions and current Caltrans procedures and activities that track and reduce GHG emissions.

It identifies additional opportunities for further reducing GHG emissions from Caltrans-controlled emission sources, in support of Caltrans and State goals.

Project-Level GHG Reduction Strategies

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

Construction contractors would comply with Caltrans Standard Specifications Section 7.102A and 7-1.02C, Emissions Reduction, and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Some construction BMPs that would be implemented, as part of PF-GHG-1, include providing regular vehicle and equipment maintenance, limiting idling of vehicles and equipment at the job site, recycling nonhazardous waste and excess material, and using solar-powered signal boards if feasible. The Project would also implement PF-AIR-1 through AIR-4 to reduce construction-related emissions. PFs are included in Appendix B.

3.4.5 Adaptation

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

Federal Efforts

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance. Caltrans practices generally align with the 2023 CEQ interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, which offers recommendations for

additional ways of evaluating project effects related to GHG emissions and climate change. These recommendations are not regulatory requirements.

The *Fifth National Climate Assessment*, published in 2023, presents the most recent science and "analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; [It] analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years … to support informed decision-making across the United States." Building on previous assessments, it continues to advance "an inclusive, diverse, and sustained process for assessing and communicating scientific knowledge on the impacts, risks, and vulnerabilities associated with a changing global climate" (U.S. Global Change Research Program 2023.

The USDOT recognizes the transportation sector's major contribution of GHGs that cause climate change and has made climate action one of the department's top priorities (USDOT 2023b). FHWA's policy is to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2022).

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

State Efforts

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

California's Fourth Climate Change Assessment (Fourth Assessment) (2018) provides information to help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state's people, infrastructure, natural systems, working lands, and waters. The Fourth Assessment reported that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is

projected to experience an up to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures; a two-thirds decline in water supply from snowpack resulting in water shortages; a 77 percent increase in average area burned by wildfire; and large-scale erosion of up to 67 percent of Southern California beaches due to sea level rise. These effects will have profound impacts on infrastructure, agriculture, energy demand, natural systems, communities, and public health (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

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

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

resources, implementing nature-based climate solutions, using best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2023).

EO B-30-15 recognizes that effects of climate change threaten California's infrastructure and requires state agencies to factor climate change into all planning and investment decisions. Under this EO, the OPR published *Planning and Investing for a Resilient California: A Guidebook for State Agencies*, to encourage a uniform and systematic approach to building resilience.

SB 1 Coastal Resources: Sea Level Rise (Atkins 2021) established statewide goals to "anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone." As the legislation directed, the Ocean Protection Council collaborated with 17 state planning and coastal management agencies to develop the *State Agency Sea-Level Rise Action Plan for California* in February 2022. This plan promotes coordinated actions by state agencies to enhance California's resilience to the impacts of sea level rise (California Ocean Protection Council 2022).

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

Caltrans Sustainability Programs

The Director's Office of Equity, Sustainability and Tribal Affairs supports the implementation of sustainable practices at Caltrans. The *Sustainability Roadmap* (Roadmap) is a periodic progress report and plan for meeting the Governor's sustainability goals related to EOs B-16-12, B-18-12, and B-30-15. The Roadmap

includes designing new buildings for climate change resilience and zero-net energy and replacing fleet vehicles with zero-emission vehicles (Caltrans 2023f).

Project Adaptation Analysis

Sea Level Rise

According to the Caltrans Climate Change Vulnerability Assessment (Caltrans 2018), sea level rise presents a real threat to the segment of U.S. 101 near Corte Madera Creek. A sea level rise of 1.0 meter (3.28 feet, or 3 feet 3.37 inches) will lead to inundation of portions of the roadway on a regular basis (a few times per month during typical spring tides). Higher sea levels mean greater forces on the bridge during normal tidal processes, increasing scour effects on bridge structure elements.

Storm surge, coupled with sea level rise, presents a nearer term, though less frequent, threat to the facility. Higher sea levels mean that storm surge will be higher and have more force than today. These forces would potentially affect scour on bridge substructure elements. Bridge approaches where the roadway transitions to the bridge deck may become exposed to surge forces and may become damaged during storms. The 100-year storm surge begins to overtop U.S. 101 south of the Corte Madera Creek Bridge with 0.5 meter (1.64 feet, or 1 foot 7.68 inches) of sea level rise (Caltrans 2018). This situation could occur during severe storm events as soon as mid-century, assuming the worst-case scenarios for future GHG concentrations in the atmosphere. Higher levels of sea level rise lead to greater lengths of the roadway being inundated and to greater depths during storm events.

Precipitation and Flooding

Precipitation conditions in California are projected to change so that there are more frequent drought periods, but heavier, intermittent rainfall. The Corte Madera Creek will likely experience higher peak flows in the future due to increasing precipitation totals during extreme rainfall events. By the end of the century, precipitation could increase over the watershed by up to 10 to 14 percent (Caltrans 2018). This would likely lead to more serious flooding along Corte Madera Creek that could increase the likely inundation of U.S. 101 and possibly cause scour issues for the Corte Madera Creek Bridge. The Project would not change land use nor increase the area of impervious surfaces; therefore, it would not contribute to increases in flooding magnitude or frequency (see Section 3.3.10 Hydrology and Water Quality).

WILDFIRE

Wildfire frequency and intensity is expected to be affected by changes in climate due to increasing temperatures, changing precipitation patterns and resulting changes in land cover. The Project is a roadway in an urban setting and is not likely to be affected by wildfire either today or in the future based assessment of wildfire exposure for Caltrans assets (Caltrans 2018). The Project would implement Standard Specifications for Fire Prevention.

TEMPERATURE

Temperature rise is an important facet of climate change. Temperature may affect expansion/contraction allowances for bridge joints and could result in increased maintenance activities, such as replacing pavement sections that have experienced discontinuities and deformation. Warmer temperatures may necessitate the changing of materials specifications for the Project to assure the long-term resiliency of the facility (Caltrans 2018).

Chapter 4 Comments and Coordination

To date, public and agency coordination consists of the following:

4.1 Community Outreach

The document, maps, and Project information are available for review and download at the District 4 Environmental Documents by County website: https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs/. Additionally, hard copies of this document will be made available at the following locations in the vicinity of the Project.

Corte Madera Library
707 Meadowsweet Drive
Corte Madera, CA 94925

Larkspur Library
400 Magnolia Avenue
Larkspur, CA 94939

The deadline for submission of comments on the IS/ND is March 28, 2024.

4.2 Consultation and Coordination with Public Agencies

Consultation with several agencies occurred during the environmental evaluation process. A list of coordination activities and contacts is provided in Table 4-1.

Table 4-1. Agency Coordination Meetings and Contacts

Organizations	Date	Topic
California Department of Fish and Wildlife	10/19/2023	Caltrans received technical assistance from Cathy Hieb, Jillian Burns, and Wes Stokes
City of Larkspur, Public Works Department	11/27/2023	Phone conversation with Scott Metcho Regarding jurisdiction and maintenance responsibility over Corte Madera Path
Native American Heritage Commission	9/13/2023 10/30/2023	Consultation letters were sent. Follow-up phone calls were made and emails were sent
NMFS	1/11/2024	Caltrans requested technical assistance.

Organizations	Date	Topic
U.S. Fish and Wildlife Service	9/6/2023 9/26/2023	Caltrans requested assistance. Received technical assistance from Kim Squires.
U.S. Coast Guard	10/12/2023	Phone conversation with Carl Hausner regarding Bridge Permit Amendment, which would not be required. Caltrans must submit Navigational Impact Report to U.S. Coast Guard 30 days prior to construction.

Chapter 5 List of Preparers

The primary people responsible for contributing to, preparing, and reviewing this report are listed in Table 5-1.

Table 5-1. List of Preparers and Reviewers

Organization Name	Role
Caltrans	
Chris Caputo	Deputy District Director, Environmental Planning and Engineering
Lawrence Bonner	Office Chief, Office of Environmental Analysis
David Moore	Branch Chief (Acting), Office of Environmental Analysis
Brooklyn Klepl	Environmental Scientist, Office of Environmental Analysis
Ronald Sangalang	Regional Project Manager
Ahmed Rahid	Branch Chief, Design
Bimal Thapa	Project Engineer, Design
Robert Blizard	Branch Chief, Office of Biological Sciences and Permits
Alexandria Bevan	Office of Biological Sciences and Permits
Mark Morancy	District Branch Chief, Office of Hydraulic Engineering
Alex McDonald	Senior Landscape Architect
Jessica Chan	Landscape Architect
Michael Bergman, Jr.	Project Engineer, Structures Design
Rick Yeung	Traffic Safety
Mojgan Osooli	Senior Water Quality Engineer, Office of Water Quality
Raja Ereiqat	Water Quality/Storm Water
Vanessa Chuang	Electrical, Design
Jim Murphy	Right of Way Agent, Office of Right of Way Acquisitions and Project Management Services
Kathryn Rose	Branch Chief, Office of Cultural Resource Studies
Kristina Montgomery	Senior Archaeologist, Office of Cultural Resource Studies
Shilpa Mareddy	Branch Chief, Air Quality and Noise
Abaid Rehman	Air and Noise
Aksitha Boddu	Hazardous Waste Branch

Organization Name	Role
Jose Mario David	Construction Engineer, Construction
Jeff Kress	Senior Bridge Engineer, Structures Construction
Cliff Law	Structures Construction
Jacobs	
David Carlson	Environmental Program Manager
Morgan Angulo	Environmental Planner
Audrey Van	Senior Environmental Planner
Sean O'Neil	Biologist
Area West Environmental	
Aimee Dour-Smith	Senior Environmental Planner
Colena Sankbeil	Environmental Planner
Kim Mays	Environmental Planner

Chapter 6 Distribution List

Notice of the availability of theIS with proposed ND will be circulated to the following agencies and government officials.

6.1 Agencies

Bay Area Air Quality Management District

California Coastal Commission

California Department of Fish and Wildlife

California Highway Patrol

California Transportation Commission

Central Marin Police Authority

Central Marin Fire Department

Corte Madera Public Works Department

Larkspur Public Works Department

Marin County Bicycle Coalition

Marin County Fire Department

Marin County Parks and Recreation

Marin County Sheriff's Office

National Marine Fisheries Service

San Francisco Bay Conservation and Development Commission

San Francisco Bay Regional Water Quality Control Board

State Lands Commission

Transportation Authority of Marin

U.S. Army Corps of Engineers

U.S. Coast Guard

U.S. Fish and Wildlife Service

6.2 Elected Officials

Senator Laphonza Butler

Senator Alex Padilla

Senator Mike McGuire

Congressman Jared Huffman

Assembly Member Damon Connolly

Supervisor Judy Arnold, Marin County District 5

Marin County Sheriff Robert T. Doyle

Mayor Gabe Paulson, Larkspur

Mayor Eli Beckman, Corte Madera

Appendix A Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

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September 2022

NON-DISCRIMINATION POLICY STATEMENT

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

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

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

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

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

TONY TAVARES
Director

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

Appendix B Summary of Project Features and Avoidance and Minimization Measures

Project Features

PF-AES-1: Minimize Impacts to Vegetation. Minimize impacts to vegetation to the greatest extent possible while allowing the project to be implemented. Revegetate disturbed soil areas and disturbed portions of the riparian corridor with native and climatically appropriate species.

PF-AES-2: Construction Staging. Staging areas should not be located where they require the removal of non-weedy vegetation. Preferably staging areas should be placed on a paved area.

PF-AES-3: Storage of Construction Materials. Construction materials and equipment should be stored in screened staging areas beyond the direct view of the motoring public and residential properties to the extent feasible.

PF-AES-4: Construction Lighting. For any night work, limit construction lighting to the area of work and use directional lighting and/or shielding to minimize light trespass to nearby areas.

PF-AES-5: Architectural Treatments. The need for the architectural treatment of proposed project elements such as the application of an anti-glare coating of MGS railings and similar treatments should be investigated by the Caltrans Office of Landscape Architecture during the PS&E phase of design and incorporated as appropriate.

PF-AES-6: Erosion Control Measures. Apply erosion control seeding and similar measures to all areas of disturbance where they are beyond paved areas.

PF-AQ-1: Control Measures for Construction Emissions of Fugitive Dust. Dust control measures would be implemented to minimize airborne dust and soil particles generated from construction. For disturbed soil areas, the use of tackifier to control dust emissions would be included in the construction contract. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

PF-AQ-2: Construction Vehicles and Equipment. Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.

PF-AQ-3: Limit Idling. Limit idling times either by shutting construction-related equipment off when not in use or reducing the maximum idling time to 5 minutes.

PF-BIO-1: Documentation at Project site. A Permit Compliance Binder will be maintained at the construction site at all times and presented to resource agency (i.e., USACE, USFWS, NMFS, RWQCB, and/or CDFW) personnel upon request. The Permit Compliance Binder will include a copy of all original permits and agreements and any extensions and amendments to the permits and agreements.

PF-BIO-2: Work According to Documents. Except as contradicted by measures within the permits and agreements, all work will be conducted in conformance with the Project description in the permits and agreements and the AMMs provided in the permits and agreements.

PF-BIO-3: Worker Environmental Awareness Training. Prior to the start of construction, a biologist will provide a training session for all work personnel to identify sensitive species that may be in the area, their basic habits, how they may be encountered in their work area, and procedures to follow when they are encountered. Any personnel joining the work crew later will receive the same training before beginning work. Upon completion of the education program, employees will sign a form stating that they attended the program and understand all protection measures. A pamphlet that contains images of sensitive species that may occur within the Project, environmentally sensitive areas (ESAs) within the Project site, and notes key avoidance measures, as well as employee guidance will be given to each person who completes the training program. These forms will be made available to the resource agencies upon request.

PF-BIO-4: Marking of Environmentally Sensitive Areas. Before construction begins, ESAs will be clearly delineated using high visibility orange fencing, flagging, or similar marking to delineate sensitive habitats. The ESA marking will remain in place throughout construction or until work is completed at a particular location. It may be removed during the wet season (and subsequently reinstalled) if needed to prevent materials from being washed away. The final Project plans will depict all locations where ESA marking will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable marking

material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. ESA markings will be maintained in good repair throughout the Project as needed.

PF-BIO-5: Nesting Bird Surveys. If Project activities occur from February 1 to September 30, then a pre-construction survey will be conducted for nesting birds no more than 3 days before construction. If active nests are found, then an appropriate buffer will be established, and the nest will be monitored for compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC) 3503.

PF-BIO-6: Active Nest Buffers. f an active bird nest is found during construction activities, then the following ESA buffers will be established: If an active raptor nest is observed, a 300-foot ESA buffer will be implemented to avoid affecting the young until they have fledged; if an active nest of nonraptor migratory birds is observed, a 50-foot ESA buffer will be implemented to protect the young until they have fledged, or as otherwise determined by consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California FGC 3503.

PF-BIO-7: Stormwater Best Management Practices. Water pollution control and erosion control best management practices will be developed and implemented to minimize wind- or water-related erosion. Best management practices will follow the requirements of the RWQCB and standards outlined in *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017). At a minimum, protective measures will include the following:

a. Prohibiting discharge of pollutants from vehicle and equipment cleaning into storm drains or watercourses.

b. Maintaining equipment to prevent vehicles from leaking fluids such as gasoline, oils, or solvents. Hazardous materials such as fuels, oils, solvents, etc. will be stored in manufacturer approved containers in a designated location that is at least 50 feet from aquatic habitats.

c. Servicing vehicles and construction equipment, including fueling, cleaning, and maintenance, at least 50 feet from aquatic habitat unless separated by a topographic or engineered drainage barrier.

d. Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts.

e. Maintaining spill containment kits onsite at all times during construction operations, staging, and fueling of equipment.

f. Using water trucks and dust palliatives to control dust in unvegetated areas that are at least 10 feet from the MHHW, and covering of temporary stockpiles when weather conditions require.

g. Protecting graded areas from erosion using a combination of silt fences, fiber rolls or straw wattles, erosion control netting (jute or coir), hydraulic mulch, temporary cover, drainage inlet protection, or other appropriate sediment control methods as determined in the Caltrans approved SWPP plan or the RWQCB Construction General Permit. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material will not be used. Acceptable substitutes include coconut coir matting or tackifying hydroseeding compounds.

PF-BIO-8: Construction Site Management Practices. The following site restrictions will be implemented to avoid or minimize potential impacts on sensitive biological resources:

a. Enforcing a speed limit of 15 miles per hour for project vehicles in unpaved portions of the site to reduce dust and excessive soil disturbance.

b. Locating construction access, staging, storage, and parking areas within the Caltrans ROW and outside of any designated ESA. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork will be clearly marked before initiating construction.

c. Certifying, to the maximum extent practicable, that borrow material is nontoxic and weed free.

d. Enclosing food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.

e. Prohibiting pets from entering the Project area during construction.

f. Prohibiting firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

PF-BIO-9: Invasive Weed Control. To reduce the spread of invasive, nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. If noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project area will be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.

If work occurs in sensitive habitat, vehicles and equipment will be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

PF-BIO-10: Vegetation and Tree Removal. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be permanently affected or excavated. This will allow plants that reproduce vegetatively to resprout after construction.

PF-BIO-11: Restoration of Disturbed Areas. Temporarily disturbed areas will be restored as appropriate with final design to occur. Exposed slopes and bare ground, above the MHHW will be reseeded with native grasses and forbs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.

PF-BIO-12: Bat Protection. A pre-construction bat survey will be completed, and, if needed, appropriate bat exclusionary measures will be implemented prior to construction during the period between March 1 and April 15 or between August 31 and October 15. Potential avoidance may include exclusionary blocking or filling

potential cavities with foam, visual monitoring, and/or staging Project work to avoid bats. If bats are known to use the structures, then exclusion netting will not be used.

PF-BIO-13: Prevention of Inadvertent Entrapment. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will be covered at the close of each working day with plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than 30 degrees. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight will be inspected before they are subsequently moved, capped, or buried.

PF-BIO-14: Night Lighting. Nighttime work will be avoided to the maximum extent practicable. For unavoidable nighttime work, lighting will be shielded and directed downward toward the active construction area to avoid exposing nocturnal wildlife to excessive glare.

PF-CULT-1: Discovery of Cultural Resources. In the event that archaeological resources (sites, features, or artifacts) or Tribal Cultural Resources (as defined by the Tribe and CEQA) are exposed during construction activities, all construction work occurring within 60 feet of the find shall immediately stop until a qualified archaeologist, that meets the Secretary of the Interior Professional Qualifications for Archaeology, can evaluate the significance of the find in consultation with the Tribe to determine if additional study is warranted.

PF-CULT-2: Discovery of Human Remains. If remains are discovered during ground-disturbing activities, construction-related activities within a 100-foot radius of the find would be halted immediately and Caltrans' Office of Cultural Resource Studies (OCRS) would be called. Caltrans OCRS staff would assess the remains and, if determined human, would contact the Marin County Coroner as per Public Resources Code Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. The Marin County Coroner is required to examine the find within 48 hours of receiving notification of such a discovery. If the coroner determines the remains to be Native American, the coroner will contact the Native American Heritage Commission (NAHC) within 24 hours of making the determination. The NAHC would assign and contact the Most Likely Descendent (MLD) regarding the discovered human remains. Caltrans would consult with the MLD on treatment and

ultimate disposition of the remains. Further provisions of PRC 5097.98 would be followed as applicable.

PF-Energy-1: Minimize Energy Consumption from Construction Activities. The use of construction BMPs would minimize energy consumption from construction activities, including, but not limited to limit idling of vehicles and equipment; use solar power as a power source, if feasible; ensure regular maintenance of construction vehicles and equipment; and if feasible, recycle nonhazardous waste and excess materials to reduce disposal offsite.

PF-GHG-1: Control Measures for Greenhouse Gases. Measures would be implemented during construction to ensure regular maintenance of construction vehicles and equipment; limit idling of vehicles and equipment; recycle nonhazardous waste and excess material if practicable; and use solar-powered signal boards, if feasible.

PF-HAZ-1: Caltrans Standard Specifications and Hazardous Waste Regulations. The current Caltrans Standard Specifications Section 13-4, Job Site Management, will be implemented to prevent and control spills or leaks from construction equipment and from storage of fuels, paints, cleaners, solvents, and lubricants. Handling and management of hazardous materials will comply with the current Caltrans Standard Specification Section 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste.

PF-HAZ-2: Asbestos and Lead-based Paint Survey. The materials generated by grinding, chipping, striping removal, and removal of joint seal will require standard provisions for handling and testing materials to verify appropriate disposal options.

PF-HAZ-3: Aerially Deposited Lead. Caltrans will prepare a work plan for aerially deposited lead, if required, during the design phase to determine appropriate actions that would protect construction workers, future site users, and the environment.

PF-Noise-1: Specifications for Controlling Noise and Vibration. Noise from construction activities will not exceed 86 A-weighted decibel Lmax[2] at 50 feet from the Project site from 9:00 p.m. to 6:00 a.m., per 2023 Caltrans Standard Specifications, Section 14-8.02.

[2] Lmax noise descriptor is the highest instantaneous noise level during a specified period; in the noise analysis, that is 1 hour.

PF-Noise-2: Noise Levels During Construction. The following measures will be implemented during construction to reduce noise:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate all stationary, noise-generating, construction equipment, such as air compressors, portable power generators, or self-powered lighting systems, as far as practical from noise-sensitive receptors.
- Use quiet air compressors and other quiet equipment where such technology exists.
- As practicable, have construction equipment conform to Section 14-8.02, Noise Control, of the latest Caltrans Specifications.

PF-REC-1: Provide Temporary Pedestrian Access Route and Notification During Construction. The Contractor shall accommodate pedestrians, including persons with disabilities, through and around work zones consistent with Caltrans Standard Specifications Sections 7-1.04 "Public Safety", 12 "Temporary Traffic Control", and 12-4.04 "Temporary Pedestrian Access Routes." Traffic control on the trail would be managed with flaggers and/or temporary traffic control signals. Advanced signage notification of trail closures must be provided.

PF-REC-2: Restore Trail to Pre-Project Conditions. To offset potential damage to the trail from use of heavy equipment, Caltrans will evaluate and document (with photographs) the condition of the existing Corte Madera Pathway before beginning work on the D-7 columns. Post-construction conditions will be evaluated and documented with photographs. The Contractor will repair trail damage attributable to heavy equipment use before contract acceptance, consistent with Caltrans Standard Specifications Sections 5-1.39.

PF-TRANS-1: Traffic Management Plan. To minimize potential effects from construction activities to motorists, bicyclists, or pedestrians using area streets and trails, a TMP will be developed by Caltrans and implemented throughout construction. The TMP will include public information, motorist information, incident management, construction, and alternate routes. The TMP will also include elements such as haul routes, traffic control, and phasing, to reduce impacts to motorists and residents as much as feasible and to maintain access to businesses in the

local area. The TMP will also provide access for police and emergency service providers. Ramp closures will be planned in coordination with Caltrans, City of Larkspur, and Marin County; planning will include notices to emergency service providers and the public in advance.

PF-UTI-1: Trash Management. All food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in closed containers and removed by the contractor at least once daily from the Project limits. A trash reduction system would also be developed by the contractor, approved by Caltrans, and implemented per Caltrans Statewide National Pollution Discharge Elimination System Permit and San Francisco RWQCB Cease and Desist Order.

PF-WQ-1: Water Quality Best Management Practices: A Water Pollution Control Plan (WPCP) will be prepared and implemented for the Project, consistent with Caltrans' stormwater and water pollution control program and *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017). The BMP Manual and Section 13-2, Standard Special Provisions (SSPs) for Temporary Construction Site BMPs provide guidance for including provisions in all construction contracts to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges.

PF-WQ-2: Job Site Management: This non-stormwater discharge and waste management practice would include considerations for operations, illicit discharge detention and reporting, vehicle and equipment cleaning, vehicle and equipment fueling, and material use.

PF-WQ-3: Tracking Control Practices. Tracking control practices would include street sweeping and vacuuming and temporary (stabilized) construction entrance/exit.

PF-WQ-4: Waste Management and Materials Pollution Control. Waste management and materials pollution control measures would be as follows:

- Stockpile management: This practice is needed to reduce or eliminate air and stormwater pollution from stockpiles of soil and paving materials.

- Concrete waste management: The concrete quantity has not been determined at this phase of the Project. However, it is imperative to confirm that procedures and practices are in place to eliminate or minimize the discharge of

concrete slurry to the creek or storm drain system. These measures would include, but not be limited to, the following:

  - Concrete demolition wastes
  - Concrete slurry waste-handling procedures
  - Onsite concrete washout facility
  - Transit truck washout procedures
  - Procedures for removal of temporary concrete washout facilities

- Material delivery and storage
- Spill prevention and control
- Solid waste management (e.g., debris from chipping and grinding of concrete, cleaning columns)
- Hazardous waste and contaminated soil management
- Sanitary/septic and liquid waste management

PF-WQ-5: Material and Equipment Use Over Water. This BMP must be discussed in Section 30.3.1 of the WPCP and will be in accordance with all necessary permits required for construction within or near receiving waters, such as RWQCB, USACE, CDFW, and other local permitting agencies. Collect and contain all demolished material. Includes, but is not limited to, measures such as installation of perimeter controls to contain spills and prevent materials, tools, and debris from falling off the barge(s) into Corte Madera Creek.

PF-WQ-6: Dewatering Operations. Dewatering may be needed during galvanic anode jacket system installation in Corte Madera Creek. Dewatering effluent that would be discharged from the construction site to a receiving water or storm drain would be subject to requirements of the applicable National Pollutant Discharge Elimination System permit and also would be regulated by 401 certification or waste discharge requirements administered by RWQCB. An active treatment system may be necessary to meet the effluent limits of the construction general permit for turbidity and pH in stormwater.

PF-WQ-7: Turbidity Control. During the column and abutment work where ground disturbance would be conducted below MHHW, a silt-curtain, sheet pile, or gravel-

bag cofferdam, or other equivalent means, would be installed as needed to minimize the generation of turbidity plumes in nearby tidal waters. Such cofferdams would be installed when there is no surface water present (that is, at low tide).

Avoidance and Minimization Measures

Caltrans would implement the following species-specific AMMs to offset, minimize, or avoid impacts on biological resources. The measures will be communicated to the contractor using special provisions included in the contract bid solicitation package.

AMM-BIO-15: Rare Plant Preconstruction Survey. During the spring season prior to construction, Caltrans will conduct focused pre-construction surveys for the rare plants identified in the Project area. The extent and abundance of the rare plants will be mapped and flagged in the field for future relocation, salvage, and transplantation. These surveys will be conducted during the season in which the rare plants are detectable and in the phenological stage of development for correct identification (typically late spring). If a rare plant is identified within the Project footprint Caltrans may consult with regulatory agencies about how to proceed.

AMM-BIO-16: Bat Monitoring Protocols. If a bat or bat colony is observed roosting in active construction areas at the Project site, construction activities that would imminently harm bats will stop within 150 feet of the roosting location until Caltrans has consulted with the appropriate regulatory agency or agencies about how to proceed..

AMM-BIO-17: Wildlife Exclusion Fencing. Before starting construction, wildlife exclusion fencing (WEF) will be installed where wildlife could enter the project site. Locations of the WEF will be determined in coordination with the onsite biologist. WEF installation locations will be identified during the plans, specifications, and estimate phase of the project; the final plans will depict the locations where WEF will be installed and how it will be assembled/constructed. The special provisions in the bid solicitation package will clearly describe acceptable WEF material and proper WEF installation and maintenance. The WEF will remain in place throughout the project duration while construction activities are ongoing and will be regularly inspected for stranded animals and fully maintained. The WEF will be removed following completion of construction activities or when construction is completed at that location at the discretion of the project biologist.

AMM-BIO-18: In-water Work Avoidance Construction Timeline. All work in aquatic habitat for salmonids and longfin smelt within Corte Madera Creek will take place from May 1 to November 31 to avoid the primary adult spawning and juvenile smolt outmigration seasons. The in-water work window will also prevent construction disturbance in Corte Madera Creek when most rainfall typically occurs, thus avoiding impacts to water quality and challenges to the cofferdams by increased flows that occur during rain events.

AMM-BIO-19: Dewatering Plan and Monitoring: Dewatering and discharging activities will be conducted according to standard Caltrans requirements.

- If requested by state and federal agencies, the dewatering plan will be provided for review and comment in advance of dewatering activities.
- An agency-approved biological monitor(s) will be present during dewatering activities to relocate special-status species as needed.
- For dewatering systems that require pumping, all intakes will be completely screened with wire mesh not larger than 5 millimeters (0.2 inch) to prevent wildlife from entering the pump system.

Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow natural flow to resume with the least disturbance to the substrate.

AMM-BIO-20: Placement of Non-toxic Structures in Streams. All materials placed in the creek such as pilings and retaining walls, shall be non-toxic. Any combination of wood, plastic, cured concrete, steel pilings, or other materials used for in-channel structures shall not contain coatings, treatments, or consist of substances deleterious to aquatic organisms that may leach into the surrounding environment in amounts harmful to aquatic organisms.

AMM-BIO-21: Fish Relocation and Handling. A Fish Relocation Plan for listed species will be developed during the design phase and submitted to NMFS, USFWS, and CDFW for approval prior to activities that would require fish relocation. The Fish Relocation Plan will identify specific methods and equipment for isolation of work areas, capture and handling of individual fish, and a sequence of relocation steps. Suitable habitat for relocation will be identified in the Fish Relocation Plan.

AMM-BIO-22: Construction Behind Cofferdams. All work in aquatic habitat within Corte Madera Creek will take place within cofferdams that have been dewatered. Cofferdams will effectively isolate the work areas from Corte Madera Creek and significantly reduce potential construction effects and stressors, such as noise and vibration. Cofferdams will be designed and constructed to isolate work disturbance, avoiding disturbance of core habitat areas in the central part of the creek and allowing tidal flows to easily pass through the Project area.

AMM-BIO-23: Marine Mammal Protection. Work will cease if a marine mammal comes within 300 feet of the active work area. Activity can resume once the animal has moved away from the work area on its own. Vibratory hammer methods will be used; no piling driving will occur. Additional measures to avoid harassment may be developed in consultation with NMFS.

Appendix C Species Lists

United States Department of the Interior

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

In Reply Refer To:
Project Code: 2023-0114166
Project Name: 0W210 Corte Madera Bridge Rehabillitation

February 01, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2023-0114166
Project Name: 0W210 Corte Madera Bridge Rehabillitation
Project Type: Bridge - Maintenance
Project Description: Work on this project includes fixing surfacing on bridge deck and adding galvanized anode jackets to existing piers in and out of water.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.943169499999996,-122.51647271532383,14z

Counties: Marin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 16 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/613

BIRDS

NAME	STATUS
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgeway"s Rail *Rallus obsoletus obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

REPTILES

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

FISHES

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

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
California Seablite *Suaeda californica* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6310	Endangered
Marin Dwarf-flax *Hesperolinon congestum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5363	Threatened
Santa Cruz Tarplant *Holocarpha macradenia* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6832	Threatened
Showy Indian Clover *Trifolium amoenum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
White-rayed Pentachaeta *Pentachaeta bellidiflora* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7782	Endangered

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation District 4
Name: Alex Bevan
Address: 111 Grand Ave
City: Oakland
State: CA
Zip: 95010
Email alexandria.bevan@dot.ca.gov
Phone: 5105938270

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (San Rafael (3712285))
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate) OR State Listing Status IS (Endangered OR Threatened OR Rare OR Candidate Endangered OR Candidate Threatened))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Emys marmorata western pond turtle	ARAAD02030	Proposed Threatened	None	G3G4	S3	SSC
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	
Hesperolinon congestum Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Oncorhynchus kisutch pop. 4 coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2Q	S2	
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
Pleuropogon hooverianus North Coast semaphore grass	PMPOA4Y070	None	Threatened	G2	S2	1B.1
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Trifolium amoenum two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1

Record Count: 14

CNPS List

ScientificName	CommonName	Family	Lifeform	CRPR	CESA	FESA	BloomingPeriod	Habitat
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	1B.2	None	None	Apr-Jul	Broadleafed upland forest (openings), Chaparral, Cismontane woodland
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	None	None	Mar-Jun	Cismontane woodland, Coastal bluff scrub, Valley and foothill grassland
Arctostaphylos montana ssp. montana	Mt. Tamalpais manzanita	Ericaceae	perennial evergreen shrub	1B.3	None	None	Feb-Apr	Chaparral, Valley and foothill grassland
Arctostaphylos virgata	Marin manzanita	Ericaceae	perennial evergreen shrub	1B.2	None	None	Jan-Mar	Broadleafed upland forest, Chaparral, Closed-cone coniferous forest, North Coast coniferous forest
Chloropyron maritimum ssp. palustre	Point Reyes salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	None	None	Jun-Oct	Marshes and swamps (coastal salt)
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	1B.2	None	None	Apr-Jul(Aug)	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub
Cirsium hydrophilum var. vaseyi	Mt. Tamalpais thistle	Asteraceae	perennial herb	1B.2	None	None	May-Aug	Broadleafed upland forest, Chaparral, Meadows and seeps
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	None	None	Jan-Mar(Apr)	Broadleafed upland forest, Chaparral, Cismontane woodland, Closed-cone coniferous forest, North Coast coniferous forest, Riparian forest, Riparian woodland
Eriogonum luteolum var. caninum	Tiburon buckwheat	Polygonaceae	annual herb	1B.2	None	None	May-Sep	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss	1B.2	None	None		North Coast coniferous forest (damp coastal soil)
Fritillaria lanceolata var. tristulis	Marin checker lily	Liliaceae	perennial bulbiferous herb	1B.1	None	None	Feb-May	Coastal bluff scrub, Coastal prairie, Coastal scrub
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	1B.2	None	None	Apr-Jul	Coastal dunes
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	1B.2	None	None	Mar-Jun	Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	1B.2	None	None	Apr-Nov	Valley and foothill grassland
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	1B.1	CT	FT	Apr-Jul	Chaparral, Valley and foothill grassland
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	1B.1	CE	FT	Jun-Oct	Coastal prairie, Coastal scrub, Valley and foothill grassland
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	1B.2	None	None	May-Jul(Aug)	Broadleafed upland forest, Chaparral, Valley and foothill grassland
Lessingia micradenia var. micradenia	Tamalpais lessingia	Asteraceae	annual herb	1B.2	None	None	(Jun)Jul-Oct	Chaparral, Valley and foothill grassland
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	1B.2	None	None	Apr-Jun(Jul)	Cismontane woodland, Closed-cone coniferous forest, Coastal scrub, Valley and foothill grassland
Navarretia rosulata	Marin County navarretia	Polemoniaceae	annual herb	1B.2	None	None	May-Jul	Chaparral, Closed-cone coniferous forest
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	1B.1	CE	FE	Mar-May	Cismontane woodland, Valley and foothill grassland (often serpentinite)

Pleuropogon hooverianus	North Coast semaphore grass	Poaceae	perennial rhizomatous herb	1B.1	CT	None	Apr-Jun	Broadleafed upland forest, Meadows and seeps, North Coast coniferous forest
Quercus parvula var. tamalpaisensis	Tamalpais oak	Fagaceae	perennial evergreen shrub	1B.3	None	None	Mar-Apr	Lower montane coniferous forest
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	Malvaceae	perennial rhizomatous herb	1B.2	None	None	Apr-Sep	Marshes and swamps (freshwater, near coast)
Stebbinsoseris decipiens	Santa Cruz microseris	Asteraceae	annual herb	1B.2	None	None	Apr-May	Broadleafed upland forest, Chaparral, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Valley and foothill grassland
Streptanthus batrachopus	Tamalpais jewelflower	Brassicaceae	annual herb	1B.3	None	None	Apr-Jul	Chaparral, Closed-cone coniferous forest
Streptanthus glandulosus ssp. pulchellus	Mt. Tamalpais bristly jewelflower	Brassicaceae	annual herb	1B.2	None	None	May-Jul(Aug)	Chaparral, Valley and foothill grassland
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	1B.1	None	FE	Apr-Jun	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite)

Species List - Intersection of USGS Topographic Quadrangles with NOAA Fisheries ESU/DPS, Critical Habitat, Range, and Essential Fish Habitat

DISCLAIMER: Every attempt has been made to ensure the accuracy and timeliness of these data. However, NMFS makes no claims, promises, or guarantees about the accuracy, completeness, or adequacy of the content, and expressly disclaims liability for errors and omissions in the contents of this spreadsheet.

Corte Madera Creek, Caltrans EA 0W210

X = Present on the Quadrangle		Salmonid ESU / DPS (E) = Endangered, (T) = Threatened										CRITICAL HABITAT										
		COHO		STEELHEAD					CHINOOK			COHO		STEELHEAD					CHINOOK			Southern DPS Green Sturgeon	Black Abalone
Quad Name	Quad Number	SONCC (T)	CCC (E)	NC (T)	CCC (T)	SCCC (T)	SC (E)	CCV (T)	CC (T)	CVSR (T)	SRWR (E)	SONCC	CCC	NC	CCC	SCCC	SC	CCV	CC	CVSR	SRWR		
San Rafael	37122-H5		X	X				X		X	X		X	X							X	X	X

		Marine / Estuarine Species RANGE								ESSENTIAL FISH HABITAT				
Leatherback Sea Turtle	Eulachon	Whales/Turtles (see list below)	Green Sea Turtle (E)	Olive Ridley Sea Turtle (E)	Black Abalone (E)	White Abalone (E)	Eulachon (T)	Southern DPS Green Sturgeon (T)	Guadalupe Fur Seal (T)	SALMON		Groundfish	Coastal Pelagic	Highly Migratory Species
										Coho	Chinook			
X		X	X	X	X			X	X	X	X	X	X	

Possible:
Leatherback Sea Turtle (E)
Loggerhead Sea Turtle (T)

Blue Whale (E)
Fin Whale (E)
Humpback Whale (E)
Southern Resident Killer Whale (E)
North Pacific Right Whale (E)
Sei Whale (E)
Sperm Whale (E)

Appendix D Section 4(f) Evauation

California Department of Transportation

DISTRICT 4
OFFICE OF ENVIRONMENTAL ANALYSIS
P.O. BOX 23660, MS–8B
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February 12, 2024

Julian Skinner, Public Works Director
City of Larkspur, Public works Department
400 Magnolia Avenue
Larkspur, CA 94939
jskinner@cityoflarksbur.org

Dear Mr. Skinner:

The California Department of Transportation (Caltrans) hereby notifies you of our intent to make a *de minimis* finding pursuant to Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (49 United States Code [U.S.C.] 303[c]) for a bridge rehabilitation project anticipated to occur on land that is maintained by the City of Larkspur through a Freeway Maintenance Agreement with Caltrans.

Caltrans requests your concurrence on this *de minimis* finding. See attached memorandum. Caltrans has determined that a Section 4(f) *de minimis* finding is appropriate for the temporary use of approximately 570 feet of the Corte Madera Pathway. Efforts will be made to minimize disruption for trail users during the estimated 2-week construction period at this location. The contractor will be required to maintain trail use with flaggers and traffic control. This work is associated with the Corte Madera Creek Bridge Rehabilitation Project (Project) on U.S. Highway 101 (U.S. 101) in Marin County, California. The affected segment of the Corte Madera Pathway falls under the City of Larkspur maintenance agreement with Caltrans. Therefore, the City of Larkspur is the agency with jurisdiction over this 4(f) resource.

Pursuant to the California Environmental Quality Act (CEQA), an Initial Study with Proposed Negative Declaration is being prepared for this project (Guidelines Section 15070). Prior to making a final Section 4(f) determination, Caltrans will provide the public an opportunity to review and comment on the preliminary *de minimis* impact findings made in the Section 4(f) evaluation during a 30-day public review period, concurrent with the CEQA review. Methods of public involvement include, but are not limited to, newspaper advertisements, notices posted on bulletin boards, and project websites.

Project Location
The Project is located on the Sir Francis Drake Boulevard on-ramps to southbound U.S. 101, in Larkspur, Marin County, California. The area beneath the on-ramps is within Caltrans right-of-way and under a freeway maintenance agreement with the City of Larkspur.

Project Description
The Project proposes to rehabilitate the bridge deck and install galvanic jackets onto the bridge's rectangular columns in the tidal zones of Corte Madera Creek for corrosion protection.

Use of Section 4(f) Resources
The Corte Madera Pathway, a Section 4(f) resource, is a multiuse pathway that follows the north side of Corte Madera Creek. Within the Project limits, Corte Madera Pathway is identified as a segment of the San Francisco Bay Trail.

The Project would require temporary use of approximately 570 feet of the Corte Madera Pathway, located under U.S. 101 and its southbound on-ramps from Sir Francis Drake Boulevard, for the movement of equipment and materials during installation of galvanic jackets on pier columns adjacent to the trail. The Project would also require a temporary construction zone around the bridge columns adjacent to the Corte Madera Pathway. The duration of this use is approximately 2 weeks.

Access along the trail would be maintained throughout the estimated 2-week construction duration. Short, intermittent trail closures would be managed with signage and flaggers; these closures would occur a few times a day for about 20 minutes to allow safe movement of equipment and materials to the work zone.

Section 4(f) *de minimis* Impact Determination
Although the Project would result in a temporary use of the pathway, there would be no permanent adverse physical change to the trail. Caltrans has made a preliminary Section 4(f) *de minimis* impact determination for the proposed Project because the impacts are temporary, minor, and of short duration. See attached evaluation memo.

Caltrans requests concurrence with the *de minimis* impact determination pursuant to Section 4(f) of the USDOT Act of 1966 (49 USC 303[d]). Please review the memo and if you concur with the findings, sign below. If you have questions regarding this request, please contact David Moore, Acting Environmental Branch Chief at (209) 986-9607. We look forward to your prompt reply.

Sincerely,

David Moore
Environmental Branch Chief (Acting)

Enclosure:
Section 4(f) Concurrence Signature page
Section 4(f) Technical Memorandum

By signing below, the City of Larkspur, as manager of the Corte Madera Pathway, concurs with Caltrans determination that the U.S. 101 Corte Madera Creek Bridge Rehabilitation Project will result in a Section 4(f) *de minimis* impact at the Corte Madera Pathway and will not adversely affect the activities, features, or attributes that qualify the property for protection under Section 4(f).

_____	_____
Signature	Date
_____	_____
Name	Title

Technical Memorandum

Making Conservation a California Way of Life

To: DAVID MOORE/CALTRANS DISTRICT 4
Branch Chief (Acting), Marin and Sonoma Counties
Office of Environmental Analysis
Division of Environmental Planning and Engineering

Date: February 6, 2024

From: Aimee Dour-Smith
Senior Environmental Planner
Area West Environmental, Inc.

Subject: **CORTE MADERA CREEK BRIDGE REHABILITATION PROJECT (04-0W210) – EVALUATION OF SECTION 4(f) RESOURCE AND PRELIMINARY *DE MINIMIS* IMPACT DETERMINATION**

1. INTRODUCTION

This technical memorandum has been prepared in tandem with the Draft Initial Study –Negative Declaration for the Corte Madera Creek Bridge Rehabilitation Project (Project) to provide the documentation to support determinations required to comply with the provisions of 23 United States Code (U.S.C.) 138 and 49 U.S.C. 303, hereafter referred to as Section 4(f).

This technical memorandum has been prepared in accordance with the legislation established under the United States Department of Transportation Act of 1966 (23 U.S.C. 138; 49 U.S.C. 303). Additional guidance was obtained from Federal Highway Administration (FHWA) Technical Advisory T6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (FHWA 1987) and the revised FHWA *Section 4(f) Policy Paper* (FHWA 2012).

1.1 SECTION 4(f) OVERVIEW

Section 4(f), codified in federal law in 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f) protected resources include publicly owned parks; recreational areas of national, state or local significance; publicly owned school playgrounds; wildlife or waterfowl refuges; or lands from a historic site of national, state, or local significance.

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

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

If historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

1.2 SECTION 4(f) USE DEFINITIONS

When a proposed project is adjacent to or on a property protected under Section 4(f), the impacts of the proposed project must be evaluated. Section 4(f) defines the impact level by types of "use." These uses occur when any of the conditions discussed in the following sections are met.

Permanent/Direct Use

A permanent use of a Section 4(f) resource occurs when property is permanently incorporated into a transportation facility. Permanent use may occur as a result of partial or full acquisition or a permanent easement that allows permanent access onto the property for maintenance or other transportation related purposes.

Constructive Use

A constructive use of a Section 4(f) resource occurs when a transportation project does not permanently incorporate land from the resource, but the project's proximity results in impacts so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished.

Temporary Occupancy

A temporary use of a Section 4(f) resource results when Section 4(f) property is required for project construction-related activities, the property is not permanently incorporated into a transportation facility, and the activity is not

considered adverse by the agency with jurisdiction in terms of the preservation purpose of Section 4(f).

Temporary impacts to a Section 4(f) property may trigger the application of Section 4(f). 23 Code of Federal Regulations (CFR) 774.13(d) defines the following five temporary occupation exception criteria that must be met to determine that a temporary occupancy does not rise to the level of permanent/direct or constructive use for the purposes of Section 4(f):

- The duration is temporary (that is, the occupancy is shorter than the time needed for construction of the project and there is no change in ownership of the property).
- The scope of work is minor (that is, the nature and magnitude of the changes to the Section 4(f) properties are minimal).
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities, features, or attributes of the resource, on either a temporary or permanent basis.
- The property is restored to the same or better condition than existed prior to the project.
- There is documented agreement from the appropriate federal, state, or local officials having jurisdiction over the property regarding the previously listed conditions.

***De minimis* Impact Determinations**

When impacts to a Section 4(f) property are minor, as agreed to by the agency with jurisdiction over that property, Section 4(f) regulations can be satisfied through a *de minimis* determination. A *de minimis* finding can be made for a temporary occupancy of a 4(f) property, when the project does not meet all five temporary occupancy exception criteria.

De minimis impact is defined in 23 CFR 774.17 as follows:

- For parks, recreational areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f).
- For historical sites, *de minimis* impact means that Caltrans has determined that, in accordance with 36 CFR 800, no historical property is affected by the project or the project would have no adverse effect on the property

in question. The SHPO and Advisory Council on Historic Preservation, if involved, must be notified that Caltrans intends to enter a *de minimis* finding for properties where the project results in a finding of no adverse effect.

- The officials with jurisdiction must concur in writing with a *de minimis* determination. For recreational or refuge properties, concurrence from the officials having jurisdiction over the properties is required. For historical sites, concurrence from the SHPO is required.

2. PROJECT DESCRIPTION

The Project proposes to rehabilitate the existing on-ramps from Sir Francis Drake Boulevard onto the southbound lane of U.S. Highway 101 (U.S. 101) at Corte Madera Creek Bridge (Bridge) in Larkspur, Marin County, California (Figure 1; all figures at end of report). The Project would improve the Bridge deck and on-ramps, replace joint seal at Abutment D-16, install a galvanic anode jacket system onto rectangular Bridge columns in the Corte Madera Creek tidal zone (D-7 through D-15), and drill a minimum of two vent holes in the Span 7 soffit. Construction activities, including all staging and access, would be conducted within the Caltrans right-of-way.

2.1 PURPOSE AND NEED

The purpose of the Project is to extend the Bridge's service life by rehabilitating the Bridge deck with polyester concrete overlay and protecting the rectangular Bridge columns in the tidal zone of Corte Madera Creek.

The Project is needed because the Caltrans *Bridge Inspection Report* identified the Bridge deck to be in poor condition and noted the need for corrosion protection on the rectangular columns in the tidal zone, which, if not addressed, would affect the structural integrity of the Bridge.

2.2 EXISTING FACILITIES

Within Marin County, the U.S. 101 North Corridor is a north-south, mostly an eight-lane highway, including two High Occupancy Vehicle (HOV) lanes. As a multimodal corridor, U.S. 101 serves local and regional movement of people and goods in a variety of transportation modes.

The existing on-ramp from the eastbound lane of Sir Francis Drake Boulevard to U.S. 101 South (D line) is approximately 12 feet wide and has an approximately 2-foot-wide shoulder. A separated 8-foot-wide pedestrian and bicycle lane on the west side of the D line on-ramp is part of the San Francisco Bay Trail (Bay

Trail), carrying cyclists over Corte Madera Creek to connect with trail segments off the highway. The existing on-ramp from the westbound lane of Sir Francis Drake Boulevard to U.S. 101 South (D1 line) is also approximately 12 feet wide with an approximately 2-foot-wide shoulder. The D line and D1 line on-ramps are each a single lane, becoming two 12-foot-wide lanes with 2-foot-wide shoulders upon their merge. The two lanes are then reduced to one lane before entering the mainstem U.S 101 highway. Figure 2 shows the existing D line and D1 line and trails within the Project area.

2.3 REHABILITATE BRIDGE DECK

The Project would patch the Bridge deck spalls, prepare the concrete Bridge surface (i.e., cold mill the Bridge deck, grind the pavement, and remove the traffic striping), and treat the concrete Bridge surface with methacrylate. The Project would then overlay the Bridge deck with an approximately 1-inch-thick layer of polyester concrete. Replacement striping would be thermoplastic and replacement pavement markers would be retroreflective. Figure 3 shows the planned limits of the deck treatment.

The Project would drill a minimum of two vent holes in the Span 7 soffit to drain excess water that has seeped into the closed box girder cells. These vents are not bridge deck drains; they would allow built-up moisture a path out of the closed box girder cells where bridge inspections noted evidence of moisture seeping out of the soffit.

The Project would also remove, clean, and replace the joint seal at Abutment D-16, the southernmost bridge abutment.

Construction activities on the Bridge deck would not affect the separated pedestrian/bike lane located along the western side of the D line on-ramp and Corte Madera Bridge. Bridge deck work would occur at night to minimize traffic disruptions for travelers using the Sir Francis Drake onramps to southbound U.S. 101.

2.4 REHABILITATE BRIDGE COLUMNS

The Project would repair and control corrosion on rectangular bridge columns by installing a galvanic anode jacket system around the rectangular columns from D-7 to D-15 (Figure 3). The galvanic anode jackets are a marine pier repair system intended to control corrosion and consist of galvanic (zinc) anode units that encase the bridge columns, providing cathodic protection in the tidal zone without the need for an external power source. The jackets would be approximately 11 feet tall, 2 to 6 inches thick (1/8-inch minimum form with 2- to

6-inch annular space) and extend at least 2 feet below the mean low water line.

Bridge columns at D-7 may be accessed from the landside, while D-8 through D-15 would be accessed from a barge in the creek. A safe work zone would be established around the two rectangular columns at D-7, along the northern bank of Corte Madera Creek. The safe work zone would temporarily infringe upon a short segment of an existing pedestrian/bike trail, the Corte Madera Pathway, for up to two weeks for the installation of the galvanic jackets. Corte Madera Pathway would also be used for equipment access to the rectangular columns located at D-7. Equipment using the trail would include trucks, small excavators, and skytrack telehandlers (also known as telescopic forklifts) to move material and install the jacket system. Short, temporary trail closures (less than 20 minutes in duration) for the movement of equipment and materials between the staging area under U.S. 101 and the D-7 work area (Figure 3) would be periodically required over a two-week period. Pedestrian and bike traffic would be managed by a construction flagger. The contractor would provide a safe and accessible route and traffic control in accordance with Caltrans "*Temporary Pedestrian Access Routes Handbook*" (Caltrans 2020). Advanced notification of potential trail closures, including onsite signage, would be provided to warn trail users of potential delays due to short-duration closures. Work at D-7 may occur at night to minimize disruption to trail users.

3. DESCRIPTION OF SECTION 4(F) RESOURCES

3.1 CORTE MADERA PATHWAY/ SAN FRANCISCO BAY TRAIL

The Corte Madera Pathway is a flat, wide, 3.5-mile multiuse pathway that follows the north side of Corte Madera Creek between Ross on the west and Larkspur on the east (Marin County Parks 2021). It is a recreational trail that is popular with hikers, joggers, people pushing strollers, cyclists, and dog walkers. It is also used by commuters who walk or cycle to the Larkspur Landing Ferry Terminal for commuter ferry service south to downtown San Francisco, and to the Sonoma-Marin Area Rapid Transit (SMART) Larkspur Station for light rail service north to Sonoma County. Within the Project limits, the pathway is a Class I paved multiuse path, approximately 10 feet wide, paralleling the north shore of Corte Madera Creek.

Within the Project limits, Corte Madera Pathway is identified as a segment of the San Francisco Bay Trail (Bay Trail) known as the Greenbrae interchange. The Greenbrae interchange is a 0.77-mile segment that is currently connected to the Bay Trail through a combination of existing other trails and on-street bike

lanes, with future plans to provide additional connections to the Bay Trail. The Bay Trail, currently more than 350 miles in length, connects communities, parks, open spaces, schools, and transit that circle the San Francisco and San Pablo bays. The shoreline Bay Trail provides space for recreation, nature and bird watching, access to the waterfront, and active transportation to work, school, and other destinations.

The segment of the Corte Madera Pathway in the Project limits is located on sovereign lands, owned by the California State Lands Commission. The California State Lands Commission granted a highway easement to Caltrans in 1954 for right-of-way and protection of a state highway, which encompasses this segment of the Corte Madera Pathway. In 1966, Caltrans signed a freeway maintenance agreement with the City of Larkspur entitled "Freeway Maintenance Agreement with the City of Larkspur, 04-MRN-8.2/9.0." Under the maintenance agreement, the City of Larkspur maintains this segment of the Corte Madera Pathway. Based on the easement to Caltrans and freeway maintenance agreement with the City of Larkspur, the City of Larkspur is the agency with jurisdiction over this segment of the Corte Madera Pathway.

3.2 OTHER PARK AND RECREATION RESOURCES

As part of this Section 4(f) evaluation, Section 4(f) properties within a 0.5-mile radius around the Project footprint were identified, and the potential for the Project or directly or indirectly affect those resources was considered. Recreation and park resources within 0.5-mile of the Project include:

- Niven Park
- Greenbrae School Park
- Central Marin Ferry Connection Multiuse Pathway
- San Francisco Bay Trail

Niven Park, which is approximately 0.2 mile west of the Project site (Figure 2), includes benches, picnic tables, and playground equipment within the Corte Madera Creek greenbelt managed by the City of Larkspur. Project activities would not directly or indirectly affect this resource.

Greenbrae School Park is located just east of the corner of South Eliseo Drive and Parkside Way, 0.2 mile north of the Project. Managed by the City of Larkspur, Greenbrae School Park includes a "tot lot" play structure, basketball court, and benches. Project activities would not directly or indirectly affect this resource.

The Central Marin Ferry Connection (CMFC) Multiuse Pathway, constructed in 2014, includes the Corte Madera Creek crossing adjacent to northbound U.S. 101 (postmile [PM] 14.3 to PM 14.7). The Transportation Authority of Marin (TAM), working with City of Larkspur, Caltrans, and BCDC, constructed the CMFC to connect the new SMART Larkspur Station to the Larkspur Landing Ferry Terminal and the Corte Madera Pathway, and provide a crossing over Corte Madera Creek to Old Redwood Highway (Figure 2) (TAM 2010). These trail segments are also part of the San Francisco Bay Trail. Project activities would not directly affect these trail segments; short intermittent trail closures on the Corte Madera Pathway could affect users of the CMFC pathway making connections west.

The San Francisco Bay Trail connects communities, parks, open spaces, schools, and transit that circle the San Francisco and San Pablo bays. The Bay Trail provides space for recreation, nature and bird watching, access to the waterfront, and active transportation to work, school, and other destinations. The ultimate goal of the Bay Trail is to build a beautiful shoreline path for everyone to enjoy. When complete, a total of 500 miles of the trail will run through all 9 Bay Area counties, 47 cities, and across 7 toll bridges (Metropolitan Transportation Commission 2024). Near the Project, the Bay Trail includes portions of the Corte Madera Pathway, the CMFC pathway, and a separated 8-foot-wide pedestrian and bicycle lane on the west side of the D line on-ramp, which carries cyclists over Corte Madera Creek to connect with trail segments off the highway (Figure 2). Project impacts on the Bay Trail are discussed with the Corte Madera Pathway in Section 4, Impacts on Section 4(f) Park/Recreation Resources.

3.3 HISTORIC PROPERTIES

Caltrans prepared a Section 106 screening memo in November 2023 for the proposed Project (Caltrans 2023). The Section 106 Screening Memo determined that there are no known cultural resources present within or adjacent to the Project footprint and that the proposed Project has no potential to affect known historic properties. Since no historic properties or sites were identified within or adjacent to the Project footprint, the proposed Project would not result in impacts to historic properties under Section 4(f).

4. IMPACTS ON SECTION 4(F) PARK/RECREATION RESOURCES

4.1 CORTE MADERA PATHWAY/BAY TRAIL

Impact: The Project would require temporary use of approximately 570 feet of the Corte Madera Pathway, located within the Caltrans right-of-way under U.S. 101 and its southbound on-ramps from Sir Francis Drake Boulevard.

The proposed Project would require a temporary construction zone around the work area at the D-7 bridge columns, which would infringe on a portion of the Corte Madera Pathway for an estimated two-week construction duration at D-7. Short, intermittent trail closures also would be required for the movement of equipment and materials from a staging area under U.S. 101 to the bridge columns at D-7 (Figure 3). These intermittent closures would be infrequent (occurring only a few times a day) and short in duration (lasting less than 20 minutes). Advance signage would be placed to warn trail users of potential temporary closures and construction flaggers would be present to manage trail traffic and notify users during closures. Work at D-7 may occur at night to minimize disruption to trail users. Construction equipment use of the trail is not anticipated to cause damage. Nevertheless, the trail condition would be documented before and after construction activities in compliance with Caltrans standard practices, and any damage to the trail attributable to the construction work would be repaired by the contractor. The construction activities would not substantially impede recreational use of Corte Madera Pathway.

There would be no permanent adverse physical impacts to the Corte Madera Pathway and no change to the features, attributes, and activities associated with the trail following the completion of construction.

Proposed construction activities associated with the Project would temporarily affect the noise, air quality, and visual environment by altering views and increasing noise and dust at the Corte Madera Pathway. These impacts would be temporary, would cease upon completion of construction, and would not affect the permanent operation of this Section 4(f) resource. Construction-related noise, air quality, and visual impacts would not substantially impede recreational use of the Corte Madera Pathway due to the proximity and traffic disturbance that exists along U.S. 101 and Sir Francis Drake Boulevard. Construction best management practices (BMPs) would minimize noise and dust during construction.

Caltrans evaluated closing the Corte Madera Pathway and identifying a trail detour for the construction duration. However, no reasonable trail detour alternative was identified without adding considerable distance to the travel length.

Preliminary Use Determination: *De minimis*. Corte Madera Pathway is a significant Section 4(f) resource because it is publicly owned, used for recreation, and open to the public. No part of the Corte Madera Pathway would be permanently incorporated into a transportation facility. However, temporary trail closure would be required. The Project meets all criteria for Temporary Occupancy, with the exception of temporarily interfering with the protected activities of the Section 4(f) resource. As discussed in the Impact Section, a temporary safe work zone would be required around the D-7 work area, and intermittent trail closures would be required for equipment and materials movement. However, access along the trail would be maintained throughout construction, and trail use managed with signage and construction flaggers. Temporary impacts on Corte Madera Pathway would be limited to the D-7 construction phase of approximately two weeks. Although the Project would result in a temporary use of the pathway under Section 4(f), the Project would not substantially affect the use of this resource during and after Project construction. Project features identified in Section 5 would be implemented to minimize potential impacts on the existing uses of Corte Madera Pathway. The conclusion of this evaluation is a preliminary determination of *de minimis* impact for the proposed Project because the impacts are temporary, of short duration, and minor.

4.3 CONCLUSION

In conclusion, implementation of the proposed Project includes temporary occupancy and short, intermittent closure of a short segment of a public trail protected under Section 4(f), which constitutes a use of the property. This use of Section 4(f) property would not result in permanent impacts to recreational attributes of this Section 4(f) resource. Temporary impacts on this Section 4(f) resource would be minimized through implementation of the Project Features and measures described in Section 5.

The final Section 4(f) determination will be made following the public comment period. Due to the minimal area affected, the temporary nature of the proposed construction activities, and inclusion of Project Features, the Project is anticipated to qualify for *de minimis* use of the Corte Madera Pathway.

5. MEASURES TO MINIMIZE HARM TO SECTION 4(F) RESOURCES

The proposed Project has been designed to incorporate Project Features, which were included in the Draft Initial Study with proposed Negative Declaration, to minimize potential impacts to the Section 4(f) recreational resource discussed in this document.

The following Project Features (PFs) have been incorporated into the proposed Project (Table 5-1).

Table 5-1. Project Features that Minimize Harm to Section 4(f) Resources

Resource Area	Reference	Project Feature
Recreation	PF-REC-1	**Provide Pedestrian Trail Access and Notification During Construction.** The Contractor shall accommodate pedestrians, including persons with disabilities, through and around work zones consistent with Caltrans Standard Specifications Sections 7-1.04 "Public Safety", 12 "Temporary Traffic Control", and 12-4.04 "Temporary Pedestrian Access Routes." Traffic control on the trail would be managed with flaggers and/or temporary traffic control signals. Advanced signage notification of trail closures must be provided.
Recreation	PF-REC-2	**PF-REC-2: Restore Trail to Pre-Project Conditions.** To offset potential damage to the trail from use of heavy equipment, Caltrans will evaluate and document (with photographs) the condition of the existing Corte Madera Pathway before beginning work on the D-7 columns. Post-construction conditions will be evaluated and documented with photographs. The Contractor will repair trail damage attributable to heavy equipment use before contract acceptance, consistent with Caltrans Standard Specifications Sections 5-1.39.
Aesthetics	PF-AES-1	**Minimize Impacts to Vegetation.** Minimize impacts to vegetation to the greatest extent possible while allowing the project to be implemented. Revegetate disturbed soil areas and disturbed portions of the riparian corridor with native and climatically appropriate species.
Aesthetics	PF-AES-2	**Construction Staging.** Staging areas should not be located where they require the removal of

		non-weedy vegetation. Preferably staging areas should be placed on a paved area.
Aesthetics	PF-AES-6	**Erosion Control Measures.** Apply erosion control seeding and similar measures to all areas of a disturbance where they are beyond paved areas.
Air Quality	PF-AQ-1	**Control Measures for Construction Emissions of Fugitive Dust.** Dust control measures would be implemented to minimize airborne dust and soil particles generated from construction. For disturbed soil areas, the use of tackifier to control dust emissions would be included in the construction contract. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.
Air Quality	PF-AQ-2	**Construction Vehicles and Equipment.** Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.
Air Quality	PF-AQ-3	**Limit Idling.** Limit idling times either by shutting construction-related equipment off when not in use or reducing the maximum idling time to 5 minutes.
Biological Resources	PF-BIO-8	**Construction Site Management Practices.** The following site restrictions will be implemented to avoid or minimize potential impacts on sensitive biological resources: a. Enforcing a speed limit of 15 miles per hour for project vehicles in unpaved portions of the site to reduce dust and excessive soil disturbance. b. Locating construction access, staging, storage, and parking areas within the Caltrans right of way and outside of any designated ESA to the extent practicable. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork will be clearly marked before initiating construction. c. Certifying, to the maximum extent practicable, that borrow material is nontoxic and weed free.

		d. Enclosing food and food-related trash items in sealed trash containers and removing them from the site at the end of each day. e. Prohibiting pets from entering the Project area during construction. f. Prohibiting firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.
Biological Resources	PF-BIO-11	**Restoration of Disturbed Areas.** Temporarily disturbed areas will be restored as appropriate with final design to occur. Exposed slopes and bare ground will be reseeded with native grasses to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.
Noise	PF-Noise-1	**Specifications for Controlling Noise and Vibration.** Noise from construction activities will not exceed 86 A-weighted decibel Lmax[1] at 50 feet from the Project site from 9:00 p.m. to 6:00 a.m., per 2023 Caltrans Standard Specifications, Section 14-8.02.
Noise	PF-Noise-2	**Noise Levels During Construction.** The following measures will be implemented during construction to reduce noise: • Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. • Locate all stationary, noise-generating, construction equipment, such as air compressors, portable power generators, or self-powered lighting systems, as far as practical from noise-sensitive receptors. • Use quiet air compressors and other quiet equipment where such technology exists. • As practicable, have construction equipment conform to Section 14-8.02, Noise Control, of the latest Caltrans Specifications
Transportation	PF-TRANS-1	**Traffic Management Plan**. To minimize potential effects from construction activities to motorists, bicyclists, or pedestrians using area streets and

[1] Lmax noise descriptor is the highest instantaneous noise level during a specified period; in the noise analysis, that is 1 hour.

		trails, a TMP will be developed by Caltrans and implemented throughout construction. The TMP will include public information, motorist information, incident management, construction, and alternate routes. The TMP will also include elements such as haul routes, traffic control, and phasing, to reduce impacts to motorists and residents as much as feasible and to maintain access to businesses in the local area. The TMP will also provide access for police and emergency service providers. Ramp closures will be planned in coordination with Caltrans, City of Larkspur, and Marin County; planning will include notices to emergency service providers and the public in advance.
Utilities	PF-UTI-1	**Trash Management.** All food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in closed containers and removed by the contractor at least once daily from the Project limits. A trash reduction system would also be developed by the contractor, approved by Caltrans, and implemented per Caltrans Statewide National Pollution Discharge Elimination System Permit and San Francisco RWQCB Cease and Desist Order.

6. COORDINATION

Caltrans will continue to coordinate with the agency of jurisdiction, the City of Larkspur Public Works Department, regarding the preliminary *de minimis* findings made in this document, as well as all advanced Project designs with respect to the affected Corte Madera Pathway segment of the Bay Trail. Prior to finalizing the *de minimis* impact finding made in this document, Caltrans will prepare a public notice and provide the public an opportunity to review and comment on the preliminary *de minimis* impact finding during a 30-day public review period.

Possible methods of public involvement include, but are not limited to, newspaper advertisements, notices posted on bulletin boards, and project websites.

The Draft Initial Study with Proposed Mitigated Negative Declaration will be circulated to the public for 30 days beginning on February 23, 2024, and ending

on March 28, 2024. In addition, the Draft environmental document will be electronically accessible on the Caltrans website: https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

7. LIST OF TECHNICAL STUDIES AND REFERENCES

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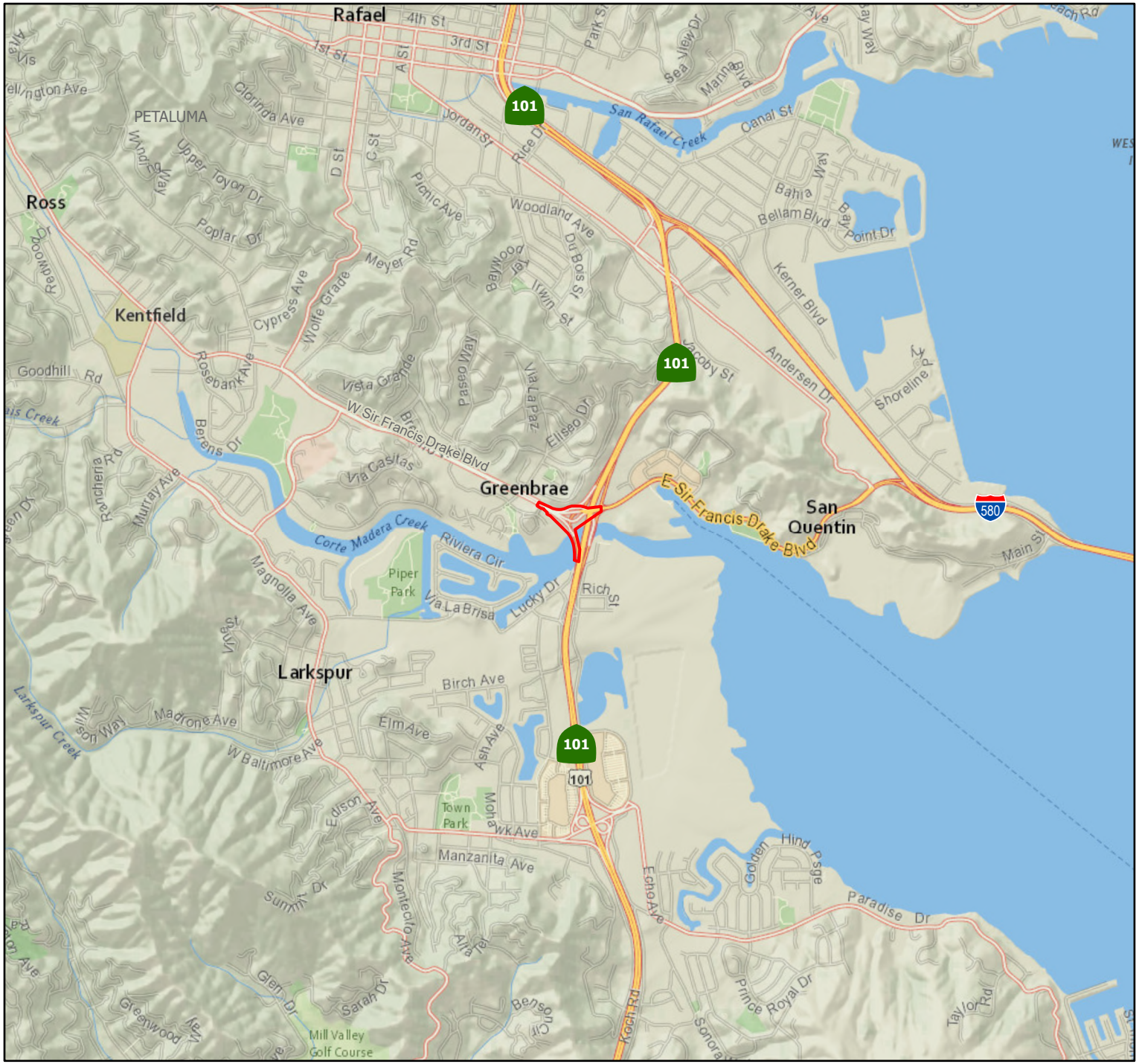
Figures



Legend

- County Boundary
- Project Area

N

0 0.5 1

Miles

FIGURE 1
Project Location

U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210/0420000192
Marin County, California

Caltrans

Path: Y:\AWE\23-025-003 Corte Madera\ArcPro\Figure 1-1 Vicinity\23-025-003 Corte Madera Project Vicinity\23-025-003 Corte Madera Project Vicinity.aprx

LEGEND

- Project Area
- Corte Madera Pathway
- Central Marin Ferry Connection Multiuse Pathway
- San Francisco Bay Trail
- Post Mile (PM)

N

0 400 800 Feet

FIGURE 2
Existing Conditions

U.S. 101 Corte Madera Creek Bridge Rehabilitation Project
04-0W210/0420000192
Marin County, California

Caltrans

Document Path: Y:\AWE\23-025-003 Corte Madera\ArcPro\Figure 1-2 Existing Conditions\23-025-003 Corte Madera Existing Conditions\23-025-003 Corte Madera Existing Conditions.aprx

Date: 2-7-24

LEGEND

- Project Area
- Polyester Concrete Overlay
- Galvanic Jacket
- Potential Staging Area
- Potential On-Land Access

0 200 400 feet

FIGURE 3
Project Elements

U.S. 101 Corte Madera Creek
Bridge Rehabilitation Project
04-0W210/0420000192
Marin County, California

Caltrans

Document Path: Y:\AWE\23-025-003 Corte Madera\ArcPro\Figure 2-1 Project Elements\23-025-003 Corte Madera Project Elements\23-025-003 Corte Madera Project Elements.aprx

Date: 2-7-24

Appendix E List of Acronyms

Acronym	Definition
AES	aesthetics
AMM	avoidance and minimization measure
APE	area of potential effects
AQ	air quality
AS	Assembly Bill
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
BIO	biology
BLRA	California black rail
BMP	best management practice
BSA	biological study area
CAFE	Corporate Average Fuel Economy
Caltrans	California Department of Transportation
CAPTI	California Action Plan for Transportation Infrastructure
CARB	California Air Resources Board
CCC coho	Central California Coast coho salmon
CCC steelhead	Central California Coast steelhead
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	*Code of Federal Regulations*
CH_4	methane
CMFC	Central Marin Ferry Connection
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society

Acronym	Definition
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CTP	California Transportation Plan
CULT	cultural
CVCH	Central Valley winter-run chinook salmon
CV steelhead	Central Valley steelhead
DSA	disturbed soil area
DP	Director's Policy
DPS	distinct population segment
EFH	essential fish habitat
ESA	environmentally sensitive area
EIR	environmental impact report
EO	Executive Order
ESU	evolutionary significant unit
FGC	(California) Fish and Game Code
FHWA	Federal Highway Administration
GHG	greenhouse gas
GS	North American green sturgeon
GWP	global warming potential
H&SC	Health and Safety Code
HFCs	Hydrofluorocarbons
HPZ	heliport protection zone
LFS	Longfin smelt
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MHHW	mean higher high water
MLD	Most Likely Descendant
MMPA	Marine Mammal Protection Act

Acronym	Definition
MMT	million metric tons
MPO	Metropolitan Planning Organization
MTC	Metropolitan Transportation Commission
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NOAA	National Oceanic and Atmospheric Administration
NMFS	NOAA's National Marine Fisheries Service (also known as NOAA Fisheries)
OPR	Office of Planning and Research
PA	programmatic agreement
PM	post mile
$PM_{2.5}$	particulate matter 2.5 microns
PM_{10}	particulate matter 10 microns
PQS	professionally qualified staff
PRSB	Point Reyes salty bird's beak
RIRA	Ridgway's Rail
ROW	right of way
RTPA	Regional Transportation Planning Agency
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SF_6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SHOPP	State Highway Operation and Protection Program
SMART	Sonoma-Marin Area Regional Transit
SMHM	salt marsh harvest mouse

Acronym	Definition
SPSS	San Pablo song sparrow
SR	State Route
SRCH	Sacramento River winter-run chinook salmon
TAM	Transportation Authority of Marin
TCE	temporary construction easement
TMP	Traffic Management Plan
TRANS	transportation and traffic
TTY	text telephone
TWG	tidewater goby
U.S. 101	United States Highway 101
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VIA	visual impact assessment
VMT	vehicle miles travelled
WEF	wildlife exclusion fencing
WOTUS	waters of the United States
WPCP	water pollution control plan
WQ	water quality

Appendix F List of Technical Studies and References

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