Marin City Second Culvert Project

Initial Study with Proposed Mitigated Negative Declaration

MARIN COUNTY, CALIFORNIA
DISTRICT 4 – MRN – 101 (PM 3.3–3.7)
04-2Y050 / 0423000061

Prepared by the
State of California, Department of Transportation

June 2025

Caltrans

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Mitigated Negative Declaration (IS/MND) for the proposed Marin City Second Culvert Project (Project). Caltrans proposes to construct a new culvert across U.S. Highway 101 (US 101) between Post Mile (PM) 3.3 and PM 3.7 in Marin County, California, to reduce flooding at the US 101/Donahue Street interchange. The Project will also replace damaged storm drain pipes on Donahue Street. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the Project is being proposed; what alternatives we have considered for the Project; how the existing environment could be affected by the Project; the potential environmental impacts of the alternatives; and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
    - View or download the document at www.caltransd4environmental.com.
    - A copy of this document and the related technical studies can be requested and made available for review at the Caltrans District 4 office at 111 Grand Avenue, Oakland, CA 94612.
- Attend the public meeting. An in-person meeting with a virtual attendance option will be held on Wednesday, June 18, 2025, from 6:00 p.m. to 7:30 p.m.; doors will open at 5:30 p.m. for the in-person open house, and a presentation will begin at 6:00 p.m.
    - In-Person Meeting:
      Marin City Senior Center
      640 Drake Avenue
      Sausalito, CA 94965
    - Virtual Meeting: Go to www.caltransd4environmental.com for information on how to join virtually.
- We want to hear what you think. If you have any comments about the proposed Project, please attend the public meeting and/or send your written comments via postal mail or email to Caltrans.
    - Send comments via postal mail to:

      Caltrans District 4, Office of Environmental Analysis
      Attn: Christopher Pincetich, Senior Environmental Scientist
      P.O. Box 23660, MS-8B
      Oakland, CA 94623-0660

- Or, electronically via email to:

  Marin_City_Second_Culvert_Project@dot.ca.gov

- Be sure to send all comments by the deadline: **Monday, July 7, 2025**

What happens next:

In accordance with CEQA Section 15073, Caltrans will circulate the IS/MND for review for 30 days, from Wednesday, June 4, 2025, to Monday, July 7, 2025. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this IS/MND to Caltrans. Caltrans will consider the comments and respond after the 30-day public review period.

After comments have been received from the public and reviewing agencies, Caltrans may:

1. Grant environmental approval to the Project
2. Conduct additional environmental studies. Or,
3. 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, this IS/MND can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to the Caltrans District 4 mailing address, email the department, or call the California Relay Service at 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

An Americans with Disabilities Act compliant electronic copy of this IS/MND is available to download at www.caltransd4environmental.com.

04-MRN-101 (PM 3.3/3.7)
EA No. 04-2Y050
Project No. 0423000061

Install culvert across U.S. Highway 101 between Post Miles 3.3 and 3.7 to reduce flooding and replace damaged storm drain pipes on Donahue Street in Marin County

Initial Study with Proposed Mitigated Negative Declaration

Submitted pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies:

California Department of Fish and Wildlife, California Transportation Commission, Regional Water Quality Control Board, National Marine Fisheries Service, San Francisco Bay Conservation and Development Commission, United States Army Corps of Engineers, and United States Fish and Wildlife Service

Larry E. Bonner
Office Chief, Office of Environmental Analysis
California Department of Transportation, District 4
CEQA Lead Agency

5/28/2025
Date of Approval

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

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Mitigated Negative Declaration (IS/MND) for the proposed Marin City Second Culvert Project (Project). The Project would construct a new drainage system, including a 6-foot-by-4-foot box culvert, to convey stormwater flows from west of U.S. Highway 101 (US 101) to Richardson Bay in Marin City. The Project would also replace damaged storm drain pipes in the US 101/Donahue Street interchange area and repair uneven pavement on US 101 within the Project area. The Project area is along US 101 from Post Mile (PM) 3.3 to 3.7 and on Donahue Street adjacent to the US 101 southbound on- and off-ramps.

Determination

This Proposed Mitigated Negative Declaration is included to notify the general public, responsible agencies, and trustee agencies that Caltrans intends to adopt a Mitigated Negative Declaration for this Project. This Mitigated Negative Declaration is subject to change based on comments received by the general public, responsible agencies, and trustee agencies.

The Project would have no impacts on agriculture and forest resources, mineral resources, and population and housing.

The Project would have less-than-significant impacts on aesthetics, air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, recreation, transportation and traffic, Tribal Cultural Resources, utilities and service systems, and wildfire.

With the implementation of mitigation measure MM-BIO-1, the Project would have less-than-significant impacts on biological resources, specifically wetlands and other waters.

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

Date

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Acronyms and Abbreviations

Abbreviation	Definition
AB	Assembly Bill
ADL	aerial lead
AMM	avoidance and/or minimization measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
BSA	Biological Study Area
BCDC	San Francisco Bay Conservation and Development
CAL FIRE	California Department of Forestry and Fire Protection
CAL-CET 2021	Caltrans Construction Emissions Tool 2021
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCRD	Caltrans' Cultural Resource Database
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CH_4	Methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	Marin County
CPS	coastal pelagic species
COZEEP	Construction Zone Enhanced Enforcement Program
CRPR	California Rare Plant Ranks
dBA	A-weighted decibel
DSA	disturbed soil area
DTSC	Department of Toxic Substances Control

Abbreviation	Definition
EFH	Essential Fish Habitat
ESA	environmentally sensitive area
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FIGR	Federated Indians of the Graton Rancheria
Flood District	Marin County Flood Control and Water Conservation District
GHG	greenhouse gas
Guidiville	Guidiville Rancheria of California
IS/MND	Initial Study/Proposed Mitigated Negative Declaration
L_{eq}	average hourly noise level
LF	linear feet
Lmax	maximum hourly noise level
LRA	local responsibility area
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MM	mitigation measure
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
NAHC	Native American Heritage Commission
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NO_2	Nitrous oxide
OPC	California Ocean Protection Council
PF	Project feature
PA&ED	Project Approval and Environmental Document
PM	post mile
$PM_{2.5}$	particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers

Abbreviation	Definition
PM_{10}	particulate matter with aerodynamic diameter equal to or less than 10 micrometers
PQS	Professionally Qualified Staff
Project	Marin City Second Culvert Project
PSI	Preliminary Site Investigation
RCB	Reinforced Concrete Box
ROW	right-of-way
RWQCB	San Francisco Bay Regional Water Quality Control Board
SB	Senate Bill
SHOPP	State Highway Operation and Protection Program
SRA	state responsibility area
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TMP	Traffic Management Plan
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground storage tank
VOC	Volatile organic compound
Wuksachi	Wuksachi Indian Tribe/Eshom Valley Band
XPI	Extended Phase I

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to make culvert improvements on U.S. Highway 101 (US 101) in the community of Marin City and unincorporated Marin County (County), California. The Marin City Second Culvert Project (Project) would construct a new drainage system to convey stormwater flows from west of US 101 to Richardson Bay in Marin City. The Project would also replace damaged storm drain pipes in the US 101/Donahue Street interchange area and repair uneven pavement on US 101 within the Project area. The Project area is along US 101 from Post Mile (PM) 3.3 to 3.7 and on Donahue Street adjacent to the US 101 southbound on- and off-ramps (see Figures 1-1 and 1-2).

Caltrans owns and operates US 101. Caltrans is the lead agency under the California Environmental Quality Act (CEQA) and is the Project sponsor.

1.1.1 Project Location

The Project area includes US 101, the Marin Gateway Shopping Center detention basin (hereafter called the Marin City Pond), the US 101/Donahue Street interchange, the Phillips Drive drainage system north of the Marin City Pond, the Mill Valley–Sausalito Pathway (a bike and pedestrian trail), Richardson Bay, and associated drainage infrastructure. Adjoining features within the Project area or potentially affected by the Project also include the Marin Gateway Shopping Center; the Gate 6 ½ Road floating homes community; and area roadways, sidewalks, and other infrastructure.

Marin City is an unincorporated community and census designated place in Marin County west of Richardson Bay, between Sausalito and Mill Valley. The postal addresses of properties in Marin City identify the city name as Sausalito. The community was originally constructed to house workers employed at shipyards in Sausalito during World War II. Today, Marin City is one of the highest density low-income areas in Marin County and is home to the county's only family-based public housing, Golden Gate Village (San Francisco Estuary Partnership 2023; Golden Gate Village Resident Council 2025).

Marin City was built on former wetlands in a bowl-shaped area between the Golden Gate National Recreation area to the west and US 101 to the east. Stormwater runoff from the nearby hills, developed areas, and US 101 can overwhelm Marin City's aging drainage system and lead to flooding, particularly when storms and high tides coincide.

The Project location and setting are described in more detail below.

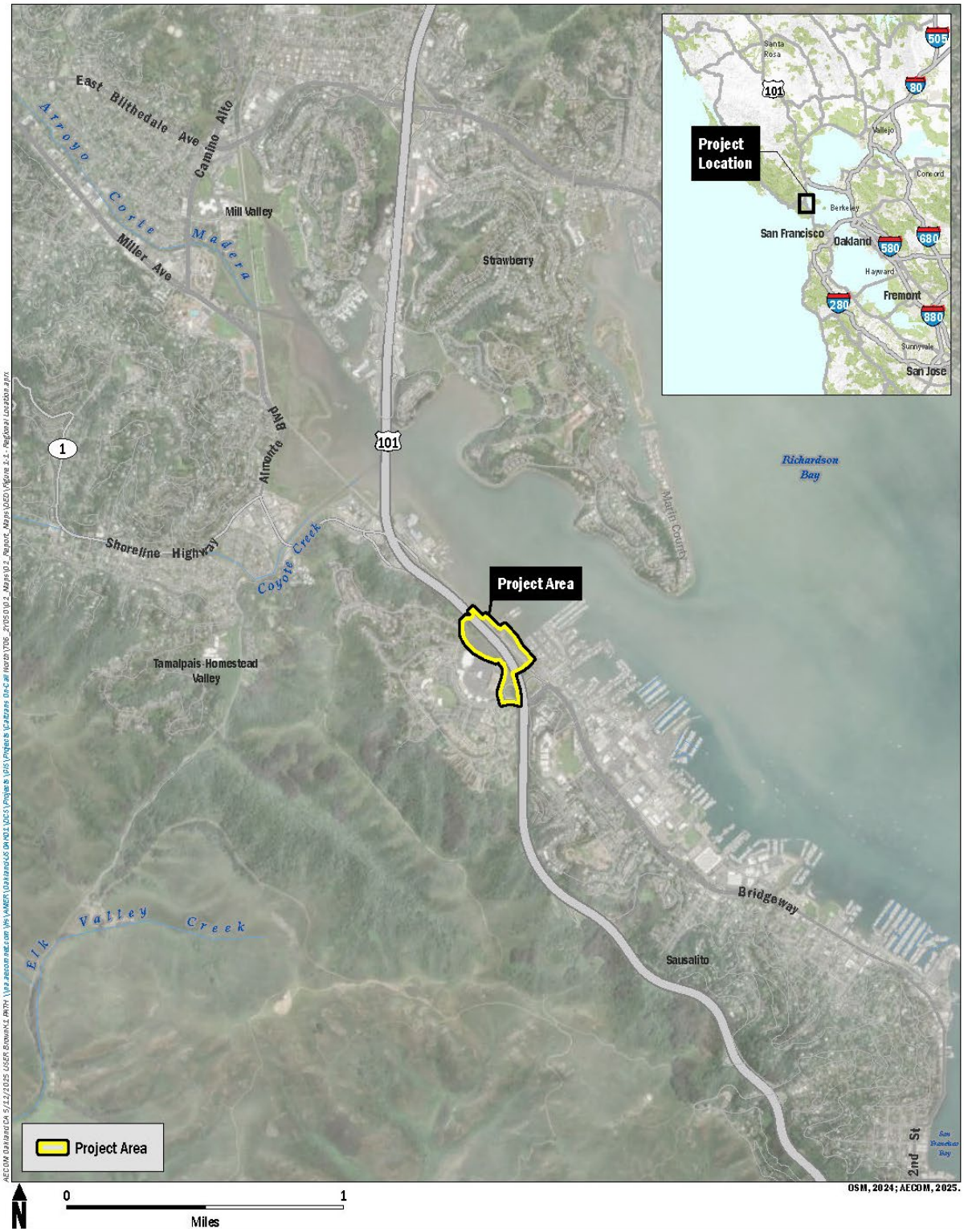

Figure 1-1. Regional Location

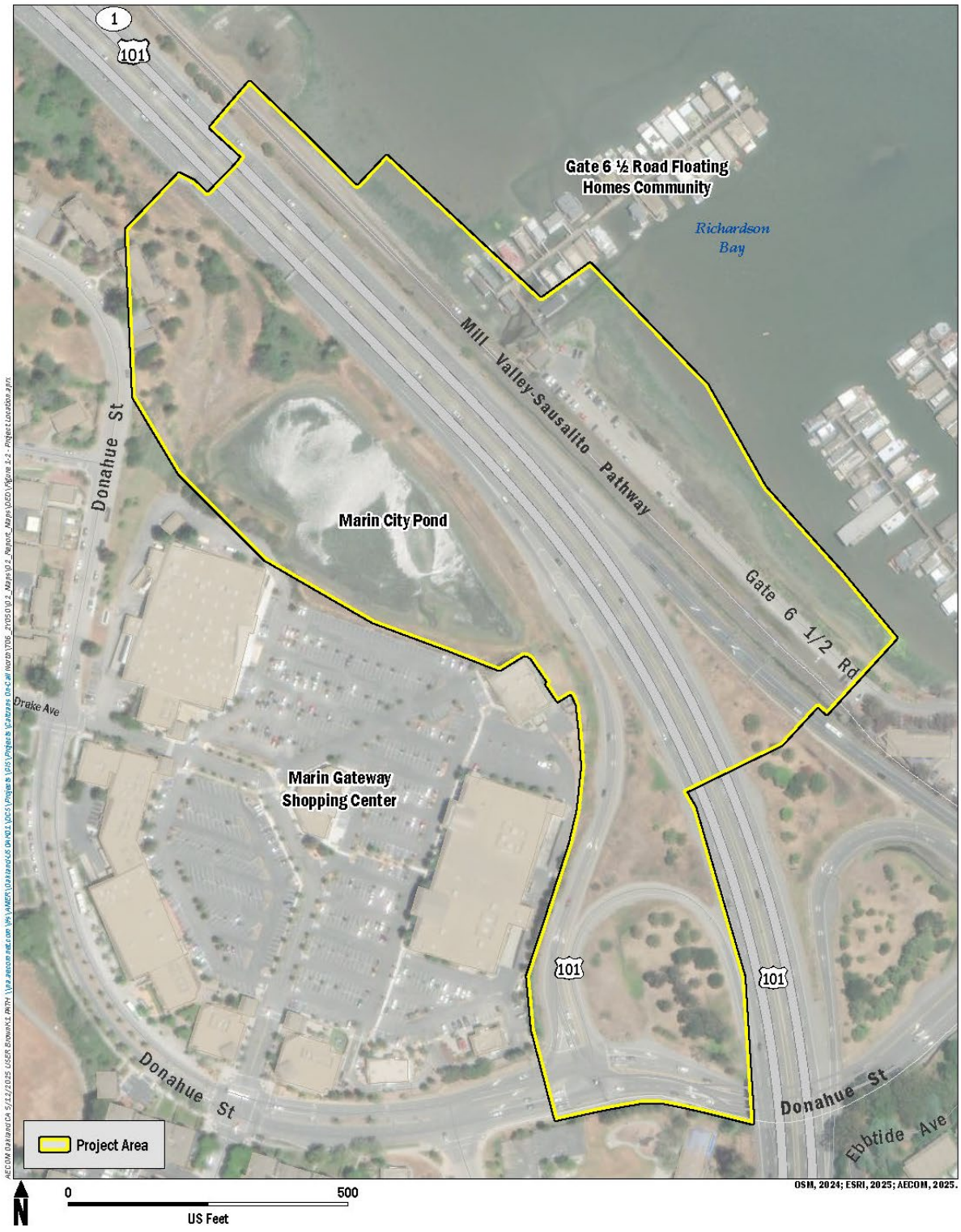

Figure 1-2. Project Location

US 101 in the Project area is a north-south freeway that connects the City and County of San Francisco with Marin County. In the Project limits, US 101 has five lanes in each direction – four through lanes and one auxiliary lane. The US 101 northbound off-ramp (Exit 445B, Stinson Beach) provides access to Mill Valley and northbound State Route (SR) 1. US 101 is a major corridor for access to SR 1, Stinson Beach, Muir Woods, and other local attractions. The US 101 southbound off-ramp (Exit 445A, Marin City/Sausalito) is the single US 101 exit that provides direct access to Marin City. The US 101 southbound off-ramp also provides vehicle access to northern Sausalito via Donahue Street.

The US 101 southbound off-ramp to Marin City and Sausalito parallels the Marin Gateway Shopping Center for approximately 0.15 mile approaching the Donahue Street exit. The US 101/Donahue Street interchange provides access to Marin City to the west and northern Sausalito to the east. The US 101/Donahue Street is the single road providing vehicular access to and from Marin City. The sidewalk on the south (eastbound) side of Donahue Street is the sole pedestrian pathway between Marin City and Sausalito. Donahue Street also provides access to US 101 south from Marin City, with the US 101 on-ramp surrounding an undeveloped area largely containing landscaped/non-native forest and small isolated area of brackish wetlands.

The Marin City Pond is between US 101 and the Marin Gateway Shopping Center in Marin City. The 3-acre pond is the main drainage feature for stormwater in Marin City. The pond contains a narrow band of muted tidal marsh around its perimeter and discharges to Richardson Bay via a reinforced concrete box (RCB) culvert (box culvert) that crosses under US 101 at PM 3.60 (herein referred to as the existing box culvert). The Marin City Pond was originally a tidal marsh connected to Richardson Bay. A temporary floodwall system extends along the east side of the pond between the southern side of the existing box culvert and the southern end of the pond. Other local drainages convey stormwater to the pond or its discharge system, including the Phillips Drive and Donahue Street drainage systems, as described below. The Marin City Pond is on Marin Gateway Shopping Center property but predates the shopping center, which was constructed starting in 1996. The Marin Gateway Shopping Center, west of the pond, is owned by Gerrity Group LLC and contains 26 tenants including a Target anchor store.

Richardson Bay is an arm of San Francisco Bay that is enclosed on three sides by Sausalito, Mill Valley, Tiburon, Belvedere, Marin City, and other unincorporated communities or census designated places. In the Project area, the Richardson Bay shoreline is bordered by the Mill Valley–Sausalito Pathway and a developed parking area serving the Gate 6 ½ Road floating homes community and neighboring businesses. The Gate 6 ½ Road floating homes community includes approximately 36 floating

homes in Richardson Bay close to the existing box culvert outfall. The shoreline adjoining the Mill Valley–Sausalito Pathway largely contains mudflats with rock riprap reinforcement, with an area of tidal marsh and landscaped/non-native forest near the existing box culvert outfall.

The Mill Valley–Sausalito Pathway, which forms a segment of the San Francisco Bay Trail, runs east of and parallel to US 101 in the Project area. The 12-foot-wide pathway provides pedestrian and bicycle access from Mill Valley to Sausalito, facilitates commuter access to the Sausalito ferry, and ranks as the most extensively utilized multi-use pathway in Marin County (Caltrans 2024a).

Drainage facilities in the Project area include the following:

- A 6-foot by 4-foot box culvert that crosses under US 101 at PM 3.60 and connects the Marin City Pond with Richardson Bay (the existing box culvert). The existing box culvert connection with the Marin City Pond is operated by a manual slide headgate on the pond side. To prevent tidal flooding into the pond, the manual-slide tide gate is closed when storm events are anticipated to coincide with high tides.

- A 60-inch reinforced concrete pipe (RCP) culvert (pipe culvert) that conveys stormwater from the hillside area north of the Marin City Pond to the existing box culvert, herein referred to as the Phillips Drive drainage system.

- 18-inch and 12-inch diameter storm drain pipes that convey stormwater from the Donahue Street interchange to a drainage ditch along the southbound off-ramp to Donahue Street before discharging to the Marin City Pond. Sections of these pipes are damaged with perforations in the culvert walls. While this existing damage does not affect their capacity storm drain pipes or contribute to flooding, if left unaddressed, over time the damage could lead to pipe collapse and result in roadway damage in the Donahue Street area.

- A temporary pump station along Donahue Street next to the Marin Gateway Shopping Center, which the Marin County Flood Control and Water Conservation District (Flood District) installed in 2024 as an interim measure to alleviate flooding along Donahue Street and the southbound US 101 ramps. The pump conveys flood waters through an aboveground 24-inch-diameter pipe to the existing box culvert at the Marin City Pond.

Since October 2014, flooding has resulted in the closure of all southbound traffic on US 101 and blocked the only vehicular entrance and exit into and out of Marin City a recorded three times (San Francisco Estuary Partnership 2023), with numerous smaller

flood events also affecting local access. When high storm flows coincide with high tides in Richardson Bay, water from the Marin City Pond can back up and overtop its banks, leading to flooding on Donahue Street, the southbound off-ramp to Donahue Street, and one or more lanes of southbound US 101. Drainage demands from the Marin City Pond and surrounding stormwater inflow, including the Phillips Drive drainage system, exceed the capacity of the existing box culvert under US 101 and contribute to flooding in the Project area.

1.1.2 Local and Regional Flood Control Efforts

In 2018, the Flood District and Marin City developed a Drainage Study to identify and evaluate flood reduction measures for Marin City (Flood District 2018). The study assessed multiple options to address flooding near US 101 and in the lowland areas of Marin City, including a second culvert crossing of US 101.

Additionally, planning efforts such as the Flood District's in-progress Marin City Stormwater Plan provide a roadmap for identifying priority projects to address flooding in Marin City, which are distinct from the proposed Project. The Flood District's plan is intended to address existing flooding and identify potential solutions to enhance flood resilience in Marin City while accounting for community priorities. The plan includes technical recommendations that have been developed as part of previous drainage and stormwater studies as well as community input. The plan is anticipated to be completed in spring 2025 (Flood District 2025a).

The following near-term and long-term flood control efforts are in the planning stages and would independently contribute to overall improvements in flooding and future sea level rise in Marin City and its vicinity. The proposed Project and each of the projects described in Sections 1.1.2.1 and 1.1.2.2 below have independent utility; each project would address different infrastructure deficiencies that contribute to flooding in the Project vicinity. The cumulative impacts of the Project in combination with the other projects are described in Section 2.2.21, Mandatory Findings of Significance.

1.1.2.1 Near-Term Flood Control Efforts

Community task force meetings for the Marin City Stormwater Plan have provided information about the proposed Project and the projects described below, which are all in the Project vicinity and have the potential to overlap with the Project area, the construction phase of the Project, or both.

A set of improvements from the 2018 Drainage Study are proceeding as the Marin City Pond Pump Station Flood Reduction Project. The Marin City Pond Pump Station Flood Reduction Project would construct a new permanent 50 cubic feet per second (cfs) pump station near the northeastern side of the Marin City Pond to pump stormwater from the pond into Richardson Bay via a new storm drain force main connection to the

existing box culvert. The pump would operate under high tide conditions when the current gravity system is unable to drain floodwaters from the pond to the Richardson Bay. The pump station design would allow for additional pumps to be added in the future when needed to accommodate rising sea levels. The Marin City Pond Pump Station Flood Reduction Project would also construct a floodwall adjacent to the pond along the southbound US 101 off-ramp to Donahue Street to prevent overtopping, and address damaged areas of the existing box culvert by using polyurethane foam to fill voids behind the culvert and seal the cracks and separations (Flood District 2025b). The project is in detailed design, and construction is anticipated to begin in 2028 or 2029.

Two other efforts have been proposed and would proceed based on the availability of funding:

- Richardson Bay Audubon and Shore-Up Marin City are developing a wetlands restoration and public enhancement project for the Marin City Pond under a separate grant scope and budget from the Flood District's project.

- The United States Army Corps of Engineers (USACE), in coordination with the Marin City Community Services District, has initiated a study of civil works projects to reduce flooding in Marin City as well as prepare a flood emergency action plan. The USACE is working with the Marin City Stormwater Plan community task force to inform projects to recommend for federal funding.

Due to the size and cost of infrastructure projects, funding must be obtained from multiple sources to allow improvements to be constructed. The efforts described above are proceeding as separate projects in order to leverage available funding and provide incremental relief from flood-related disruption.

1.1.2.2 LONG-TERM REGIONAL FLOOD CONTROL EFFORTS

Caltrans has also initiated a study of potential options to address recurring flooding and long-term sea level rise along US 101 and SR 1 between the US 101/SR 1 interchange and the US 101/Donahue Street interchange, and at Caltrans' Manzanita Park-and-Ride lot. The project, known as the Manzanita Sea Level Rise Project, would identify options to address flooding-related access disruptions to the US 101/Donahue Street interchange; the Manzanita Park-and-Ride lot, which serves commuters from Golden Gate Transit; Sausalito and Mill Valley Taxi, Marin Airporter, and other travelers on the US 101 corridor; and the Mill Valley–Sausalito Pathway (Caltrans 2024a).

The Project Initiation Document for the Manzanita Sea Level Rise Project was approved in June 2024. The next phase of the project (the Project Approval and Environmental Document [PA&ED] phase) would evaluate a range of options to reconstruct or potentially relocate Caltrans facilities and the Mill Valley–Sausalito Pathway in the

project area. Funding for the PA&ED phase of the Manzanita Sea Level Rise Project has yet to be identified.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the Project is to reduce flooding and address damaged storm drain pipes in the vicinity of the US 101/Donahue Street interchange.

1.2.2 Need

The proposed Project is needed because drainage demands from the Marin City Pond and surrounding stormwater inflow, including from the Phillips Drive drainage system, exceed the capacity of the existing box culvert under US 101 to discharge stormwater from Marin City to Richardson Bay. Continued flooding related to excess demands on the existing box culvert, exacerbated by longer periods of inundation as sea levels rise and storm intensity, duration, and frequency increase, will result in additional damage to the drainage systems and US 101. Although the separate Marin City Pond Pump Station Flood Reduction Project (Section 1.1.2) includes measures to reduce flooding from the pond, additional drainage capacity is needed to convey water from the Marin City drainage network to Richardson Bay.

The US 101/Donahue Street interchange is the single roadway access route for Marin City. In the event of flooding or roadway damage, travel and emergency access can be delayed or disrupted. If no drainage capacity is added to reduce demand on the Marin City Pond and convey stormwater to Richardson Bay, drainage limitations in the pond will continue to contribute to flooding in the US 101/Donahue Street interchange area. Additionally, the storm drain pipes in the vicinity of the Donahue Street intersection with the US 101 southbound ramps are damaged, and over time the damage could lead to pipe collapse and result in roadway damage in the Donahue Street area. Flooding and roadway damage would result in traffic disruptions, safety hazards, damage to infrastructure, and economic consequences to the local community.

1.3 Project Description

This section describes the proposed Project and the alternatives that have been developed to meet the purpose and need while avoiding or minimizing adverse

environmental impacts. The alternatives are the Build Alternative and the No Build Alternative.

1.3.1 Build Alternative – Proposed Project

The Build Alternative would include the following components:

- **New Marin City second culvert and drainage connections.** A new culvert that would connect directly to Richardson Bay would be constructed under US 101, approximately 308 feet north of the existing box culvert. The connection of the existing Phillips Drive drainage system would be shifted from the existing box culvert to the new culvert to reduce inflow to the Marin City Pond.

- **Damaged storm drain replacements.** The damaged storm drain pipes in the area of Donahue Street at the southbound US 101 off-ramp and on-ramp would be replaced in kind.

- **US 101 pavement repair.** The pavement of all lanes of US 101 from PM 3.50 to PM 3.60 would be repaired to address differential settlement and roadway unevenness.

These components are described in more detail below and shown on Figures 1-3A and 1-3B. Construction of these components would require staging, temporary roadway lane closures or detours, utility relocations, and other incidental activities described in Section 1.4 (Project Construction).

1.3.1.1 New Marin City Second Culvert and Drainage Connections

With implementation of the Build Alternative, stormwater currently conveyed from the Phillips Drive drainage system to the existing box culvert would be redirected to a new culvert (see Figure 1-3A). Removing the direct connection between the Philips Drive drainage system and existing box culvert would reduce backflow to the Marin City Pond and reduce the occurrence of flooding. The new Marin City second culvert would have three sections, as described below from west to east:

- A new pipe culvert between the Phillips Drive drainage system and the western end of a new box culvert under US 101
- A new box culvert which would be constructed under US 101 at PM 3.65, and
- A new pipe culvert between the eastern end of the box culvert and Richardson Bay.

The 60-inch Phillips Drive pipe culvert that currently connects to the existing 6-foot by 4-foot box culvert would be rerouted to connect with the new box culvert. The connection to the new box culvert would require the construction of approximately 100 linear feet of new 60-inch pipe between the existing Phillips Drive pipe culvert and the western

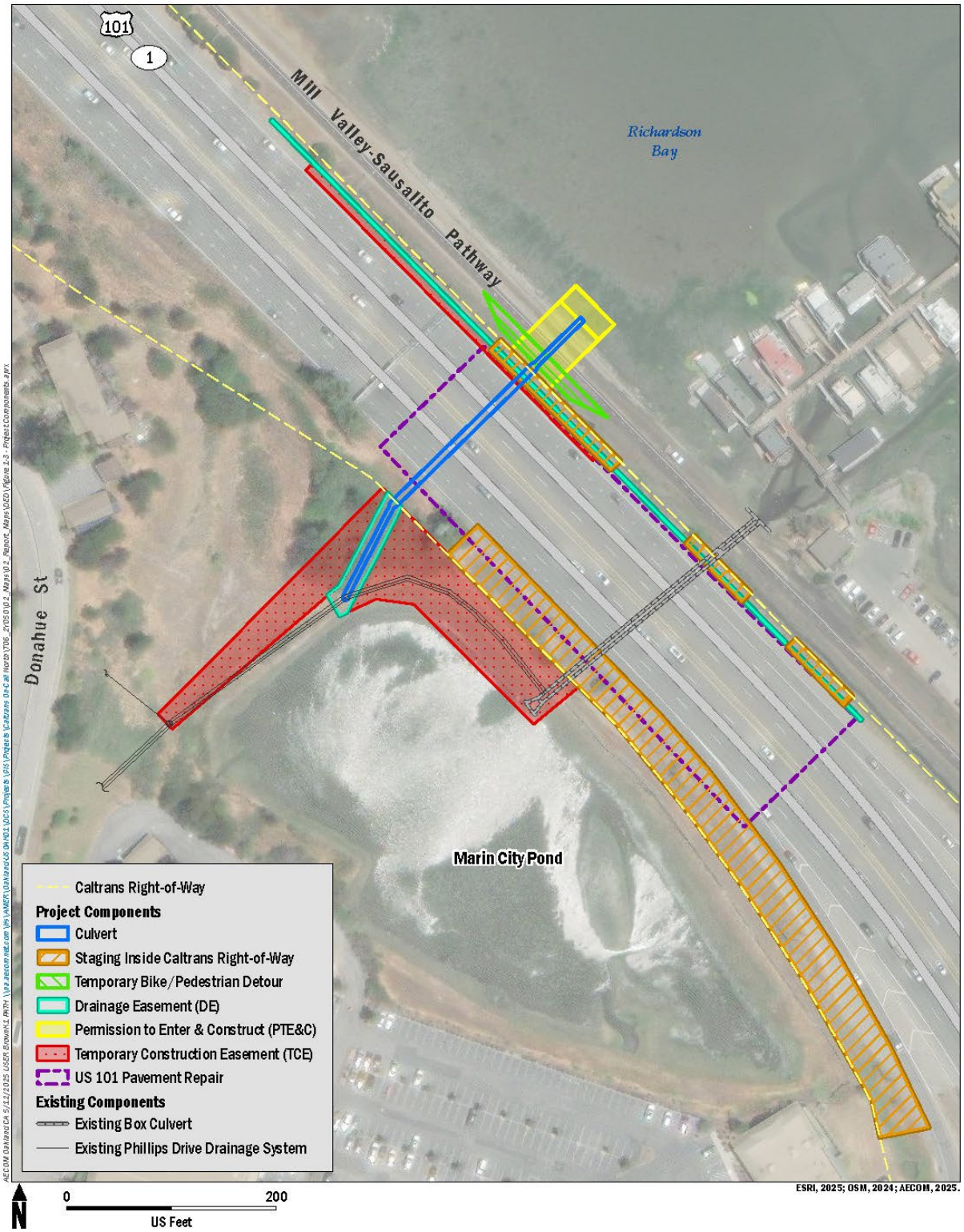

Figure 1-3A. Project Components (Map 1 of 2)

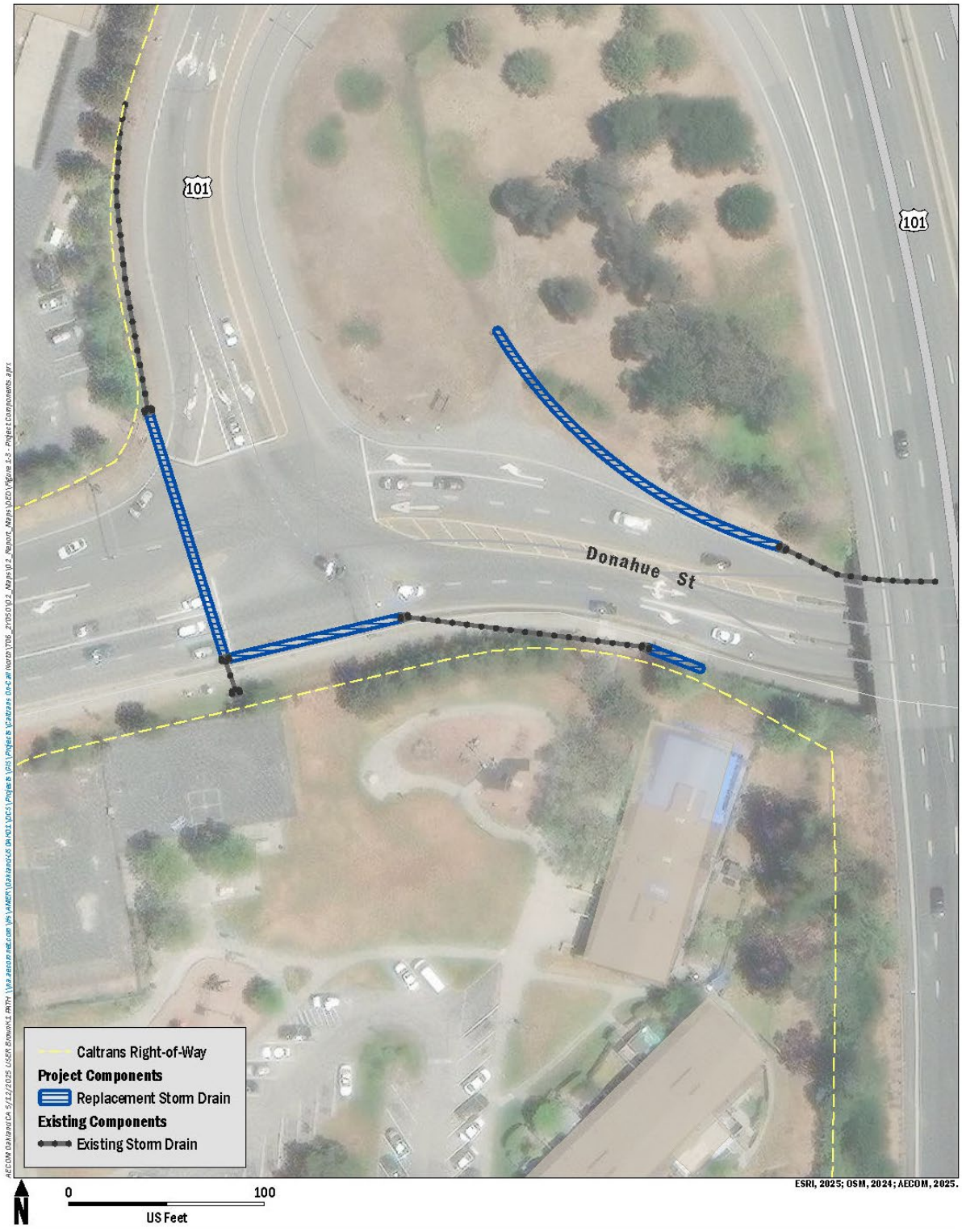

Figure 1-3B. Project Components (Map 2 of 2)

terminus of the new box culvert, just north of the Marin City Pond. Approximately 18 linear feet of the existing Phillips Drive pipe culvert downstream of the proposed new box culvert connection would be removed, and approximately 225 feet of the existing Phillips Drive pipe culvert to the existing box culvert would be abandoned.

Similar to the existing box culvert at PM 3.60, the new box culvert would be approximately 6 feet wide by 4 feet high, approximately 195 feet long, and made of reinforced concrete in a rectangular (box) shape. As the Project area is underlain by soft Bay Mud, piles would be installed to support the new box culvert and prevent uneven foundation settlement beneath .

The new box culvert would discharge to Richardson Bay via a new 60-inch pipe culvert that would cross underneath the Mill Valley–Sausalito Pathway. A new endpoint of the pipe culvert (outfall), where the water would be discharged into Richardson Bay, would be constructed. A new headwall would be placed at the culvert outfall. The outfall to Richardson Bay would include a duckbill check valve, which is a system to prevent water in Richardson Bay from backflowing into the culvert when the heights of tides exceed the outfall elevation.

1.3.1.2 DAMAGED STORM DRAIN REPLACEMENTS

The Build Alternative would also replace four damaged storm drain pipes within the drainage system at the US 101/Donahue Street interchange. Three sections of 18-inch-diameter pipe totaling approximately 250 feet, and one section of 12-inch-diameter pipe of approximately 190 feet would be removed and replaced in-kind at the same line and grade (Figure 1-3B). The length of culvert planned for replacement is located under the developed roadway and shoulder, under the sidewalk on the south side of Donahue Street, and within the interior of the US 101 on-ramp cloverleaf area.

1.3.1.3 US 101 PAVEMENT REPAIR

The Project will address differential settlement across all lanes of US 101 from PM 3.50 to PM 3.60 by cold planing and overlaying the pavement to ensure a uniform surface pavement and improve the ride quality (Figure 1-3A).

1.4 Project Construction

This section describes the construction methods, access, staging, traffic handling, and dewatering for the Build Alternative.

1.4.1 New Marin City Second Culvert and Drainage Connections

All three sections of the new Marin City second culvert would be constructed using the cut-and-cover method, as described further below from west to east. In general, the cut-

and-cover method involves excavating a trench, installing the new culvert in the trench, and backfilling the excavated area.

The Phillips Drive storm drain connection would be constructed by installing approximately 100 feet of new 60-inch pipe culvert and removing 18 feet of existing 60-inch pipe culvert. Construction crews would excavate a trench in the upland area on the north side of the Marin City Pond to accommodate the new pipe alignment, install approximately 100 feet of new 60-inch pipe along the length of the trench, and backfill the excavated area. Approximately three manholes would be constructed along the new Phillips Drive storm drain connection to complete and maintain the drainage connections. The cut-and-cover method would also be used to remove the 18 feet of existing 60-inch pipe culvert; however, no new pipe would be placed in the trench.

The new box culvert under US 101 is anticipated to be constructed in segments, as discussed further in Section 1.4.5.2. For each segment, construction crews would excavate a trench across the segment width of US 101, install driven piles to support the new box culvert, place the new culvert on the support piles, backfill the excavation, and reconstruct the roadway pavement. Culvert support piles would be driven into the foundation layer beneath Bay Mud using impact or vibratory hammers to an estimated depth of 50 to 80 feet. Trenchless installation (jack and bore) was considered but found infeasible because of the underlying Bay Mud and need for piles to support the new culvert.

Construction of the new 60-inch pipe culvert connecting to the box culvert and discharging to Richardson Bay would require excavating a trench along its footprint, including across the Mill Valley–Sausalito Pathway, placing the new pipe culvert, backfilling the excavation, and returning the pathway to its original state. Support piles are not anticipated to be needed for the pipe culvert.

A temporary cofferdam may be needed to isolate the construction area for the pipe culvert outfall from Richardson Bay waters. The cofferdam would be installed at low tide and constructed of sheet piles driven into the substrate using vibratory methods. Following construction site isolation and any potential dewatering, the existing riprap on the Richardson Bay embankment would be removed as needed to accommodate construction. Excavation would occur to establish appropriate grades for the culvert outfall's headwall. The headwall would be constructed of cast-in-place concrete. The culvert outfall to Richardson Bay would be fitted with a duckbill check valve. Disturbed areas of the shoreline surrounding the new outfall, consisting of mudflats and riprap, would be restored to pre-project conditions.

Construction of the new box culvert and the pipe culvert on the east side of US 101 would necessitate lane and shoulder closures on US 101 and a temporary detour of the

Mill Valley–Sausalito Pathway. Roadway work may also include the removal of the median barrier, shoulder widening, and overhead sign removal. These and other incidental construction activities are detailed in Section 1.4.5, Construction Staging.

1.4.2 Damaged Storm Drain Replacements

Three sections of 18-inch-diameter pipe totaling approximately 250 feet and one section of 12-inch-diameter pipe of approximately 190 feet would be removed and replaced in-kind at the same grade and alignment. Ground impacts would be limited to an approximately 36-inch-wide trench excavated along the center line of the culvert. Trenching would be conducted using a small excavator. The roadway, shoulder, sidewalk, and disturbed surfaces would be returned to their original states, and the temporarily disturbed landscaping would be restored to pre-Project conditions. Project construction is not expected to result in impacts to driveways or property access along Donahue Street.

1.4.3 US 101 Pavement Repair

The proposed Project would address differential settlement issues across all lanes of US 101 from PM 3.50to PM 3.6 (Figure 1-3A) by cold planing and overlaying the pavement to ensure a uniform surface pavement and improve the ride quality. Cold planing is a roadway repair method that involves using specialized equipment to remove the surface layer of asphalt pavement to restore it to a uniform texture and grade. It is performed using a heavy-duty machine with a rotating drum equipped with carbide cutters that grind and remove the top layer of asphalt, thereby creating a smooth even surface. Pavement overlay after cold planning would entail laying out and compacting a new concrete asphalt overlay on the resurfaced roadway.

1.4.4 Dewatering During Construction

Dewatering may be required during construction activities that encounter high groundwater. This includes construction activities that entail trenching, such as for the new box and pipe culverts and damaged storm drain replacements. Dewatering is the process of removing groundwater or surface water from a construction site, typically by pumping. Pumped groundwater would be stored in tanks, tested for applicable treatment requirements prior to permitted discharge, and discharged in accordance with state and federal regulations.

1.4.5 Construction Staging

Project construction would take place during both the daytime and nighttime. Lane and shoulder closures are anticipated as detailed below; however, access through the Project area would remain open during construction. Construction staging and times and durations of construction-related lane closures will be further refined during the detailed design phase.

1.4.5.1 PHILLIPS DRIVE DRAINAGE SYSTEM CONNECTION

Temporary construction staging for the Phillips Drive storm drain connection would occupy a single lane of Donahue Street near the intersection with Park Circle. One-way traffic control would be provided. No roadway closures would be required during construction.

1.4.5.2 NEW BOX CULVERT

Construction of the new box culvert beneath US 101 is expected to require a combination of nighttime lane closures and 55-hour weekend partial closures.

Nighttime lane closures would be used for various preparation work such as removal of portions of the median concrete barrier, utility relocation, and pavement saw cutting ahead of pile and culvert installation. Nighttime lane closures would also be used for activities after culvert installation such as reconstruction of the median concrete barrier, grind and pave work, and pavement delineation.

The major work components such as pile installation, trenching, temporary shoring, and culvert installation would be done using up to five 55-hour weekend partial closures. A 55-hour weekend partial closure would involve closing one or more lanes of US 101 from Friday night (typically after 8 p.m.) until approximately 5 a.m. on the following Monday. During the weekend partial closures, a minimum of two lanes in each direction of US 101 would be kept open to traffic at all times. The conceptual plan for weekend partial closures would be as follows:

- Weekend 1: 55-hour weekend partial closure of both northbound and southbound US 101 would occur to install piles for the new box culvert's foundation and perform shoulder work on the southbound side.

- Weekend 2: 55-hour weekend partial closure of both northbound and southbound US 101 would occur to install the remaining piles for the new box culvert's foundation and perform shoulder work on the northbound side.

- Weekend 3: 55-hour weekend partial closure of both northbound and southbound US 101 would occur to install part of the culvert.

- Weekend 4: 55-hour weekend partial closure of northbound and southbound US 101 would occur to install the remaining part of the culvert.

- Weekend 5: Potential 55-hour weekend partial closure of northbound and southbound US 101 would occur if needed to complete culvert work.

Construction staging for the pipe culvert and Richardson Bay culvert outfall east of US 101 would also take place during the Weekend 2 and/or Weekend 4 partial closures, as described in the next section.

Although at least two lanes in each direction of US 101 would remain open during the weekend partial closures, motorists traveling on US 101 through the Project area could experience substantial delays. Preliminary Caltrans estimates indicate that motorist individual delays could reach 270 minutes on both the Saturdays and Sundays of the weekend partial closures (from 7 p.m. to 8 p.m.). During the partial closures, weekend traffic delays are not expected to occur before noon but would increase throughout the afternoon to a maximum delay from approximately 5 p.m. to 8 p.m. Emergency access will be maintained at all times.

Staging options will be further refined during the detailed design and preconstruction phases to minimize delays to the traveling public. A Transportation Management Plan (TMP) will be developed to notify the public and emergency service providers of potential lane closures, delays, and alternative transportation options. As part of the TMP, Caltrans will conduct public outreach to notify the traveling public of the construction activities and anticipated travel time delays through the Project area. Public outreach conducted for TMPs has been demonstrated to reduce normal traffic volumes when travelers choose different travel modes or routes or choose to avoid or minimize travel. With an estimated traffic volume reduction of 20 percent, the maximum delay during the weekend partial closures would be reduced from 270 minutes to approximately 105 minutes (from 6 p.m. to 7 p.m.). With an estimated traffic volume reduction of 30 percent, the maximum delay would be reduced to approximately 39 minutes (from 5 to 6 p.m.).

Additional details about the TMP are provided in Section 1.6.9.

1.4.5.3 PIPE CULVERT AND RICHARDSON BAY CULVERT OUTFALL

Construction of the 60-inch pipe culvert and outfall between the new box culvert and Richardson Bay would begin with installing cofferdam sheet piles during the Weekend 2 55-hour partial closure described in Section 1.4.5.2. Pipe culvert installation would occur during the Weekend 2 and/or Weekend 4 55-hour partial closures. A temporary detour for the Mill Valley–Sausalito Pathway with one-way traffic control would be provided during the Weekend 2 and/or Weekend 4 55-hour partial closures. The detour would entail temporarily widening the western side of the pathway to maintain bicycle and pedestrian access. The temporary detour would be removed following pipe culvert installation.

1.4.5.4 DAMAGED STORM DRAIN REPLACEMENTS

A combination of temporary shoulder and lane closures would be used to replace the damaged storm drains along Donahue Street and the US 101 southbound off-ramp. Closure hours are anticipated to be at night and would be coordinated with the Marin County Department of Public Works. No full closures of Donahue Street or the off-ramp are expected. Some culvert work would be needed along the edge of the sidewalk on the south side of Donahue Street, but passage would be maintained at all times. The cloverleaf area of the US 101 south on-ramp may be used for construction staging.

1.4.5.5 US 101 PAVEMENT REPAIR

Pavement repair on US 101 would take place during the 55-hour weekend partial closures or night closures for the new box culvert described in Section 1.4.5.2.

1.4.6 Construction Schedule

Construction of the Build Alternative is expected to take approximately 115 working days, starting in May 2027 and finishing in October 2028.

1.4.7 Construction Equipment

The type of equipment needed during construction may include, but is not limited to, the following: trucks (varying sizes), excavators (varying sizes), asphalt pavers, backhoe, air compressors, portable generators, and pile driving crane with leads and hammer. Material lifts (such as telehandlers), rubber-tired and/or track loaders (varying sizes), haul trucks (10-cubic-yard dump trucks), compressors, demolition equipment (hoe ram), pumps, baker tanks and associated plumbing, concrete pump, contractor vehicles (such as utility trucks), and flat-bed trucks for material transport may also be required.

1.4.8 Vegetation and Tree Removal

Construction of the Build Alternative is anticipated to result in the removal of approximately 19 trees: 17 blackwood acacia trees and two fruit trees. All of the trees to be removed are ornamental, non-native, and on private property adjacent to the Caltrans right-of-way (ROW).

A chipper may be used for chipping the removed trees, and stumps will be ground out. Tree removal may require disturbance of a 10-foot by 10-foot area around each tree, meaning that additional vegetation would also be impacted. If possible, the trees will be pruned rather than removed. The removal of trees and other plantings outside of the Caltrans ROW will be addressed as part of property owner negotiations during the detailed design phase.

Construction of the Build Alternative is anticipated to affect small areas of wetland vegetation, as discussed further in Section 2.2.4, Biological Resources.

1.4.9 Utility Relocation

Existing utilities in the Project area include Pacific Gas and Electric Company (PG&E) gas and electric lines; American Telephone and Telegraph (AT&T), Comcast, and Verizon telecommunication lines; Marin Municipal Water District water lines; and a Sausalito-Marin City Sanitary District pressurized sewer line. The Project is anticipated to require the temporary relocation of one utility pole that carries overhead PG&E 12 kilovolt electrical and Comcast cable lines along the southbound shoulder of US 101. The utility pole and lines would be moved back to the existing location after work in the shoulder area is completed. Underground water, telephone, fiber optic, and pressurized sewer facilities may also require temporary relocation during construction. All utility relocations would be coordinated with the utility owners during the detailed design phase.

1.4.10 Right-of-Way

The proposed Project would not require the permanent acquisition of private property. Most construction would take place within the Caltrans ROW; however, Project construction and long-term maintenance would require easements and permits from adjacent property owners (see Figure 1-3A). West of US 101, the Project would require both temporary construction easements and drainage easements from the Marin Gateway Shopping Center and the residential community to the north of the Marin City Pond to construct the new culvert and the Phillips Drive storm drain connection. East of US 101, within and along the Mill Valley–Sausalito Pathway, the proposed Project would require permits from Marin County to enter and construct from Marin County for the new culvert on the Richardson Bay side.

1.4.11 Stormwater Treatment

Work in the Caltrans ROW will require use of stormwater Best Management Practices (BMPs) that are designed to prevent debris and pollutants from entering waterways during and after construction. The specific BMPs to be used during construction will be included in the mandatory Stormwater Pollution Prevention Plan (SWPPP), which will be prepared by the construction contractor as required by the California State Water Resources Control Board (SWRCB).

Temporary construction BMPs would meet Caltrans standard stormwater treatment requirements and any additional requirements set forth by regulatory agencies in Project permits or as provided by the San Francisco Bay Regional Water Quality Control Board (RWQCB). Temporary BMPs during construction would include soil stabilization, sediment control, tracking control, non-stormwater management (e.g., dewatering operations), waste management, pollutions control, and job site management. Standard water quality control measures are discussed in Section 1.6.6 (PF-WQ-1 through PF-WQ-2).

The Project would also include permanent BMPs to minimize runoff, maximize infiltration, maximize vegetation (depending on the location), and reduce erosion. Potential permanent treatment BMPs for the Build Alternative include biofiltration strips. The locations and design details of permanent BMPs will be finalized during the detailed design phase.

1.4.12 Safety Lighting

Roadway lighting is present in the Project area along US 101, the northbound and southbound US 101 on-ramps and off-ramps, and Donahue Street. No changes to existing lighting are proposed.

Nighttime construction work will require temporary lighting. Construction lighting would be limited to the area of work, and directional lighting and/or shielding would be used to minimize light trespass to nearby areas, as discussed further in Section 2.2.1, Aesthetics.

1.5 Project Funding

The Project is funded by the State Highway Operation and Protection Program (SHOPP) under the Sustainability/Climate Change category (201.999), augmented by the federal Infrastructure Investment and Jobs Act “Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation” Program and General Funds for the 2026 fiscal year. The SHOPP Program is California’s “fix-it-first” program, which funds the repair and preservation of the State Highway System, safety improvements, and some highway operational improvements. The total Project capital cost including roadway, structures, and ROW capital cost, is estimated to be $12,747,000.

1.6 Project Features

This Project contains a number of standardized measures that are employed on most, if not all, Caltrans projects in accordance with standard specifications, state and federal laws, and anticipated standard environmental permit conditions, and were not developed in response to any specific environmental impact resulting from the proposed Project. Project features (PFs) are separate from avoidance and/or minimization measures (AMMs) or mitigation measures (MMs), which directly relate to the impacts resulting from the proposed Project. AMMs, MMs and other measures are discussed separately in each environmental section. A list of these Project features is included below in the order of environmental resource area.

1.6.1 Air Quality

- **PF-AQ-1, Contractor Air Quality Compliance.** The contractor will adhere to Caltrans Standard Specifications for Construction, Sections 14.9-02 and 7-1.02c,

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

- **PF-AQ-2, Control Measures for Construction Emissions of Fugitive Dust.** Dust control measures will be implemented to minimize airborne dust and soil particles generated from graded areas. For disturbed soil areas, the use of an organic tackifier to control dust emissions will be included in the construction contract. Watering guidelines will be established by the contractor and approved by the Caltrans Resident Engineer. Any material stockpiled during construction shall be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

- **PF-AQ-3, Construction Vehicles and Equipment.** Construction vehicles and equipment shall be maintained and tuned in accordance with manufacturer specifications. In addition, solar-powered traffic control lights will be used if feasible.

- **PF-AQ-4, Minimize Idling.** Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.

1.6.2 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, U.S. Fish and Wildlife Service [USFWS], National Marine Fisheries Service [NMFS], RWQCB, and/or California Department of Fish and Wildlife [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, Worker Environmental Awareness Training.** Prior to ground-disturbing activities, an agency-approved biologist will conduct an education program for all construction personnel. At a minimum, the training will include a description of special-status species with potential to occur, migratory birds and their habitats, how the species might be encountered within the Project area, an explanation of the status of these species and protection under the federal and state regulations, the measures to be implemented to conserve listed species and their habitats as they relate to the work site, boundaries within which construction may occur, and how to best avoid the incidental take of listed species. The field meeting will include topics on species identification, life history, descriptions, and habitat requirements during various life stages. Emphasis will be placed on the importance of the habitat and life stage requirements within the context of Project maps showing areas where AMMs are to be implemented. The program will include an explanation of applicable federal

and state laws protecting endangered species as well as the importance of compliance with Caltrans and various resource agency conditions.

- **PF-BIO-3, Marking of Environmentally Sensitive Areas.** Before starting construction, environmentally sensitive areas (ESAs), defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed, will be clearly delineated using high-visibility fencing. The ESA fencing will remain in place at each location until work at that location is complete and will prevent construction equipment or personnel from entering sensitive habitat areas. The final Project plans will depict the locations where ESA fencing will be installed and how it will be assembled/constructed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. The ESA fencing will be removed following completion of construction activities.

- **PF-BIO-4, Protection and Avoidance of Nesting Birds.** If feasible, vegetation and tree removal will be scheduled to avoid impacts on nesting birds. If Project activities occur between February 1 and September 30, a pre-construction survey will be conducted for nesting birds no more than 3 days before construction. If active nests are found, 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 Section 3503.

- **PF-BIO-5, Active Nest Buffers.** If an active bird nest is found during construction activities, 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 non-raptor migratory birds is observed, a 50-foot ESA buffer will be implemented to protect the young until they have fledged. Buffers may be reduced in consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California Fish and Game Code Section 3503.

- **PF-BIO-6, Stormwater Best Management Practices.** In accordance with RWQCB requirements, a Stormwater Pollution Prevention Plan will be developed, and erosion control best management practices implemented to minimize wind- or water-related erosion. The Caltrans Construction Site Best Management Practices Manual (Caltrans 2024b) provides guidance for the inclusion of provisions in all construction contracts to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. 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 sealable 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, located at least 50 feet from watercourses.

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 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 along toes of slopes or along edges of designated staging areas, erosion control netting (jute or coir), hydraulic mulch, temporary cover, drainage inlet protection, or other appropriate sediment control methods. 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-7, 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 in the Project area in unpaved and paved areas to reduce dust and excessive soil disturbance.

  b. Locating construction access, staging, storage, and parking areas within the Project area outside 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 or grading.

c. Certifying imported 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.

g. Maintaining equipment to prevent the leakage of vehicle fluids such as gasoline, oils, or solvents, and developing a Spill Response Plan. Hazardous materials such as fuels, oils, and solvents will be stored in industry or manufactured approved container in a designated location that is at least 50 feet from aquatic habitats.

- **PF-BIO-8, Invasive Weed Control.** To reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112 – Invasive Species. 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. In the event that 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 it 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.

- **PF-BIO-9, Vegetation Removal.** Upland vegetation that is within the cut and fill line or growing in locations where permanent structures will be placed will be cleared. Wetland vegetation will not be removed from temporary impact areas. High-density polyethylene, plywood marsh mats, or other materials will be placed in wetland areas to temporarily cover marsh surfaces during construction access. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be permanently impacted or excavated. This will allow plants that reproduce vegetatively to resprout after construction. Clearing and grubbing of woody vegetation will occur by hand or using construction equipment such as mowers, backhoes, and excavators. If clearing and grubbing occurs between February 1 and September 30, the biological monitor will survey for nesting birds within the areas to

be disturbed (including a perimeter buffer of 50 feet for passerines/migratory birds and 300 feet for raptors) before clearing activities begin. Cleared vegetation will be removed from the Project area to prevent attracting animals to the Project site.

- **PF-BIO-10, Restoration of Disturbed Areas.** Caltrans will restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where vegetation is removed to construct culverts, no shrub or tree species will be replanted within 50 feet of center of the culvert. These locations will be hydroseeded.

- **PF-BIO-11, Prevention of Inadvertent Entrapment.** To prevent inadvertent entrapment of animals during construction, excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day using plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight will be inspected before they are subsequently moved, capped, or buried.

- **PF-BIO-12, Nighttime Restrictions/ Lighting.** Nightwork will be limited wherever possible. If nightwork must be performed, lighting will be directed towards the roadway to the greatest extent practicable to avoid exposing nocturnal wildlife and their habitats to excessive glare.

- **PF-BIO-13, Work in Dry Weather Only.** Work within wetlands, or in the bed, bank, or channel of a stream or pond and in any associated riparian habitat, will be conducted only during periods of dry weather. Forecasted precipitation will be monitored. When 0.25 inch or more of precipitation is forecasted to occur, work will stop before precipitation commences. No Project activities will be started if their associated erosion control measures cannot be completed prior to the onset of precipitation. After any storm event, all sites currently under construction and all sites scheduled to begin construction within the next 72 hours will be inspected for erosion and sediment problems, and corrective action will be taken as needed; 72-hour weather forecasts from the National Weather Service will be consulted, and work will not resume until runoff ceases, and there is less than a 50 percent forecast for precipitation for the following 24-hour period.

- **PF-BIO-14, Dewatering.** 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.

1.6.3 Cultural Resources

- **PF-CUL-1, Unanticipated Archaeological Discovery.** If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer

- **PF-CUL-2, Unanticipated Human Remains Discovery.** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie the remains, and the county coroner will be contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), which will then notify the Most Likely Descendant (MLD). At that time, the person who discovered the remains will contact the Environmental Senior and PQS, who will work with the MLD to ensure respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 will be followed, as applicable.

1.6.4 Geology and Soils

- **PF-GEO-1, Paleontological Resources.** The Project's construction contract will include the 2024 Caltrans Standard Specification 14-7.03, which provides for stopping work within a 60-foot radius, securing the area, notifying the resident engineer, and performing further investigation if paleontological resources are encountered during project construction.

1.6.5 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, Preliminary Site Investigations.** A preliminary site investigation (PSI) for aerially deposited lead, agricultural chemicals, and potential hazardous materials concerns related to soil and groundwater will be conducted during the Project design phase to investigate soil within Project limits proposed to be excavated, encountered, or disturbed and managed. The findings of the preliminary site investigation will be used to evaluate soil and groundwater handling practices, construction worker health and safety concerns, and soil and groundwater reuse and disposal options. If

hazardous materials are identified during the preliminary site investigation, additional investigation could be required. The results of the site investigation will determine the special provisions to be used in the final design package. The site investigation report will be included as part of the information handout made available as a part of the final design package.

1.6.6 Hydrology and Water Quality

- **PF-WQ-1, Stormwater Pollution Prevention Plan and Job Site Management:** A SWPPP will be prepared by the contractor and approved by Caltrans, pursuant to the 2024 Caltrans Standard Specifications Section 13-3, Stormwater Pollution Prevention Plan, and the Caltrans SWPPP Preparation Manual. In addition to the SWPPP, job site management work specifications pursuant to the 2018 Caltrans Standard Specifications Section 13-4, Job Site Management, will be implemented prior to the beginning of construction.

- **PF-WQ-2, Construction and Implementation of Best Management Practices.** Erosion control BMPs will be included in the final Project plans, and Standard Special Provisions will be included in the final construction package to comply with the conditions of the Caltrans National Pollutant Discharge Elimination System permit. The Caltrans BMP Guidance Handbook (Caltrans 2017) will provide guidance for provisions to be included in the construction contract for measures to protect environmentally sensitive areas and avoid or minimize stormwater and non-stormwater discharges. Construction BMPs for stormwater may include, but are not limited to, the following:

    - Construction tracking control practices
    - Job site management
    - Sediment control (fiber rolls and silt fencing)
    - Waste management and materials pollution control
    - Materials stockpile management
    - Dust and wind erosion controls
    - Non-stormwater management
    - Water quality monitoring
    - Maintaining and tuning construction vehicles and equipment approximately 50 feet away from known water features

- Locating designated fueling areas approximately 50 feet from downslope drainage facilities

1.6.7 Noise

- **PF-NOI-1, Construction Noise.** The Caltrans 2024 Standard Specifications, Section 14-8.02, requires that the Maximum Sound Level not exceed 86 A-weighted decibels at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. The following measures will be implemented to reduce noise levels during construction where feasible:

  - Schedule noisy operations within the same timeframe. The total noise level will not be substantially greater than the level produced if operations are performed separately.

  - Avoid unnecessary idling of internal combustion engines within 100 feet of sensitive receptors.

  - Locate all stationary noise-generating construction equipment as far as practicable from noise-sensitive receptors, or provide baffled housing or sound aprons for equipment when sensitive receptors adjoin or are near a Project construction area.

  - Equip all internal combustion engine-driven equipment with manufacturer-recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment. Maintain all internal combustion engines properly to minimize noise generation.

  - Use “quiet” air compressors and other “quiet” equipment where such technology exists.

  - No construction equipment will be delivered and dropped off before 6:00 a.m.

  - If feasible, use solar or electricity as a power source instead of diesel generators.

1.6.8 Recreation

- **PF-REC-1, Provide Trail Access and Notification During Construction.** The contractor shall accommodate travelers on the Mill Valley–Sausalito Pathway through and around work zones consistent with Caltrans 2024 Standard Specifications Sections 7-1.04, 12-1.03, and 12-4.04. 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.

1.6.9 Transportation

- **PF-TRANS-1, Transportation Management Plan**. A TMP will be prepared by Caltrans prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and enhancing safety measures for those accessing the Project corridor during construction. Emergency access would be maintained throughout construction, and the TMP would provide for priority access for emergency and medical vehicles associated with essential services. Notifications and instructions for rapid response or evacuation in the event of an emergency will be provided. The TMP will include public notifications, portable changeable message signs, traffic control systems (ground-mounted signs), and a Construction Zone Enhanced Enforcement Program (COZEEP) to enhance safety in the Project area during construction.

1.6.10 Wildfire

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

1.7 No Build Alternative

Under the No Build Alternative, most of the existing drainage infrastructure in the Project area would remain unchanged. The No Build Alternative would not address the purpose and need of the Project. If no action is taken, there would be continued risk of flooding in the US 101/Donahue Street interchange area when storms and high tides coincide. In the event of flooding, travel and emergency access would continue to be delayed or disrupted. Additionally, the No Build Alternative would not address the potential for the damaged storm drain pipes in the area of the Donahue Street and the southbound US 101 ramps to collapse and damage the roadway. The potential for traffic disruptions, safety hazards, damage to infrastructure, and economic consequences to the local community would persist under the No Build Alternative.

As discussed in Section 1.1.2, there are several near-term and long-term flood control efforts in various stages of planning that if implemented, would contribute to overall improvements to the drainage infrastructure within and adjacent to the Project area. These projects are independent of the proposed Project and are therefore assumed to be part of the No Build Alternative. However, of these projects, only the Marin City Pond Pump Station Flood Reduction Project has an anticipated construction schedule. The remaining projects are in early planning stages. Therefore, these near-term and long-term projects would not address the purpose and need of the Project.

1.8 Alternatives Considered but Eliminated from Further Discussion

The following alternatives were studied during the project initiation phase and early stages of the PA&ED phase but were eliminated for the reasons described below.

Like the Build Alternative, each of the following alternatives would have included a new drainage system under US 101 between the Marin City Pond and Richardson Bay, damaged storm drain replacements in the Donahue Street area, and pavement repair on US 101. The alternatives differ in the location of the new box culvert under US 101. Each of the alternatives below would have crossed the Mill Valley–Sausalito Pathway and required temporary detours of the pathway during construction.

1.8.1 Alternative 1

Alternative 1 would have installed a new culvert under US 101 at PM 3.61, adjacent to and just south of the existing culvert at PM 3.60 (see Figure 1-4). The new culvert would have been similar in size and shape to the existing culvert: approximately 280 feet long, 6 feet wide, 4 feet high, and made of reinforced concrete in a four-sided box shape. Due to the proximity of the new culvert to the existing culvert, Alternative 1 would have required the construction of a new outfall to Richardson Bay and reconstruction of the existing headwall to accommodate the two adjacent culverts.

The outfall of the Alternative 1 culvert would have been directly adjacent to the Gate 6 ½ Road floating homes community, approximately 70 feet south of the dock where the majority of the homes are moored. At previous community meetings for the Marin City Stormwater Plan, Gate 6 ½ community members have stated that outflow and scour from the existing culvert have resulted in the bottom of Richardson Bay underneath the floating homes to become uneven, with mud banks causing homes to tilt at low tide.

Alternative 1 would have met the purpose and need of the Project. However, due to the proximity of Alternative 1 to the existing culvert, the additional outflow from the Alternative 1 culvert was considered to have the potential to increase scour along the Bay floor and further affect the floating homes. The Alternative 1 outfall would have been much closer to the Gate 6 ½ Road floating homes community (approximately 70 feet) than the Build Alternative (approximately 200 feet). Therefore, Caltrans eliminated Alternative 1 from further consideration.

1.8.2 Alternative 2

Alternative 2 would have installed a new culvert under US 101 at PM 3.65, approximately 140 feet north of the existing culvert at PM 3.60 (see Figure 1-4). The new culvert would have been similar in size and shape to the existing culvert: approximately

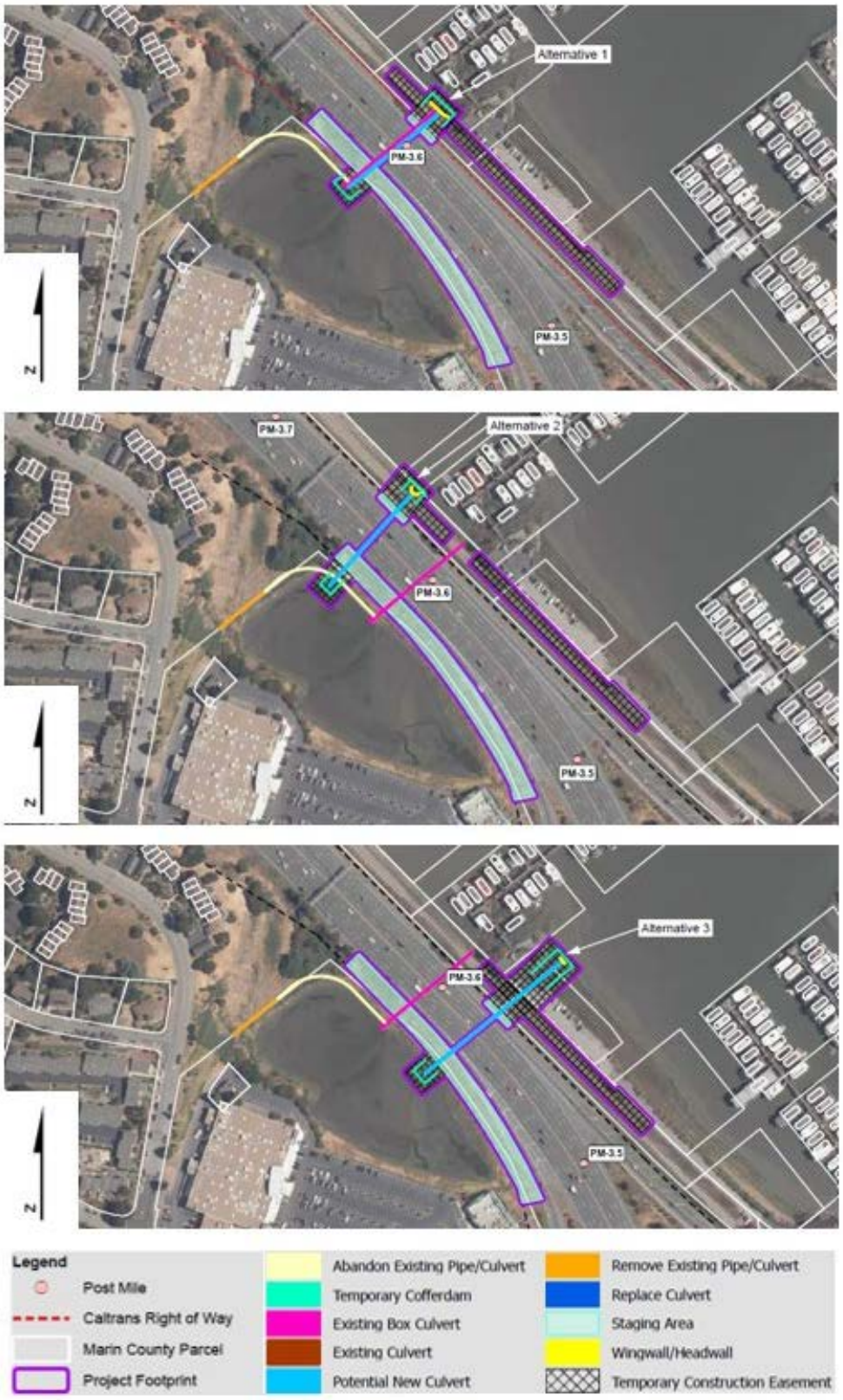

Figure 1-4. Alternatives Considered But Eliminated

280 feet long, 6 feet wide, 4 feet high, and made of reinforced concrete in a four-sided box shape.

As described in Section 1.1.2, multiple efforts are under way to address flooding in Marin City, in accordance with the Marin City Stormwater Plan. The Flood District's Marin City Pond Pump Station Flood Reduction Project would install a new pump station at the northeast corner of the Marin City Pond, construct a new floodwall along the southbound US 101 off-ramp to Donahue Street, make repairs to the existing culvert, and install other infrastructure. Extensive coordination has taken place between Caltrans and the Flood District regarding the proposed Project and the Flood District project, which is in detailed design.

Alternative 2 would have met the purpose and need of the Project, but the culvert location would have conflicted with the Flood District's proposed pump station and floodwall. Alternative 2 would have required extensive redesign of the Flood District project and delayed its implementation, during which flooding from the Marin City Pond would continue. The conflict with these facilities would be avoided with the Build Alternative. As Alternative 2 would not offer any benefits over the Build Alternative and would create site suitability issues due to the conflict with proposed Flood District facilities, Caltrans eliminated Alternative 2 from further consideration.

1.8.3 Alternative 3

Alternative 3 would have installed a new culvert under US 101 at PM 3.58, approximately 155 feet south of the existing culvert at PM 3.60 (see Figure 1-4). The new culvert would have been similar in size and shape to the existing culvert: 6 feet wide, 4 feet high, and made of reinforced concrete in a four-sided box shape. The culvert would have been approximately 420 feet in length. Unlike Alternatives 1 and 2, the Alternative 3 culvert would have extended underneath US 101, the Mill Valley–Sausalito Pathway, and the parking lot of the Gate 6 ½ Road floating homes community. The Alternative 3 outfall would have been approximately 130 feet from the eastern edge of pavement of the parking lot.

Caltrans eliminated Alternative 3 from further consideration due to constructability, concerns with conflicts from the community, and the complex ROW needs that would be required. Constructing the new culvert under the access road and parking lot of the Gate 6 ½ Road floating homes community would have required partial closures of the lot and resulted in access disruption for residents. In addition, all residents would have to provide Caltrans with permission to enter and maintain the culvert. Therefore, Caltrans eliminated Alternative 3 from further discussion.

1.8.4 Pipe Culvert Under US 101

This design variation would have constructed a new culvert under US 101 in the same location as the Build Alternative or the locations of Alternatives 1 through 3; however, the culvert would have been a 48-inch RCP instead of the anticipated 6-foot-wide, 4-foot-high box culvert. The locations of the pipe culvert would be the same as the proposed Build Alternative culvert shown in Figure 1-3A and the Alternative 1, 2, and 3 culverts shown in Figure 1-4.

The pipe culvert would have been installed by either cut-and-cover or trenchless excavation (pushing the pipe culvert under US 101 horizontally from subsurface bore pits on either side of the excavation). The pipe culvert would not require pile foundations, but the soft Bay Mud that underlies the Project area would have to be removed and replaced with lightweight cellular concrete fill. A preliminary geotechnical assessment (Caltrans 2023a) identified the potential for ongoing ground settlement to affect the structural integrity of the pipe culvert. The study also indicated that trenchless excavation could subject the pipe culvert to an unacceptable level of differential settlement. In light of the potential risk to the pipe culvert and the US 101 roadway above it, Caltrans eliminated the pipe culvert from further consideration.

1.8.5 Single-Lane Closures During New Culvert Construction

Construction of the new box culvert under US 101 is expected to require a combination of nighttime lane closures and 55-hour weekend partial closures. As described in Section 1.4.5.2, at least two lanes in each direction of US 101 would remain open during the weekend partial closures. Motorists traveling on US 101 through the Project area during the weekend partial closures could experience substantial delays.

Caltrans considered closing a single lane in each direction of US 101 for 7 days per week throughout culvert construction across US 101 to minimize potential travel delays. This scenario would have allowed three lanes to remain open on both northbound and southbound US 101 during construction. To accommodate the single-lane closures, the shoulders of US 101 and existing auxiliary lanes would have been temporarily widened to allow traffic to shift to temporary lane pavement. The temporary widening would have required temporary fill of wetlands and a full closure of US 101 to relocate the existing overhead sign gantry that extends across all travel lanes.

Under this scenario, construction of the new box culvert under US 101 would have taken approximately 380 working days, more than three times longer than the total construction duration anticipated for the Build Alternative (estimated at approximately 115 working days, including work outside of the Caltrans ROW). During the construction period of more than one year, anticipated daily individual delays for motorists in the northbound direction were estimated at 46 minutes on Mondays through Thursdays and

up to 56 minutes on Fridays. In addition, the estimated costs of this traffic management scenario would be double those of the Build Alternative.

This scenario would have the potential to reduce the daily individual motorist delays on US 101 during culvert construction compared to the maximum delays that could occur with the Build Alternative during the approximately five 55-hour weekend partial closures. However, the delays would have occurred each weekday for more than a year, instead of up to 15 days total (from Friday night typically after 8 p.m. until approximately 5 a.m. on the following Monday) as anticipated for the Build Alternative. Caltrans eliminated the single-lane closure scenario from further consideration because it would have resulted in travel delays during weekly commute hours that are not anticipated with the Build Alternative, a longer total duration of travel delays than the Build Alternative, impacts to wetlands that would be avoided with the Build Alternative, and higher construction costs than the Build Alternative.

1.9 Permits and Approvals Needed

Table 1-1 lists the permits, approvals, and agreements that are anticipated to be required for the Project. These approvals would be required for project activities in Richardson Bay within the jurisdictional areas of the National Marine Fisheries Services (NMFS), the U.S. Army Corps of Engineers (USACE), the San Francisco Bay Regional Water Quality Control Board (RWQCB), and the San Francisco Bay Conservation and Development Commission (BCDC); for project activities within the shoreline band regulated by BCDC (100 feet from the shoreline of San Francisco Bay and its tidally influenced tributaries); and for temporary construction within a section of the Mill Valley–Sausalito Pathway.

Table 1-1. Permits and Approvals

Agency	Permit, Approval, or Agreement	Reason	Status
National Marine Fisheries Services (NMFS)	Section 7 Consultation and Essential Fish Habitat Consultation: Letter of Concurrence request	Construction in Richardson Bay (see Section 2.2.4)	Consultation will be completed during the detailed design phase.
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 Nationwide Permit, Section 10 Navigable Waters Permit	Construction in Richardson Bay (see Section 2.2.4)	Application to be submitted during the detailed design phase.

Agency	Permit, Approval, or Agreement	Reason	Status
San Francisco Bay Regional Water Quality Control Board (RWQCB)	Water Quality Certification (CWA Section 401)	Construction in Richardson Bay (see Section 2.2.10)	Application to be submitted during the detailed design phase.
San Francisco Bay Conservation and Development Commission (BCDC)	Regionwide Permit 2 or Administrative Permit	Construction in Richardson Bay and within shoreline band (100 feet from the shoreline of San Francisco Bay and its tidally influenced tributaries; see Section 2.2.11)	Application to be submitted during the detailed design phase.
Caltrans/FHWA with concurrence from Marin County Parks	Section 4(f) of the Department of Transportation Act (49 USC 303) Evaluation*	Temporary occupancy of a 75-foot-long portion of the Mill Valley–Sausalito Pathway	Formal concurrence with Caltrans' Section 4(f) temporary occupancy determination will be requested in writing prior to finalizing PA&ED.

* Recreation impacts related to the proposed short-term, temporary detour of the Mill Valley–Sausalito Pathway are discussed in Section 2.2.16 of this document. Section 4(f) of the Department of Transportation Act of 1966 (23 U.S. Code [USC] 138 and 49 USC 303) requires formal concurrence from Marin County Parks, the official with jurisdiction over the Mill Valley–Sausalito Pathway, regarding Caltrans' preliminary determination that the Project would result in a "temporary occupancy" of the pathway. Section 4(f) and the preliminary "temporary occupancy" determination are discussed further in the Section 4(f) Evaluation Technical Memorandum (AECOM 2025), which can be viewed at www.caltransd4environmental.com.

Caltrans has initiated coordination with Marin County Parks for work at the Mill Valley–Sausalito Pathway and with the Flood District for work on the Phillips Drive drainage system, the Donahue Street storm drain pipes, and the Marin City Pond.

Chapter 2 California Environmental Quality Act Evaluation

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

2.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the Project. Please see the full CEQA Environmental Checklist in Section 2.2 for additional information.

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

2.2 CEQA Environmental Checklist

This checklist is presented at the beginning of each resource section below in the form of a table listing the pertinent questions applicable to the resource and four columns where the degree of impact is indicated. This checklist identifies physical, biological, social, and economic factors that might be affected by the 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 impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project Features (PFs) are measures that can include both design elements of the Project and standardized measures that are applied to all, or most of, Caltrans projects. These standardized measures include BMPs, measures included from the Caltrans Standard Plans and Standard Specifications, and Caltrans Standard Special Provisions required of the construction contractor. As noted in Section 1.6, PFs were not developed in response to any specific environmental impact resulting from the proposed Project. PFs are considered to be an integral part of the Project and have been considered prior to any significance determinations documented below.

PFs are separate from AMMs or MMs, which directly relate to impacts from the proposed Project. AMMs, MMs, and other measures are discussed separately in each environmental section below, as applicable.

Sections 2.2.1 through 2.2.21 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 determinations are 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 AMMs.
- Less than Significant Impact with Mitigation Incorporated: Indicates the potential for a significant environmental impact that would be mitigated to a less than significant impact level.
- Potentially Significant Impact: Indicates the potential for a significant and unavoidable environmental impact.

2.2.1 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?	Less than Significant Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less than Significant 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?	No 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

The following is summarized from the Visual Impact Assessment Memorandum for the Project (Caltrans 2024c). US 101 within the Project limits is listed as eligible for designation as a State Scenic Highway (Caltrans 2018). Additionally, the Project area overlaps with a stretch of the freeway that is designated as Classified Landscaped Freeway (PM 3.33/3.68). Despite its relatively developed, suburban character, the Project area has high visual quality, and includes views of scenic features such as Mount Tamalpais East Peak in the distance and the rolling hills of Marin meeting Richardson Bay (Caltrans 2024c).

The Project area is situated in a relatively developed and suburban setting. Residences are located approximately 450 feet west of the proposed culvert (on Donahue Street, approximately 50 feet from the Project area), approximately 70 feet northeast of the proposed culvert (the Gate 6 ½ Road floating homes community on the shore of Richardson Bay), and directly south of the proposed drainage work along Donahue Street (Golden Gate Village). The Golden Gate Village recreational facilities are also directly south of the proposed drainage work along Donahue Street. The Marin Gateway Shopping Center west of the Marin City Pond is adjacent to and within view of the site. Figure 2-1 shows the view from the Marin Gateway Shopping Center Parking Lot, looking east toward the Marin City Pond and Richardson Bay. Figure 2-2 is a viewpoint from the sidewalk near 203 Donahue Street, facing southeast toward the Marin City Pond and Richardson Bay.

Figure 2-1. Existing View from Marin Gateway Shopping Center Parking Lot

Figure 2-2. Existing View from Sidewalk Near 203 Donahue Street

a) Less than Significant Impact

The Project area is relatively scenic due to its general location near Richardson Bay to the immediate east and views to the Mount Tamalpais East Peak (approximately 5 miles to the northwest) and the Golden Gate National Recreation Area's Marin Headlands to the south and west. While the Marin City Pond is somewhat interesting, it is not considered a visual resource in and of itself (Caltrans 2024c).

Project construction activities could temporarily obscure views from the Mill Valley–Sausalito Pathway, the Gate 6 ½ Road floating homes community, or the commercial parking lot to the south. However, any view obstruction from construction activities would be temporary and would not permanently alter existing views.

The elevation of the permanent Project components, including the new approximately 6-foot-wide by 4-foot-high culvert along the eastern shore of the Marin City Pond and the new outfall along the Richardson Bay shoreline to the east of US 101, would be below the commercial parking lot to the south, US 101, and the Mill Valley–Sausalito Path. Therefore, the proposed features would be largely obscured from view, except from very specific viewpoints along Donahue Street to the west and the Gate 6 ½ Road floating homes community to the east.

Based on the lack of permanent visible changes, the Project would not result in a substantial adverse effect on any scenic vistas. Construction may temporarily reduce the quality of scenic vistas within the Project area. However, these effects would be limited to the construction period of 115 working days, and are typical of any infrastructure project.

b) Less than Significant Impact

US 101 within the Project limits is listed as eligible for designation as a State Scenic Highway (Caltrans 2018). In addition, the Project area overlaps with a stretch of the freeway that is designated as Classified Landscaped Freeway (PM 3.33/3.68). No other designated scenic highway with a view of the Project area was identified.

The Project would not substantially damage any scenic resource identified as requiring special consideration such as a rock outcropping, important tree grouping, or historic properties associated with US 101. The Project is anticipated to result in the removal of 17 blackwood acacia trees and 2 fruit trees. All of these trees are non-native and ornamental. Therefore, the impact would be less than significant.

c) No Impact

The Project is located in an urbanized area; therefore, this analysis focuses on whether the Project would conflict with applicable zoning and other regulations governing scenic quality. Section 22.32.168(C)(2)(g) of the Marin County Development Code prohibits development in tidelands that "conflict with the scenic beauty of the shoreline due to bulk, mass, color, form, height, illumination, materials, or the extent and design of the proposed work" (Marin County 2024a). The proposed box culvert would be visually similar, if not identical, in nature to the existing box culvert. Due to the relatively limited visible features (bulk), visual compatibility with the existing culvert (e.g., mass, color, form, height), and lack of proposed illumination, the Project would not conflict with the requirements of Section 22.32.168(C)(2)(g) of the Marin County Development Code.

The western extent of the new culvert is located in Marin County's Planned Commercial zone, which permits construction yards, public safety facilities, and public utility facilities by right. The Planned Commercial zone also has a Housing Overlay Designation, which does not contain any visual or scenic restrictions.

The eastern extent of the new culvert is located in Marin County's Resort Commercial Recreation zone, which permits construction yards, public safety facilities, and public utility facilities. US 101 is within Caltrans ROW. This Resort Commercial Recreation zone also has a Bayfront Conservation combining district applied, which as required by Section 22.14.060(A)(3) of the Marin County Development Code, is intended to preserve

or establish view corridors to the bayfront (Marin County 2024a). The elevation of the permanent visible Project components, including the new box culvert on the eastern shore of the Marin City Pond and the new outfall along the Richardson Bay shoreline to the east of US 101, are below the grade of the commercial parking lot to the south, US 101, and the Mill Valley–Sausalito Pathway. This makes the proposed facilities generally obscured from views except from very specific locations such as travelers and residences along Donahue Street to the west and the floating homes along the shore of Richardson Bay to the east. While the Marin City Pond is somewhat interesting, it is not considered a visual resource in and of itself (Caltrans 2024c). The Project would not interfere with view corridors to the bayfront. The Project would not conflict with applicable zoning and other regulations governing scenic quality. Therefore, the Project would result in no impact.

d) Less than Significant Impact

Nighttime construction work would require temporary lighting. Construction lighting would be limited to the area of work, and lighting would be directionally controlled and/or shielded to minimize light trespass onto adjacent areas. Due to the temporary nature of nighttime construction, and the lack of permanent lighting and glare, the overall impact would be less than significant.

No additional roadway lighting is proposed, and no permanent changes to nighttime illumination would occur. Additionally, none of the proposed Project elements are expected to create a new source of daytime glare.

AVOIDANCE AND MINIMIZATION MEASURES

AMM-AES-1 through AMM-AES-3 would avoid or minimize potential impacts to visual resources. PF-BIO-3, PF-BIO-7, PF-BIO-13, and AMM-BIO-3 would also avoid or minimize impacts to visual resources by preserving existing biological resources, such as wetland vegetation and ornamental trees, which help create a sense of place for viewers in the Project area.

- **AMM-AES-1, Staging Area Vegetation Avoidance.** Where feasible, construction staging areas shall be located to avoid the removal of vegetation or result in ground compaction affecting tree roots.

- **AMM-AES-2, Staging Area Screening.** Construction materials and equipment shall be stored in a staging area beyond direct view of travelers and residential properties. The staging area shall be obscured from public views using temporary fencing and/or screening materials. If construction materials and equipment are not properly stored, they could affect public views.

- **AMM-AES-3, Materials and Design.** Select materials and design site features for the outfall at Richardson Bay to be appropriate for the visual character of the location and to maintain corridor consistency. As stated in Section 1.3.1, a new headwall would be placed at the culvert outfall. The Caltrans Office of Landscape Architecture will provide final recommendations for the appearance of the headwall during the detailed design phase. Recommendations may include ensuring that the headwall is an appropriate color to blend in with the surrounding environment.

2.2.2 Agriculture and Forest Resources

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

a, b, c, d, e) No Impact

There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the Project area. The Project area does not contain land zoned for agricultural uses, land under Williamson Act contracts, or land zoned as forest land, timber land, or timberland production. There would be no loss or conversion of forest land to non-forest land, or any other changes to the existing environment that would convert farmland to nonagricultural use or forest land to non-forest use. Therefore, the Project would have no impact on agriculture and forest resources.

2.2.3 Air Quality

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

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	No 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

The following summarizes the results of the Construction Criteria Air Pollutant Emissions Analysis, which was completed in April 2025 (Caltrans 2025a).

The Project is in the San Francisco Bay Area Air Basin and within the jurisdiction of the San Francisco Bay Area Air Quality Management District (BAAQMD) and the California Air Resources Board (CARB). The BAAQMD comprises all of Marin, Napa, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco Counties and the southern and western portions of Sonoma and Solano Counties, respectively.

Marin County and the Project area are designated as non-attainment for ozone and particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers ($PM_{2.5}$) under National Ambient Air Quality Standards (CARB 2024), and as non-attainment for ozone, $PM_{2.5}$, and particulate matter with aerodynamic diameter equal to or less than 10 micrometers (PM_{10}) under California Ambient Air Quality Standards (CARB 2024).

a) No Impact

The Project will not add motor vehicle capacity on US 101 or other roads. The construction contractor would be required to comply with federal, state, and local regulations and policies during construction, and additional emission reduction measures would be implemented as discussed under PF-AQ-1 through PF-AQ-4 (Section 1.6.1). The Project would not conflict with or obstruct implementation of an applicable air quality plan, and there would be no impact.

b, c, d) Less than Significant Impact

The primary pollutant emissions of concern during Project construction would be reactive organic gases (ROG), nitrogen oxides (NO_x),PM_{10}, and $PM_{2.5}$ from the exhaust of off-road construction equipment and on-road construction vehicles (worker vehicles and haul trucks). In addition, fugitive dust emissions of PM_{10} and $PM_{2.5}$ would be generated by soil disturbance during construction. The BAAQMD considers construction activities to be typically short-term or temporary in duration; however, pollutant emissions from Project construction were estimated for informational purposes. Construction emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET), CAL-CET2021 v1.0.3.

The BAAQMD's current CEQA Guidelines recommend thresholds of significance for project-level criteria air pollutant emissions to assist lead agencies in CEQA determinations. The BAAQMD's thresholds include levels at which construction emissions of ozone (O_3) precursors (ROG and NO_x), PM_{10}, and $PM_{2.5}$ could cause significant air quality impacts.

As shown in Table 2-1, the Project's average daily emissions would be below the BAAQMD's recommended thresholds for ROG, NO_x, and exhaust PM_{10} and $PM_{2.5}$. Because the average daily emissions of criteria pollutants and precursors from equipment and vehicle exhaust would be below the recommended thresholds, Project construction would not cause or contribute to, or worsen, any air quality violations.

Table 2-1. Project Construction Emissions and BAAQMD CEQA Thresholds (Pounds per Day)

Parameter	ROG	NO_x	Exhaust PM_{10}	Fugitive PM_{10} (Dust)	Exhaust $PM_{2.5}$	Fugitive $PM_{2.5}$ (Dust)
Average Daily Construction Emissions	1.05	6.50	0.47	2.26	0.46	0.22
BAAQMD CEQA Thresholds	54	54	82	BMP	54	BMP

Notes: BMP = best management practices; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter with aerodynamic diameter equal to or less than 10 micrometers; $PM_{2.5}$ = particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers

The BAAQMD does not have a quantitative threshold for fugitive dust emissions; however, the BAAQMD considers implementation of BMPs to control fugitive dust PM_{10} and $PM_{2.5}$ during construction sufficient to reduce potential impacts from dust to a less-than-significant level. Caltrans' Special Provisions and Standard Specifications include

the requirement to minimize or eliminate dust during Project construction through the application of dust palliatives.

As described in Item “(a)” above, the construction contractor would be required to comply with federal, state, and local regulations and policies during construction, and additional emission reduction measures would be implemented as discussed under PF-AQ-1 through PF-AQ-4 (Section 1.6.1). With implementation of standard measures, the Project would not result in a cumulatively considerable net increase of any criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in emissions or odors that would adversely affect a substantial number of people. Impacts would be less than significant.

2.2.4 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 with Mitigation Incorporated
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No 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

A Natural Environmental Study (NES) was prepared by the Caltrans Office of Biological Sciences and Permits to evaluate the effects of the Project on biological resources, including sensitive plants and wildlife species (Caltrans 2025b). A summary of the findings is presented here.

The Biological Study Area (BSA), which is defined as the entire area of potential direct and indirect Project impacts, is 24.51 acres. For this Project, the BSA includes the Project area and up to 200 feet outside of the Project area. A BSA larger than the Project area was chosen to conservatively evaluate resources within the Project vicinity. The BSA is the area that was surveyed to evaluate habitat and identify and quantify the natural resources associated with the Project.

Upland habitats in the BSA consist of developed areas, landscaped/non-native forest, mesic meadow, non-native annual grasslands, and ruderal disturbed vegetation.

Developed portions of the BSA include US 101, paved trails, parking lots, buildings, and barren areas.

Within the BSA, wetlands include estuarine wetlands and palustrine emergent wetlands, and other waters include estuarine waters, developed waters, and ditches. A total of 7.86 acres of wetlands and other waters were delineated in the BSA; this includes 2.52 acres of wetlands and 5.33 acres of non-wetland waters. Of that, 7.45 acres were determined to be potentially jurisdictional wetlands and waters of the United States, and 0.41 acre were determined to be potentially non-jurisdictional wetlands and ditches.

As part of the NES, databases were used to query for sensitive biological resources that could occur in the BSA to evaluate potential impacts that could occur as a result of the Project. Database searches included the California Natural Diversity Database (CNDDB) (CDFW 2024), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation Database (USFWS 2024), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2024), and the National Marine Fisheries Service database (NMFS 2024).

In addition to database queries, the following technical studies were conducted for the Project: habitat assessment and vegetation characterization, rare plant habitat assessment, aquatic resource delineation, and tree survey.

a) Less than Significant Impact

SPECIAL-STATUS PLANT SPECIES

Based on the literature and database review, 33 special-status plant species were considered for potential occurrence within the BSA. There were no observations of special-status plant species or suitable habitat found during the field studies conducted in April-May 2024. Further, most special-status plant species were determined to have no potential to occur due to a lack of suitable habitat.

Two species were identified as having a “low” or “unlikely” potentially to occur, respectively: Point Reyes salty bird’s-beak (*Chloropyron maritimum* ssp. *palustre*) and congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*). The California Rare Plant Society identifies both species as having a California Rare Plant Rank of 1B.2 (a plant that is rare, threatened, or endangered in California and elsewhere, and moderately threatened in California).

In consideration of the disturbed nature of the BSA, lack of suitable habitat, lack of positive detection during the surveys carried out in April-May 2024, and with implementation of AMM-BIO-1 and AMM-BIO-2 below, potential impacts to special-status plant species would be less than significant.

SPECIAL-STATUS WILDLIFE SPECIES

The following are the special-status wildlife species that have a low potential to occur in the BSA:

- Green sturgeon, southern distinct population segment (*Acipenser medirostris*) – federally threatened; California species of special concern
- Coho salmon, Central California Coast evolutionarily significant unit (*Oncorhynchus kisutch*) – federally endangered; state endangered
- Steelhead, Central California Coast and California Central Valley distinct population segments (*Oncorhynchus mykiss irideus*) – federally threatened; California species of special concern
- Chinook salmon, Sacramento River winter-run evolutionarily significant unit (*Oncorhynchus tshawytscha*) – federally endangered; state endangered
- Chinook salmon, Central Valley spring-run evolutionarily significant unit (*Oncorhynchus tshawytscha*) – federally threatened; state threatened

No special-status wildlife species were observed within the BSA.

Given the lack of suitable spawning and rearing conditions in the BSA for all anadromous salmonids, it is unlikely that any life stage of salmon or steelhead would be found in the tidal portion of the BSA in Richardson Bay during the proposed in-water work window, which would allow work to occur between April 15 and October 31. Similarly, given the lack of suitable spawning conditions in the BSA for green sturgeon, and that estuarine waters within the BSA constitute marginally suitable migration and foraging habitat for green sturgeon, it is unlikely that any life stage of green sturgeon would be found during the proposed in-water work window.

Installation of the temporary cofferdams potentially needed to isolate the construction area for the pipe culvert outfall from Richardson Bay waters could temporarily degrade water quality by increasing turbidity and sediment mobilization. Turbidity caused by Project actions would be localized to a small area of Richardson Bay. However, the Project area is tidally influenced, and cofferdam installation and removal would take place during a period of low tide when the area is not inundated, such that mobilization of sediment and potential turbidity increases would be minimized. Once installed, the temporary cofferdams would contain sediment that would otherwise be released, minimize the generation of turbidity plumes in Richardson Bay from construction activities, and prevent fish from entering the work area during construction.

The vibratory installation and removal of the sheet piles would not result in hydroacoustic impacts to fish since this work does not produce the acoustic sound pressure levels sufficient to cause temporary behavioral effects or physical effects on fish (Caltrans 2020a). The placement and removal of the sheet piles at low tide would further protect aquatic species.

Direct, temporary, and permanent impacts on substrates within the intertidal portion of Richardson Bay would occur as a result of installation of temporary cofferdams around the proposed pipe culvert outfall area, culvert installation, and construction of the new culvert outfall and headwall. The area of temporary impact from the cofferdams would be minimal and confined to developed waters. The area of permanent impact to Richardson Bay from the proposed pipe culvert outfall would be minimal, estimated at less than 0.01 acre, and would be minimized through removal of existing rock slope protection. Project impacts would be subject to regulatory agency review and permit requirements (Section 1.9), and MM-BIO-1 (at the end of this section) is proposed to compensate for potential impacts to aquatic features.

Special-status wildlife species impacts are not anticipated due to the small area of effect, marginal suitability of habitat, and proposed in-water work window (April 15 to October 31). Implementation of PF-BIO-2, PF-BIO-3, PF-BIO-6, PF-BIO-7, PF-BIO-13, PF-BIO-14 (Section 1.6.2) and AMM-BIO-4 through AMM-BIO-7 (below) would occur to further avoid or minimize potential impacts to special-status wildlife species. Therefore, impacts would be less than significant.

Following project construction, no permanent impacts to special-status wildlife species would occur.

MIGRATORY AND NESTING BIRDS

The BSA has the potential to support birds protected by the MBTA and Sections 3503, 3513, and 3800 of the California Fish and Game Code. Most birds found in the BSA are protected under the MBTA. Project construction has the potential to result in the take of nests, eggs, young, or individuals of protected species. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to the abandonment of nests. Take of protected birds or eggs would be avoided through PF-BIO-2, PF-BIO-4, PF-BIO-5, PF-BIO-9 (Section 1.6.2), and AMM-BIO-2 (below). With implementation of AMM-BIO-3, the Project plans would clearly indicate trees to be either fully protected in place with fencing, trimmed/limbed, cut above soil level, or fully removed. The Project is anticipated to result in the removal of approximately 19 trees: 17 blackwood acacia trees and two fruit trees. All of the trees to be removed are ornamental, non-native, and on private property adjacent to the Caltrans

ROW. With implementation of these Project Features and the proposed tree protection plan, impacts to nesting birds would be less than significant.

Following project construction, no permanent impacts to migratory and nesting birds would occur.

b) Less than Significant Impact

The Project BSA includes mapped CDFW-designated sensitive natural communities that are considered vulnerable. These include small areas of mesic meadow (*Carex praegracilis* Herbaceous Alliance; 0.10 acre), and tidal marsh and muted tidal marsh (*Salicornia pacifica – Jaumea carnosa – Distichlis spicata* Herbaceous Alliance; 0.07 acre). The Project is not anticipated to permanently impact these sensitive natural communities. Temporary impacts would be limited to small areas of muted tidal wetland and mesic meadow. The Project includes PF-BIO-10 (Section 1.6.2), which entails restoring temporarily disturbed areas to the maximum extent practicable. Implementation of AMM-BIO-2 would avoid or minimize potential impacts to sensitive natural communities by limiting work in or adjacent to wetlands to outside of flooding or high tide events and using marsh mats or other materials to temporarily cover marsh surfaces during construction access.

The proposed Marin City second culvert would outfall to Richardson Bay, which is designated as Essential Fish Habitat (EFH) for Pacific (Chinook and coho) salmon, groundfish, and coastal pelagic species (CPS). Impacts on EFH for Chinook and coho salmon, groundfish, and CPS within Richardson Bay would include temporary disturbance of substrates within the intertidal portion of the BSA resulting from worker access and construction activities, including construction of the new culvert outfall and installation of temporary cofferdams around the culvert work areas. These disturbances could temporarily increase turbidity and sediment mobilization. Turbidity caused by Project actions would be localized to a small area of Richardson Bay. Additionally, the Project area is tidally influenced, and cofferdam installation and removal would take place during a period of low tide when the area is not inundated, such that mobilization of sediment and potential turbidity increases would be minimized. Once installed, the temporary cofferdams would contain sediment that would otherwise be released, minimize the generation of turbidity plumes in Richardson Bay from construction activities, and prevent fish from entering the work area during construction. Isolation of the Richardson Bay work area using temporary cofferdams installed at low tide would avoid or minimize temporary impacts to EFH.

Direct permanent impacts to EFH would occur resulting from the new culvert outfall and headwall. These permanent features would affect a very small area (estimated at less than 0.01 acre), may replace existing RSP, and would not result in adverse modifications

of EFH. Project impacts would be subject to regulatory agency review and permit requirements (Section 1.9). The Project would not adversely affect the hydrology or bathymetry of EFH in Richardson Bay.

In consideration of the small area of effect to EFH, the inclusion of PF-BIO-10 (Section 1.6.2) for restoration of disturbed areas, the implementation of AMM-BIO-7 (below) for cofferdam installation during low tide, and with implementation of MM-BIO-1 (at the end of this section) to compensate for potential impacts to wetlands and other waters there would be less than significant impacts to EFH.

Following project construction, no permanent impacts to EFH would occur.

c) Less Than Significant Impact with Mitigation Incorporated

As supported by the NES and aquatic resource delineation, the Project would result in temporary impacts to wetlands and waters and a small area of permanent impact to other waters. This includes temporary impacts to 0.21 acre of brackish wetland, 0.03 acre of tidal marsh, 0.03 acre of estuarine waters, 0.04 acre of muted tidal pond, 0.04 acre of muted tidal wetland, and 0.23 acre of developed waters; and less than 0.01 acre of permanent impact to estuarine waters (Richardson Bay), which would be minimized through removal of existing RSP. Temporary impacts would include but not be limited to access to construction areas, detour areas, temporarily dewatered areas, and grading, clearing, and grubbing of upland areas that could result in erosion and sedimentation. Permanent impacts to other waters (Richardson Bay Estuarine intertidal – developed waters) would occur resulting from construction of the culvert outfall. Direct impacts to other waters would be minimized through removal of existing rock slope protection and would be subject to regulatory agency review and permit requirements (Section 1.9). MM-BIO-1 (at the end of this section) is proposed to compensate for potential impacts to wetlands and other waters.

To address temporary wetland impacts, the Project includes PF-BIO-10 (Section 1.6.2) which entails restoring temporarily disturbed areas to the maximum extent practicable, and AMM-BIO-2 (below) to avoid or minimize potential impacts to wetlands by limiting work in or adjacent to wetlands to outside of flooding or high tide events and using high-density polyethylene, plywood marsh mats, or other materials as needed. Temporary impacts to both waters and wetlands during construction would also be avoided through Project Features related to stormwater and construction best management practices, limiting work to dry weather conditions, and through appropriate dewatering measures as described for PF-BIO-6, PF-BIO-7, PF-BIO-13, and PF-BIO-14 (Section 1.6.2).

With implementation of MM-BIO-1 (at the end of this section), the Project would result in less-than-significant impacts on protected wetlands.

d) No Impact

The Project would not affect habitat connectivity because the BSA does not contain suitable habitat for a migration corridor. The Project does have the potential to affect movement of special-status fish species if they are within the BSA during construction, which would be limited to a small area of temporary effect to developed waters from temporary cofferdam installation during outfall construction. The Project includes PF-BIO-4 (Section 1.6.2) to reduce the potential for construction to affect migratory birds. The removal of ornamental and non-native trees is not expected to affect avian migration. There would be no impact.

e) No Impact

This Project would not conflict with any local policies or ordinances protecting biological resources. There would be no impact.

f) No Impact

This Project would not conflict with the provisions of an adopted Habitat Conservation Plan or other approved local, regional, or state habitat conservation plan. There would be no impact.

AVOIDANCE AND MINIMIZATION MEASURES

AMM-BIO-1 through AMM-BIO-7 would avoid or minimize impacts to biological resources.

- **AMM-BIO-1, Rare Plant Pre-construction Survey.** During the appropriate 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, if found, 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 area during the pre-construction survey, appropriate agencies will be notified, and protection measures will be implemented.

- **AMM-BIO-2, Wetland Protection.** The following measures would be implemented in and adjacent to delineated wetland ESAs in the Project limits:

  a. Work in and adjacent to delineated wetlands where flooding has potential to occur would be scheduled outside of the wet-weather season.

b. Work in and adjacent to delineated tidal wetlands would not occur within 2 hours before or after extreme high tide events (6.5 feet above mean lower low water elevation or greater, as determined from the National Oceanic and Atmospheric Administration tidal gage station nearest to the activity) when the marsh plain is inundated.

c. Heavy Vehicle Access in Wetlands: Marsh mats will be used across access routes in most instances where heavy vehicles must traverse wetland surfaces. Plywood marsh mats will be used at selected locations where only lighter wheeled vehicles or pedestrians will be traveling. Other materials may be chosen by the contractor that preserve wetland vegetation during construction activities.

- **AMM-BIO-3, Tree Protection.** The Project would clearly indicate on all construction plan sets the trees to be either fully protected in place, trimmed/limbed, cut above soil level, or fully removed.

  a. To minimize effects on trees that occur within the Project area, the following minimization measures will be implemented:

  b. For trees that are within the Project boundary, but are only to be temporarily affected, or not affected, fencing shall be placed at the dripline to ensure the tree is protected during work.

  c. Only those trees requiring removal will be cut down.

  d. Whenever possible, trees will be trimmed rather than removed.

  e. To avoid potential damage to retained trees, trees will be safeguarded during construction through implementation of the following measures as applicable:

     - No construction equipment, vehicles, or materials will be stored, parked or staged within the tree dripline.

     - Work will not be performed within the dripline of the remaining trees without consultation with an International Society of Arboriculture (ISA) certified arborist. If trees are damaged during construction and become unhealthy or die, the damaged tree(s) will be removed and may be replaced.

- **AMM-BIO-4, In-water Work Window.** The in-water work window within Richardson Bay will prevent construction disturbance when most rainfall typically occurs, avoiding impacts to water quality and challenges to the cofferdams by

increased flows that occur during rain events. All work in aquatic habitat for fish species within Richardson Bay will take place from April 15 to October 31.

- **AMM-BIO-5, Placement of Nontoxic Structures.** All material placed in Richardson Bay will be nontoxic. Any combination of wood, plastic, cured concrete, steel pilings, or other materials used for in-channel structures will 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-6, Construction within Cofferdams.** All work in aquatic habitat will take place within cofferdams in dewatered areas. Cofferdams will effectively isolate the work areas from the bay and significantly reduce potential construction effects and stressors, such as noise and vibration. Cofferdams will be designed and constructed to isolate work areas, avoiding disturbance of potential fish habitat areas in Richardson Bay and allowing tidal flows to easily pass through the Project limits.

- **AMM-BIO-7, Cofferdam Installation.** During construction, sheet pile would be driven using vibratory methods during a period of low tide, when the cofferdam area is not inundated, to minimize the potential for fish to be present within the work area.

MITIGATION MEASURE

- **MM-BIO-1, Impacts to Wetlands.** Caltrans will mitigate for permanent impacts to aquatic resources at a ratio determined appropriate in coordination with regulatory agencies with jurisdiction, which are anticipated to be USACE and RWQCB. The mitigation credit, in-lieu fee contribution, or mitigation site will be chosen in consultation with regulatory agencies with jurisdiction.

2.2.5 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?	Less than Significant Impact

Caltrans' Professionally Qualified Staff (PQS) conducted a cultural resources investigation for the Project in accordance with the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA), as well as under Public Resources Code 5024 and pursuant to the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92, addended 2019* (5024 MOU). A summary of the findings is presented here.

In accordance with Stipulation VIII.A of the Section 106 PA, the Area of Potential Effects (APE) for the Project was established on September 17, 2024, in consultation with Caltrans' PQS and Project Manager.

The APE includes the maximum extent of construction-related activities and staging for the proposed Project activities. The APE includes the Caltrans ROW along US 101 between PM 3.3 and 3.7; staging and access areas; and areas where temporary construction easements, drainage easements, and permits to enter and construct are needed from adjacent landowners. The vertical APE extends from ground surface to 80 feet below ground surface, which incorporates the maximum extent of ground-disturbing work.

Caltrans contacted the NAHC on September 27, 2023, to request a search of the Sacred Lands File. The NAHC responded with negative results and a list of representatives of local Tribes on October 23, 2023. Caltrans contacted representatives from the Federated Indians of Graton Rancheria (FIGR), Guidiville Rancheria of California (Guidiville), and the Wuksachi Indian Tribe/Eshom Valley Band (Wuksaschi) via email with an attached letter initiating Assembly Bill (AB 52) and Section 106 consultation on

October 18, 2023. FIGR responded on November 15, 2023, with a formal request for consultation under both AB 52 and Section 106. Follow up emails to Guidiville and Wuksachi were sent on August 27, 2024, and phone calls were made on September 5, 2024. No response from either group has been received to date. Consultation on Tribal Cultural Resources under CEQA will remain ongoing throughout the life of the Project.

A desktop review of the APE, including a search of Caltrans' Cultural Resource Database (CCRD), did not identify any cultural resources within the Project area and indicated that 100 percent of the APE was covered by previous studies. One historical resource is immediately adjacent to the APE: Marin City Public Housing, currently called Golden Gate Village, an approximately 30-acre public housing development at 101-429 Drake Avenue and 1-99 Cole Drive, Sausalito, in the community of Marin City. Golden Gate Village is listed on the National Register of Historic Places and the California Register of Historical Resources (California Office of Historic Preservation 2017). Golden Gate Village is significant under Criterion A and C of the National Register of Historic Places for its association in areas of Social History and Community Planning and Development as a product of post-WWII development in Northern California and in the area of Architecture and Landscape Architecture for its association with prominent mid-century designers. The northern end of Golden Gate Village is just south of Donahue Avenue between Drake Avenue to the west and US 101 to the east. The Project would replace damaged storm drain pipes on Donahue Street just north of the Golden Gate Village playground, tennis court, and basketball court. No project activities are taking place within the property.

The CCRD's geoarchaeological layer rated the APE as highly sensitive for submerged resources. Due to that sensitivity, Extended Phase I (XPI) geoarchaeological testing was proposed as a good-faith effort to identify obscured or buried resources that could be affected by Project construction. Testing was conducted from July 8 through July 10, 2024. The XPI testing did not identify any subsurface cultural material.

A meeting was held on February 12, 2024, between Caltrans and FIGR to discuss the Project during which FIGR requested a monitor be present for the proposed XPI. A completed XPI proposal document was sent to FIGR on April 4, 2024. A representative for FIGR was present for the first day of XPI fieldwork on July 8, 2024, and during the opening of the resulting core on July 24, 2024.

a) <u>No Impact</u>

Results of the record search did not identify historical resources pursuant to 14 California Code of Regulations Section 15064.5 in the Project area. Therefore, there would be no impacts to historical resources.

b) No Impact

Results from the records search and XPI did not identify any subsurface cultural material, and no historical resources pursuant to 14 California Code of Regulations Section 15064.5 are present in the Project area. Therefore, there would be no impacts to archaeological resources.

c) Less than Significant Impact

California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent destruction. The procedures for the treatment of discovered human remains are contained in California Health and Safety Code Sections 7050.5 and 7052 and California Public Resources Code Section 5097.

The Project includes PF-CUL-1 and PF-CUL-2 (Section 1.6.3), which provide a protocol for cultural resource discoveries if encountered during construction. The Project would have a less-than-significant potential to disturb human remains and other cultural materials during construction.

2.2.6 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

The following summarizes the results of the Construction-Related Energy Analysis, which was completed in April 2025 (Caltrans 2025c).

Activities that consume energy generate byproducts. Greenhouse gases (GHGs) are the most extensively studied byproducts of energy consumption and are linked to climate change. To assess energy consumed by construction vehicles and equipment, the Caltrans Construction Emissions Tool 2021 (CAL-CET 2021), version 1.0.3, was used to quantify carbon dioxide (CO_2) emissions. CO_2 is the dominant GHG from automotive sources. The U.S. Environmental Protection Agency's (USEPA's) GHG equivalencies formulas were used to convert CO_2 emissions to fuel volumes. It was assumed that diesel fuel would be used for all construction vehicles and equipment, and gasoline and electricity would be used for worker commutes. The estimated fuel consumption of construction vehicles and equipment as well as worker commute vehicles is shown in Table 2-2.

Table 2-2. Total Fuel and Electricity Consumption During Project Construction

Diesel Fuel (Gallons)	Gasoline Fuel (Gallons)	Electricity (Kilowatt Hours)
14,164	4,284	1,970

Source: Caltrans 2025c

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

The Project would not result in a potentially significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.

During Project construction, operation of heavy-duty equipment, material deliveries, and debris hauling would require diesel consumption, and construction worker commutes to the Project site would require gasoline and electricity. Diesel, gasoline, and electricity usage for construction is a one-time, temporary commitment of energy, necessary for any infrastructure improvement project. PF-AQ-3 and PF-AQ-4 (Section 1.6.1) would

minimize energy consumption from construction activities. Therefore, Project construction would not result in the inefficient, wasteful, or unnecessary consumption of energy. This impact would be less than significant.

The Project is limited to drainage and pavement improvements and would not increase the capacity of US 101 or other roads in the Project area. There would be no permanent increase in motor vehicle travel or operational energy usage. By repairing the pavement and reducing the potential for flooding, the Project is anticipated to reduce future maintenance needs. The Project would have no long-term effect on energy use.

b) No Impact

The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The proposed culvert system and repairs to storm drain pipes and pavement would have no impact on state or local plans for renewable energy or energy efficiency.

2.2.7 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.	Less than Significant Impact
(ii) Strong seismic ground shaking?	Less than Significant Impact
(iii) Seismic-related ground failure, including liquefaction?	Less than Significant Impact
(iv) Landslides?	Less than Significant Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less than Significant 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?	Less than Significant 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

A Preliminary Geologic Report was prepared by the Caltrans Office of Geotechnical Design – West (Caltrans 2023a). A summary of the findings is presented here.

GEOLOGY

Fault Rupture

According to the California Department of Conservation Alquist-Priolo Earthquake Fault Zone Map, the Project area does not include a designated fault zone and is not within 1,000 feet from any Holocene or younger fault lines (California Department of Conservation 2024). Therefore, the Project area is not considered susceptible to surface fault rupture hazards.

Seismic Hazards

The United States Geological Survey Quaternary Faults and Folds Database (USGS 2023) and California Geological Survey Fault Activity Map of California (California Department of Conservation 2015) do not indicate the presence of any faults crossing US 101 within the Project area. The Hayward fault is approximately 10.5 miles east of the Project area. The Project area is susceptible to strong earthquake-induced ground motions during the design life of the planned improvements. However, site-specific ground motion data are not necessary for the design of the Project components.

Liquefaction Potential

Groundwater was encountered at depths of 5 feet and 4 feet below the existing ground surface in 2019 borings and a 2021 test pit, respectively (Caltrans 2023a). The 2019 borings were drilled on either end of the proposed box culvert location outside of the US 101 embankment, and the test pit was excavated on the west side of the freeway. Loose to medium density cohesionless soils were encountered in these borings and the test pit within the fill. Based on these groundwater and subsurface soil conditions, the fill at the proposed culvert area is susceptible to liquefaction and related seismic hazards, including seismic total or differential ground settlement, and lateral spreading. If the bottom elevation of the proposed culvert is lower than the elevation of the liquefiable fill, liquefaction and related seismic hazards would not be a concern for the design of the culvert. The area of the Donahue Street replacement of damaged storm drain pipes is mapped as exhibiting very high liquefaction potential (Marin County 2023a).

Subsurface Conditions

The subsurface observed at the proposed culvert site can be separated into four general units. The uppermost unit consists of embankment Fill composed of silty gravel, silty sand with gravel, sandy clay, gravelly sand, clayey gravel, and gravel, from ground surface (approximately 7 feet) to a depth of about 11.5 feet. The Fill is underlain by Young Bay Mud to a depth of 42 to 60 feet, which in turn is underlain by Old Bay Mud to a depth of 45.5 feet to 90 feet. Beneath the Old Bay Mud lies silty sandstone bedrock to the maximum explored depth of 91 feet. The Bay Mud thickness and the bedrock depth increase from west to east (from the Marin City Pond to the Bay). The test pit, which was excavated on the west side of the freeway, hit refusal at a depth of 6 feet due to the encounter of rockfill. Flowing ground condition (wet saturated soil flowing as slurry) was reported in the test pit at a depth of 5 to 6 feet below ground surface. Rock fill was not encountered on the two borings drilled on either end of the proposed culvert (Caltrans 2023a). The Donahue Street replacement of damaged storm drains area is mapped as containing Saurin-Urban land-Bonnydoon complex soils in the developed roadway areas, and xerorthents, fill soils in the undeveloped cloverleaf area (USDA 2019).

Geologic Conditions

The Project area is situated on artificial fill which overlies Holocene Young Bay Mud. The Jurassic-Cretaceous Franciscan Complex metasandstone and shale is also present at significant depth. Settlement is confined to those areas underlain by Young Bay Mud due to the compressible clay.

Paleontology

The proposed culvert area is underlain by Bay Mud while the proposed replacement damaged storm drains area is underlain by Saurin-Urban land-Bonnydoon complex and xerorthents, fill soils, none of which contain scientifically relevant fossils.

a(i), (ii), (iii), (iv) Less than Significant Impact

Because active faults occur within the Project vicinity, surface rupture in the Project Area is possible. However, Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects; therefore, the Project components would be designed to meet Caltrans' stringent seismic requirements. The Project would be designed according to Caltrans seismic standards, thereby minimizing the risk to construction workers or the traveling public from strong seismic ground shaking. Although surface rupture has the potential to occur, this design would ensure that the Project components would be sourced, installed, and maintained to ensure an appropriate level of safety.

Because of the potential for strong ground shaking in the Project vicinity, seismically related ground failure has the potential to occur in the Project area. However, as noted for surface rupture, Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects, and the Project components would be designed to meet Caltrans' stringent seismic requirements.

Surficial soils in the culvert area are predominantly gravelly loam and stony clay, and overlie fragmented and unbroken Franciscan Complex bedrock. As the bottom elevation of the proposed culvert would be lower than the elevation of the liquefiable fill, there is no potential for liquefaction in the area of the proposed culvert. Although the replacement of damaged storm drains area is mapped as exhibiting very high liquefaction potential, the Project entails in-kind replacement and would not exacerbate existing liquefaction hazards. This impact would be less than significant.

As previously discussed, the Project area is not within an Alquist-Priolo Earthquake Fault Zone or areas that are susceptible to expansive soils, liquefaction, or landslides. Erosion control features would be installed as required to prevent surficial erosion and sedimentation within the Project area and to the nearby bay. This impact would also be less than significant.

b) Less than Significant Impact

Ground-disturbing earthwork associated with clearing and construction activities in the Project area has the potential to increase soil erosion rates and loss of topsoil. As described in Section 2.2.10, Hydrology and Water Quality, BMPs related to erosion control and implementation of PF-WQ-1 would minimize erosion and the loss of topsoil (Section 1.6.6). With implementation of the BMPs identified for hydrology and water quality, less than significant impacts are anticipated for the Project.

c) Less than Significant Impact

As previously discussed, subsurface conditions below the proposed culvert area consist of four general units: silty gravel, silty sand with gravel, sandy clay, gravelly sand, clayey gravel, and grave; Young Bay Mud. Old Bay Mud; and silty sandstone bedrock. The Donahue Street replacement of damaged storm drains area is mapped as containing Saurin-Urban land-Bonnydoon complex soils in the developed roadway areas, and xerorthents, fill soils in the undeveloped cloverleaf area. Because the potential exists for strong ground shaking in the area, the Project components have the potential to be located on an unstable geologic or soil unit. However, as noted under the surface rupture discussion, Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects, and each culvert would be designed to meet Caltrans' stringent seismic requirements. This impact would be less than significant.

d) No Impact

No expansive soils are present within the proposed culvert footprint. Although the Donahue Street replacement of damaged storm drains area is mapped as containing Saurin-Urban land-Bonnydoon complex soils that are prone to expansion, the Project entails in-kind replacement of existing pipe culverts and would not exacerbate existing expansive soil hazards. There would be no impact.

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

As previously described, the Project area is not within geologic units that have the potential to contain paleontological resources. However, should the Project unearth paleontological resources during Project construction, the unanticipated discovery of paleontological resources would be addressed through PF-GEO-1 (Section 1.6.4). A less than significant impact is anticipated.

2.2.8 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

The following summarizes the results from the Construction-Related Greenhouse Gas Analysis Emissions Analysis, which was completed in April 2025 (Caltrans 2025d).

a) Less than Significant

Project construction would result in temporary greenhouse gas (GHG) emissions. Construction-generated GHGs include emissions from on-site construction equipment and worker and vendor vehicle trips. Construction-related GHG emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET), CAL-CET2021 v1.0.3. GHG emissions considered in the calculation include carbon dioxide (CO_2), which is the dominant GHG due to its abundance when compared with other vehicle-emitted GHG (methane, nitrogen oxide, and hydrofluorocarbon); and carbon dioxide equivalents (CO_2e), a measure of how much energy the emissions of 1 ton of a gas will absorb over a given time, relative to the emissions of 1 ton of CO_2. Construction-related GHG emissions are summarized in Table 2-3.

Table 2-3. Summary of Construction-Related GHG Emissions

Greenhouse Gas Parameter	Project Total
Carbon dioxide (CO_2)	202 tons
Methane (CH_4)	0.005 ton
Nitrogen oxide (N_20)	0.01 ton
Hydrofluorocarbon (HFC)	0.005 ton
Carbon dioxide equivalent (CO_2e)[1]	209 metric tons

Source: Caltrans 2025d

Notes:

[1] Gases are converted to CO_2e by multiplying by their global warming potential. Global warming potential is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2).

GHG emissions during construction would be temporary, and the emission reduction measures included in PF-AQ-1 through PF-AQ-4 (Section 1.6.1) would limit unnecessary GHG emissions to the extent feasible. Because the Project would not contribute to a

long-term change in GHG emissions and GHG reduction measures would be implemented during construction, the impact would be less than significant.

The Project would not increase the motor vehicle capacity of US 101 or Donahue Street. Therefore, the Project would not affect travel demand or travel patterns in a way that would contribute to a long-term increase in GHG emissions.

b) No Impact

Plans and policies adopted for the purposes of reducing GHG emissions in California are described in Section 2.3, Climate Change.

The Project would not contribute to a long-term increase in GHG emissions, and GHG reduction measures would be implemented during construction. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the GHG emissions. There would be no impact.

2.2.9 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?	Less than Significant 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?	Less than Significant 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?	Less than Significant Impact

This section includes a summary of the information in the Initial Site Assessment (ISA; Caltrans 2025e) for the proposed Project.

Land uses at the proposed Project site are primarily commercial and residential. The existing roadways have supported vehicular activity for many years. It is likely that the surface soils along these roadways are affected by the deposition of aerial lead (ADL). Subsurface water may also contain hazardous chemicals and metals (Caltrans 2023b). Soil and groundwater may also contain metals, petroleum hydrocarbons, and volatile organic compounds.

The approximately 3-acre Marin City Pond was reportedly constructed in the late 1950s to provide stormwater storage for US 101 and Marin City. Potential contaminated stormwater runoff from Marin City and US 101 drains to the Marin City Pond. In addition, legacy contamination associated with the former Marinship shipbuilding facility located in Sausalito may be contributing to contaminated runoff.

Sediment samples collected from the Marin City Pond in 2021 were analyzed for metals, petroleum hydrocarbons, VOCs, semi volatile organic compounds (SVOC), polychlorinated biphenyl (PCB), organochlorine pesticides (OCP), dioxins/furans, and asbestos. Arsenic and lead were the only analytes detected at concentrations exceeding human health regulatory screening levels. Arsenic concentrations ranged from 7.83 to 10.6 milligrams per kilogram (mg/kg), within the range of naturally occurring background and therefore not a contaminant of concern. Lead concentrations ranged from 26.2 to 620 mg/kg with several samples exceeding the residential screening level of 80 mg/kg and one sample exceeding the commercial screening level of 320 mg/kg (recently revised to 500 mg/kg).

Based on review of the State Water Resources Control Board (SWRCB) GeoTracker online database (2024), one Leaking Underground Storage Tank (LUST; Regional Board Case #21-0052) and one Cleanup Program Site (Regional Board Case #21S0042) are located within 0.1 mile southwest and south of the proposed culvert. Both of these regulatory cases are listed as closed. Review of the Department of Toxic Substances Control (DTSC) EnviroStor online database indicates that one Hazardous Waste Facility (CAD981161367) is located approximately 0.63 mile southeast of the Project. Per the DTSC, a Closure Verification has been issued for this site (DTSC 2024).

Two former gasoline stations (prior to shopping center development) and a former dry-cleaner facility were located in the Marin Center Shopping Center development adjacent to the Marin City Pond. Documented releases of petroleum hydrocarbons and solvents impacted soil and shallow groundwater at these locations upgradient of the Marin City Pond. Undocumented underground storage tanks (UST) associated with former refueling and service station operations may exist within the Project area.

a, b) Less than Significant Impact

The potential for significant hazard to the public or the environment from routine use or foreseeable upset and accident conditions during construction would be addressed through Project Features, construction methods, and adherence to applicable regulations, as described below.

During construction, PF-HAZ-1 (Section 1.6.5) would be implemented to prevent spills or leaks from construction equipment and from the storage of fuels, lubricants, and solvents. Construction-related activities associated with removal, storage, transportation, and disposal of hazardous materials would occur in accordance with the appropriate California Health and Safety Code. Handling of hazardous materials would comply with Caltrans Standard Specification 14-11, Hazardous Waste and Contamination, which outlines handling, storage, and disposal of hazardous waste. This includes standard specifications to prevent and control accidental release of hazardous materials from

potential sources including but not limited to construction equipment and materials, ADL, potentially contaminated soils, and groundwater.

During the detailed design phase, PF-HAZ-2 (Section 1.6.5) would be implemented, which entails performing a preliminary site investigation (PSI) for aerially deposited lead, agricultural chemicals, and potential hazardous materials concerns related to soil and groundwater. Soil and groundwater samples would be collected and analyzed for potential contaminants of concern including Title 22 metals, petroleum hydrocarbons and VOCs. Shallow soil sampling and analytical testing would be performed for the unpaved highway/roadway shoulders in areas of planned construction excavations to evaluate the potential presence of ADL at regulated concentrations. Additionally, soil sampling and analytical testing would be performed to determine if excess excavated soil generated during construction would be suitable for offsite reuse and/or requires accepting landfill disposal. The findings of the PSI would be used to evaluate soil and groundwater handling practices, construction worker health and safety concerns, and soil and groundwater reuse and disposal options. If hazardous materials are identified during the preliminary site investigation, additional investigation could be required. The results of the site investigation would determine the special provisions to be used in the final design package.

Any undocumented subsurface structures including USTs encountered during construction excavation activities, such as those potentially associated with the former gasoline stations that predate the Marin Gateway Shopping Center, would be properly removed or abandoned in accordance with applicable County permitting requirements. Areas where apparent soil contamination (i.e., odor, staining, debris, etc.) is encountered during construction excavation/grading activities (if any) would be isolated, stockpiled separately, and disposed of where appropriate to an accepting landfill facility. Notification to the County for regulatory oversight would be performed as required if any significant areas of contamination are encountered.

Asbestos-containing pipe may be encountered during construction of the planned drainage improvements that would require proper handling and disposal in accordance with regulatory requirements.

With the implementation PF-HAZ-1 and PF-HAZ-2 (Section 1.6.5), and adherence to applicable regulations such as the California Health and Safety Code and County requirements, the Project would result in a less-than-significant hazard to the public and the environment from the routine transport, use, disposal, foreseeable upset, or accident involving hazardous materials during construction.

The Project would not involve the routine transport or use of hazardous materials or increase the risk for foreseeable upset or accident conditions once the Project becomes operational.

c) Less than Significant Impact

The Project is located within approximately 0.25 mile of Manzanita Preschool, Horizon Community School, Dr. Martin Luther King Jr. Academy (Phillips Campus), and Creative Gardens Preschool and Daycare Center. Potential construction impacts to existing schools would be addressed through Project Features, construction methods, and adherence to applicable regulations. This includes implementation PF-HAZ-1 and PF-HAZ-2 (Section 1.6.5), and adherence to applicable regulations such as the California Health and Safety Code and County requirements. In consideration of these Project Features and regulations, the Project would result in a less-than-significant impact in the event of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The Project would not result in operational conditions that would increase hazardous emissions or handling of hazardous materials.

d) No Impact

Based on review of the State Water Resources Control Board (SWRCB) GeoTracker online database, one Leaking Underground Storage Tank (LUST) and one Cleanup Program Site are located within 0.1 mile southwest and south of the proposed culvert. Both of these regulatory cases are listed as closed. Review of the Department of Toxic Substances Control (DTSC) EnviroStor online database indicates that one Hazardous Waste Facility, a closed photo waste facility, is located approximately 0.63 miles southeast of the Project. Per the DTSC, a Closure Verification has been issued for this site (DTSC 2024). The proposed project is not collocated with any of these closed hazardous material sites and would not otherwise disturb or affect them. Therefore, the Project would have no impact on previously recorded hazardous material sites.

e) No Impact

The Commodore Center Seaplane Base and Commodore Center Heliport are both approximately 1,000 feet north of the Project. Both are privately owned and used primarily for air tours. The Project is not located within the jurisdiction of an airport land use plan or within 2 miles of a public airport or public use airport. San Rafael Airport is located approximately 10 miles north of the Project.

No Project components, including construction equipment, would reach heights or have elements that have the potential to pose a safety hazard to airport operations. The

Project would not construct any features that would expose people to excessive aviation-related noise levels, as discussed in Section 2.2.13. No impact would result from the Project.

f) Less than Significant Impact

The Project would result in reduced flooding and repair to damaged storm drain pipes in the vicinity of the US 101/Donahue Street interchange, which is anticipated to result in a long-term benefit to emergency response and evacuation.

Construction staging for culvert installation beneath US 101 would require up to five 55-hour weekend partial closures of both northbound and southbound US 101, during which two lanes of traffic would remain open in both directions of US 101. A temporary detour for the Mill Valley–Sausalito Pathway with one-way traffic control would be provided during the Weekend 2 and/or Weekend 4 55-hour partial closures. The detour would entail temporarily widening the western side of the pathway to maintain access. Construction staging for the Phillips Drive storm drain connection would occupy a single lane of Donahue Street near the intersection with Park Circle. One-way traffic control would be provided. No roadway closures would be required during construction of this component. A combination of temporary shoulder and lane closures would be used to replace the damaged storm drains along Donahue Street and the US 101 southbound off-ramp. Closure hours for this component would be coordinated with the Marin County Department of Public Works. No full closures of the off-ramp are expected. Minimal traffic impacts are anticipated for the damaged storm drain replacement, as most work would occur within the roadway and shoulder.

The Project includes preparation and implementation of a TMP (PF-TRANS-1; Section 1.6.9) to address emergency access effects during construction potentially resulting from lane closures or delays. The TMP would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to avoid or minimize potential impacts to emergency services. Emergency access would be maintained throughout construction, and the TMP would provide for priority access for emergency and medical vehicles associated with essential services, thereby avoiding or minimizing short-term, localized traffic congestions and delays. Notifications and instructions for rapid response or evacuation in the event of an emergency would be provided.

The Project would not conflict with the Marin County Operational Area Multi-Jurisdictional Hazard Mitigation Plan 2023 (Marin County 2024b) or other emergency response or evacuation plans. The purpose of the Project is to reduce flooding and address damaged storm drain pipes in the vicinity of the US 101/Donahue Street interchange. This is consistent with the Mitigation Actions identified in the Marin County Operational Area Multi-Jurisdictional Hazard Mitigation Plan 2023, including Mitigation

Action MC-39 for Marin City stormwater improvements to limit standing water and flooding and general actions to address aged infrastructure. The TMP would avoid or minimize temporary construction effects to emergency response or evacuation that may conflict with plan goals.

With the implementation of PF-TRANS-1 (Section 1.6.9), Project construction would result in a less-than-significant impact related to emergency response and evacuation.

Once constructed, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g) Less than Significant Impact

The Project area is partially within a California Department of Forestry and Fire Protection (CAL FIRE) state responsibility area (SRA), which is classified as a Moderate Fire Hazard Severity Zone. There are other SRAs and Local Responsibility Areas (LRAs) west of the Project area that range from Moderate to High, but there are no Very High Fire Hazard Severity Zones nearby (Cal Fire 2025).

The Marin County Fire Department, which serves the Project area, is responsible for emergency services and the management of fire operations during emergency response efforts. The nearest Marin County Fire Station is located at 850 Drake Avenue, Sausalito, approximately 0.1 miles southwest of the Project.

Equipment may be used during construction that has the potential to increase the risk of wildfire. However, construction personnel would be equipped with standard incipient stage fire suppression equipment, such as fire extinguishers and shovels. PF-WF-1 (Section 1.6.10) includes incorporation of BMPs such as clearing vegetation from the work area, prohibiting the use of highly flammable chemicals, following locally changing meteorological conditions, and maintaining awareness of the possibility of increased fire danger during the time work is in progress. Professional fire services would be contacted immediately in the event of a fire. The Project does not have permanent components that would expose people or structures to the risk of loss, injury, or death involving wildland fires.

The Project includes preparation and implementation of a TMP (PF-TRANS-1; Section 1.6.9) to address emergency access effects during construction potentially resulting from lane closures, detours, or delays. The TMP would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to avoid or minimize potential impacts to wildfire evacuations. Additionally, outreach would provide instructions for rapid response or evacuation in the event of a wildfire emergency.

With the implementation of PF-TRANS-1 (Section 1.6.9) and PF-WF-1 (Section 1.6.10), Project construction would result in a less-than-significant impact related to wildfires.

Once constructed, the Project would not expose people or structures, either directly or indirectly, to a risk of loss, injury, or death involving wildland fires.

2.2.10 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;	Less than Significant Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Less than Significant Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Less than Significant Impact
(iv) impede or redirect flood flows?	Less than Significant Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Less than Significant Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than Significant Impact

This section provides a summary of the Location Hydraulic Study/Floodplain Analysis (Caltrans 2024d), Water Quality Study (Caltrans 2024e), and Stormwater Data Report (Caltrans 2025f) prepared for the Project, as well as information provided by the Flood District (BKF 2025).

The Project is located in the San Francisco Bay and Corte Madera Creek – Frontal San Francisco Bay Estuaries watersheds, which are within the Bay Bridges Hydrologic Unit and San Rafael Hydrologic Area. Richardson Bay, the discharge location for the existing box culvert and proposed culvert, is one of several waterbodies in the Project watersheds. Other waterbodies include San Francisco Bay (Central), Coyote Creek (Marin County), and Arroyo Corte Madera Del Presidio. Table 2-4 identifies the 2024 303(d) list pollutants of concern and San Francisco Bay Regional Water Quality Control Board Region 2 Basin Plan (RWQCB 2017) identified beneficial uses for these waterbodies.

Table 2-4. Project Watershed Waterbody Pollutants of Concern and Beneficial Uses

Project Watershed Waterbody	2024 303(d) List Pollutants of Concern	Beneficial Uses
Richardson Bay	chlordane, dichlorodiphenyltricholorethane (DDT), dieldrin, dioxin compounds, furan compounds, indicator bacteria, invasive species, mercury, and polychlorinated biphenyls (PCBs)	Industrial Service Supply, Industrial Process Supply, Commercial and Sport Fishing, Shellfish Harvesting, Estuarine Habitat, Fish Migration, Preservation of Rare and Endangered Species, Fish Spawning, Wildlife Habitat, Contact/Non-Contact Water Recreation
San Francisco Bay (Central)	chlordane, DDT, dieldrin, dioxin compounds, furan compounds, invasive species, mercury, PCBs, selenium, trash	Industrial Service Supply, Industrial Process Supply, Commercial and Sport Fishing, Shellfish Harvesting, Estuarine Habitat, Fish Migration, Preservation of Rare and Endangered Species, Fish Spawning, Wildlife Habitat, Contact/Non-Contact Water Recreation, Navigation
Coyote Creek (Marin County)	diazinon	Cold Freshwater Habitat, Warm Freshwater Habitat, Wildlife Habitat, Non-Contact Water Recreation, Navigation
Arroyo Corte Madera Del Presidio	diazinon	Shellfish Harvesting, Cold Freshwater Habitat, Fish Migration, Preservation of Rare and Endangered Species, Fish Spawning, Warm Freshwater Habitat, Wildlife Habitat, Contact/Non-Contact Water Recreation, Navigation

The Project is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (Region 2), which is responsible for the implementation and enforcement of State and Federal laws and regulations concerning water quality. The Project is anticipated to require a Section 401 Water Quality Certification from the RWQCB.

The Project is also within the coverage area of the Statewide General Permit for Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s) (Phase II), implemented in 2013. In Marin County, the MS4 area encompasses all publicly owned storm drains, gutters, roadside ditches, and other similar features that collect and discharge stormwater. This MS4 area is regulated by the State Water Resources Control Board and the San Francisco Regional Water Quality Control Boards (Region 2).

A portion of the Project area is within the San Francisco Bay Conservation and Development Commission's (BCDC's) area of authority (Section 2.2.11). This includes the proposed culvert outfall that discharges to Richardson Bay which is within BCDC's San Francisco Bay jurisdiction; and other Project elements and activities that would occur within BCDC's 100 foot shoreline band jurisdiction. The Project is anticipated to require a BCDC permit to develop within BCDC's jurisdictions. Because the Project would include development in the BCDC's Bay and Shoreline Band jurisdictions, applicable BCDC Bay Plan Policies around transportation, fill in the Bay, environmental justice, sea level rise, and public access must be considered when requesting a permit.

As shown in Figure 2-3, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) applicable to the Project show that the area from the outfall of the proposed culvert crossing to approximately the eastern most northbound lane of US 101 are within the FEMA Zone AE (FEMA 2016). Zone AE is defined by FEMA as a Special Flood Hazard Area prone to flooding from a 1-percent-annual-chance event, meaning a 1 percent chance of flooding each year. The remainder of the Project area is identified as within Zone X, defined by FEMA as an area with moderate flood risk, typically between 0.2 percent and 1 percent annual chance of flooding.

The Project area is located in a Tsunami Hazard Area (California Department of Conservation 2022). The largest waterbodies in Marin County that could potentially be affected by a seiche include the lakes and reservoirs connected to Alpine Dam, Bon Tempe Dam, Lagunitas Dam, Phoenix Dam, Peters Dam (Kent Lake), Nicasio Dam, and Soulajule Dam, all of which are operated by the Marin Municipal Water District. Additionally, the dam at Stafford Lake on Novato Creek, managed by the North Marin Municipal Water District, and the private dam at Big Rock Ranch are also considered in this context. However, none of these waterbodies are located near the Project area.

Marin County's groundwater basins have not been classified as medium- or high-priority by the California Department of Water Resources. Under the Sustainable Groundwater Management Act, basins that are designated as medium- or high-priority must establish groundwater sustainability agencies, create sustainability plans, and manage their groundwater resources to ensure long-term sustainability.

Groundwater in the Project area was encountered at depths of 5 feet and 4 feet below the existing ground surface in 2019 borings (on either end of the proposed culvert outside the footprint of the US 101 embankment) and a 2021 test pit (excavated on the west side of the freeway), respectively (Caltrans 2023a). High groundwater was also observed at culverts in the US 101/Donahue Street interchange area along southbound US 101 (Caltrans 2025f; Figure 2-4). High groundwater conditions are anticipated throughout the Project area (Caltrans 2024e).

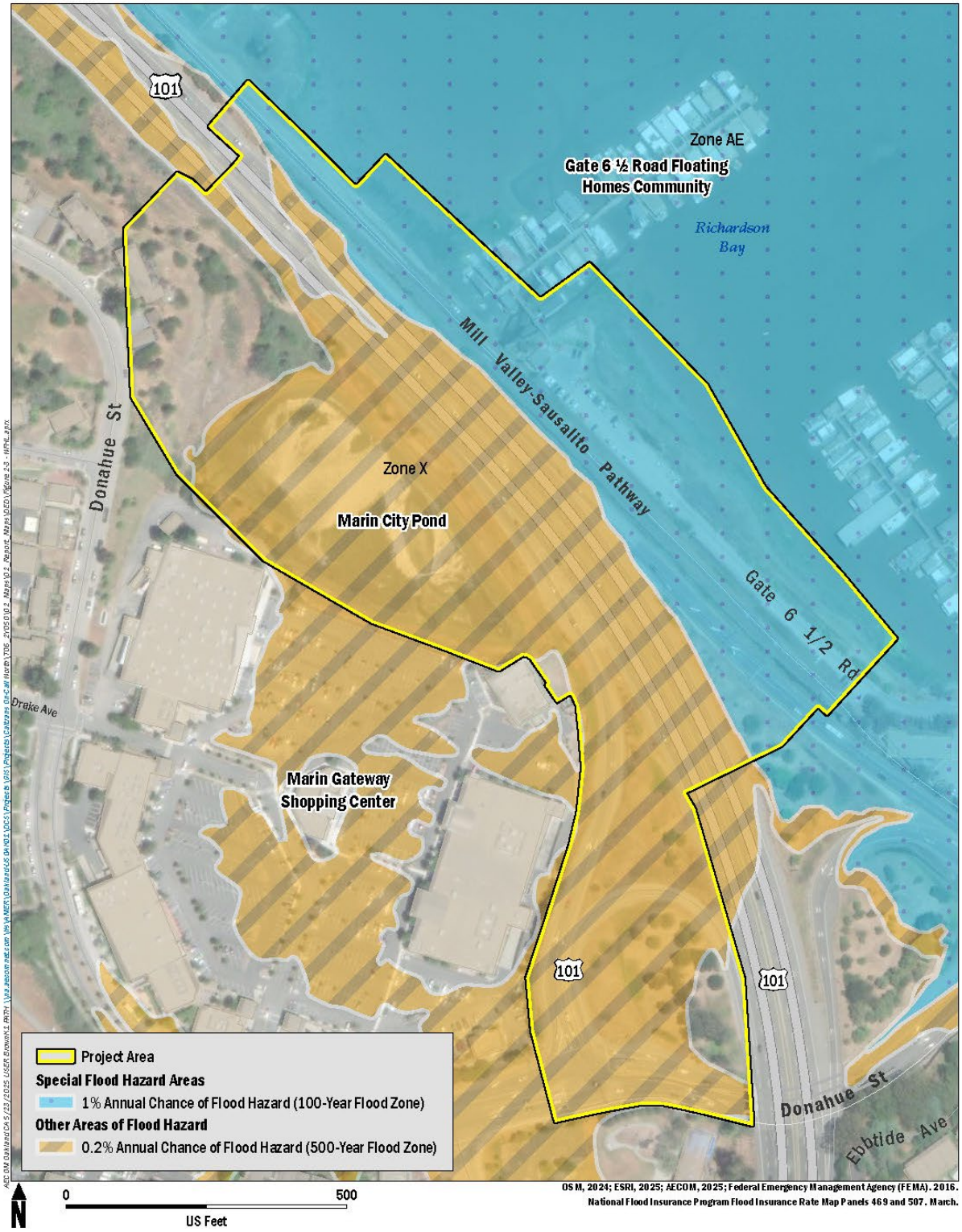

Figure 2-3. Federal Emergency Management Agency Flood Insurance Rate Map

Figure 2-4. High Groundwater Conditions at US 101/Donahue Street Interchange Area

a) Less than Significant Impact

Project construction activities, including grading and excavation, may temporarily affect surface water quality in nearby waterways and groundwater. This may include sediment discharge or pollutant inputs. The total disturbed soil area would be an estimated 1.01 acres, which includes stockpiling and staging areas and excavation related to the new culvert and the drainage pipe replacements. The Project would impact more than one acre and must comply with the State of California Construction General Permit. Therefore, an NOI must be submitted to the RWQCB, and a SWPPP must be created to outline strategies for managing discharges related to construction activities, as described in PF-WQ-1 (Section 1.6.6). Erosion control BMPs would also be included in the final Project plans to comply with conditions of the required Caltrans National Pollutant Discharge Elimination System (NPDES) permit, as described in PF-WQ-2 (Section 1.6.6). The Project also includes PF-HAZ-1 to prevent spills or leaks from construction equipment and materials, and PF-HAZ-2 requiring a PSI to analyze soil and groundwater for appropriate management measures and special provisions (Section 1.6.5). The Project also likely requires a Section 401 Water Quality Certification from the RWQCB, which is anticipated to include additional AMMs related to water quality.

During operations, the Project would adhere to the requirements outlined in the Phase II Small MS4 General Permit. The Project is classified as a Linear Underground/ Overhead Project. The Project would not result in the creation of 5,000 square feet or more of continuous impervious surface. Therefore, it would not be required to implement Low Impact Development BMPs. The proposed Project would also include permanent BMPs to minimize runoff, maximize infiltration, maximize vegetation (depending on the location), and reduce erosion. Potential permanent treatment BMPs for the Build Alternative include biofiltration strips. Biofiltration strips are a type of biofiltration system that uses natural processes to treat stormwater runoff. Biofiltration strips are composed of sloped, vegetated areas next to hard surfaces like roads. As water flows over these strips, pollutants such as sediment, metals, oil, and grease are filtered out—mainly through soaking into the ground (infiltration), but also by settling, binding to soil, and absorption by plants. These systems are especially useful for cleaning runoff from roads and are recognized as effective in stormwater treatment (CASQA 2003). The locations and design details of permanent BMPs would be finalized during the detailed design phase.

In consideration of permanent BMPs integrated in the Project design, adherence with applicable regulations and permits such as the Phase II Small MS4 General Permit and anticipated Section 401 Water Quality Certification, and with implementation of PF-WQ-1, PF-WQ-2, PF-HAZ-1 and PF-HAZ-2 during Project construction, the Project would result in less-than-significant impacts related to water quality standards or waste discharge requirements from construction and operations.

b) Less than Significant Impact

As described in Chapter 1, dewatering may be required during construction activities that encounter high groundwater. Any dewatering required for construction activities would be required to comply with the State of California Construction General Permit. The Project additionally includes PF-HAZ-2 (Section 1.6.5), which entails performing a PSI for potential water quality concerns related to soil and groundwater. The findings of the PSI would be used to evaluate soil and groundwater handling practices. At minimum, pumped groundwater would be stored in tanks, tested for applicable treatment requirements prior to permitted discharge, and discharged in accordance with state and federal regulations.

The Project would not create new groundwater uses or significantly deplete aquifers that are essential for local water supplies. Additionally, the site is not situated within a designated groundwater recharge area.

As Project operations would not affect groundwater management, and construction would adhere to applicable permits and implement PF-HAZ-2, there would be less than significant impacts related to groundwater management.

c)(i) Less than Significant Impact

Project activities have a high potential for site sediment risk (Caltrans 2024e). To address this risk, the Project includes permanent BMPs to minimize runoff, maximize infiltration, maximize vegetation (depending on the location), and reduce erosion. Potential permanent treatment BMPs for the Build Alternative include biofiltration strips, as discussed in Item “a)” above. The locations and design details of permanent BMPs would be finalized during the detailed design phase.

During Project construction, a SWPPP including strategies for managing erosion and siltation would be developed and implemented consistent with the State of California Construction General Permit and PF-WQ-1 (Section 1.6.6). Erosion control BMPs would also be included in the final Project plans to comply with conditions of the required Caltrans NPDES permit, as described in PF-WQ-2 (Section 1.6.6). If determined necessary, additional soil management measures would be identified and employed as determined through a Project PSI (PF-HAZ-2, Section 1.6.5).

As demonstrated through hydraulic modeling, the Project would result in a long-term reduction in the average and peak flow rates discharged from the existing box culvert (BKF 2025). This is anticipated to reduce scour at the existing Richardson Bay outfall.

In consideration of the Project’s long-term benefit of decreasing flows to Richardson Bay at the existing box culvert, and with the implementation of PF-WQ-1 and PF-HAZ-2, the Project would not result in substantial operational or construction-related erosion or siltation and impacts would be less than significant.

c)(ii) Less than Significant Impact

The Project would result in no net new impervious surface area and 0.07 acre of replaced impervious surface (RIS) area. The RIS consists of the new culvert work and the drainage system replacement work being done within the roadway. Alterations to the drainage system in the Project area that are designed to achieve the Project purpose of reducing flooding. The Project includes permanent BMPs to maximize infiltration, which are anticipated to include biofiltration strips. Existing drainage demands from the Marin City Pond and surrounding stormwater inflow, including the Phillips Drive drainage system, exceed the capacity of the existing box culvert under US 101 and contribute to flooding in the Project area. The Project would shift the connection of the existing Phillips

Drive drainage system from the existing box culvert to the new culvert to reduce inflow to the Marin City Pond, resulting in a reduction in flooding.

Hydraulic modeling that included the proposed Marin City second culvert was conducted as part of studies for the Marin City Pond Pump Station Flood Reduction Project and other potential improvements (BKF 2025). The analysis considered water surface elevations in the Marin City Pond, maximum flood elevations in the Donahue Street and US 101 areas, and discharge flow rates to Richardson Bay from the existing box culvert (average and peak) for the existing condition and with the Project. Modeling results for existing condition and with the Marin City second culvert are presented in Table 2-5.

Table 2-5. Project Hydraulic Modeling Results

Parameter	Existing	With Project
Peak Water Surface Elevation (feet, NAVD88) at Marin City Pond		
2-year design storm	6.7	6.5
10-year design storm	7.6	7.0
100-year design storm	9.3	8.4
Maximum Flooded Area (acres) at Donahue Street and US 101		
2-year design storm	6.1	5.8
10-year design storm	18.7	17.0
100-year design storm	51.5	48.9
Average Flow Rate (cubic feet per second) Discharged from Existing Box Culvert to Richardson Bay		
2-year design storm	16.4	11.5
10-year design storm	34.4	22.3
100-year design storm	67.3	41.4
Peak Flow Rate (cubic feet per second) Discharged from Existing Box Culvert to Richardson Bay		
2-year design storm	130	81
10-year design storm	195	112
100-year design storm	256	171

Source: BKF 2025
Notes: A 2-year design storm is a storm that has a 50% chance of occurring in any given year. A 20-year design storm is a storm that has a 5% chance of occurring in any given year. A 100-year design storm is a storm that has a 1% chance of occurring in any given year.
NAVD88 = North American Vertical Datum of 1988

The Project would reduce the spatial extent of flooding by lowering the peak water surface elevation in the Marin City Pond and reduce the maximum flooded areas at

Donahue Street and US 101, compared to existing conditions. The Project would also reduce flows from the existing box culvert to Richardson Bay compared to existing conditions (BKF 2025).

The proposed in-kind replacement of damaged storm drain pipes in the area of Donahue Street at the southbound US 101 ramps would not affect drainage patterns or result in flooding. During operations, the Project would also adhere to the requirements outlined in the Phase II Small MS4 General Permit.

Project construction is not anticipated to result in more than negligible alterations to drainage and would not contribute to flooding. The Project may require a temporary cofferdam to isolate the construction area for the pipe culvert outfall from Richardson Bay waters, which is anticipated to have minimal effects on tidal patterns in Richardson Bay. Other construction activities are expected to have minimal if any effect on drainage patterns. Surface erosion, accidental spills, and groundwater would be managed through implementation of PF-WQ-1 and PF-WQ-2 (Section 1.6.6) and adherence to applicable regulations and permitting such as the Section 401 Water Quality Certification from the RWQCB.

In consideration of the Project design and purpose, implementation of PF-WQ-1 and PF-WQ-2, and adherence to applicable regulations, the Project would result in less-than-significant impacts related to flooding

c)(iii) Less than Significant Impact

As noted for Item “c.ii)” above, the Project purpose and design includes reducing drainage demands on the Marin City Pond in order to reduce flooding, which is supported by Project hydraulic modeling (BKF 2005). Although approximately 0.32 acre of new impervious surfaces would be created, the Project includes permanent BMPs to maximize infiltration, anticipated to include biofiltration strips. The potential for polluted runoff during construction would be addressed through PF-WQ-1, PF-WQ-2 (Section 1.6.6), and PF-HAZ-2 (Section 1.6.5) which entail developing and implementing appropriate AMMs for erosion, spills, and management of potentially hazardous materials.

c)(iv) Less than Significant Impact

The existing box culvert is too small to accommodate existing stormwater flows when the high flows coincide with high tides. During major rainfall events combined with high tides in Richardson Bay, the Marin City Pond can overtop its banks and lead to flooding on Donahue Street, southbound US 101, and the southbound off-ramp to Donahue Street. The installation of the new culvert would allow the existing flow from the Phillips Drive

drainage system to be rerouted directly to Richardson Bay, resulting in less total flow needing to be conveyed by the existing box culvert. As shown in Table 2-5, the Project would reduce flooding by lowering the peak water surface elevation in the Marin City Pond and reducing the maximum flooded areas at Donahue Street and US 101 (BKF 2025). In consideration of this benefit, impacts related to redirecting flood flows would be less than significant.

d) Less than Significant Impact

The Project area occurs within FEMA Zone EA and Zone X, which are areas where the annual flood risk is 1% or between 0.2% and 1%, respectively. The Project site is also located in a Tsunami Hazard Area (California Department of Conservation 2022).

During construction, Project Features including PF-HAZ-1 and PF-HAZ-2 (Section 1.6.5) would be implemented to address potential pollutant spills and to identify potential pollutant sources and appropriate management related to soil and groundwater. During Project construction, a SWPPP including strategies for managing erosion and siltation would be developed and implemented consistent with the State of California Construction General Permit and PF-WQ-1 (Section 1.6.6). The Project would also adhere to regulations and specification pertaining to hazardous materials, such as the California Health and Safety Code and Caltrans Standard Specification 14-11.

The Project would not result in increased risk for release of pollutants once the Project becomes operational. Erosion control BMPs would be included in the final Project plans to comply with conditions of the required Caltrans NPDES permit, as described in PF-WQ-2 (Section 1.6.6).

With implementation of these Project Features and adherence to applicable regulations, the Project would result in a less than significant risk for releasing pollutants due to inundation.

e) Less than Significant Impact

With the implementation of PF-WQ-2 through PF-WQ-3 (Section 1.6.6), the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

2.2.11 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?	Less than Significant

The Project is located on US 101 from Post Mile (PM) 3.3 to PM 3.7 in Marin County. According to the Marin Countywide Plan, the Project footprint is bounded by commercial land uses (i.e., the Marin Gateway Shopping Center) to the west, residential land uses to the east, and additional residential land uses to the southwest. The homes to the east are part of the Gate 6 1/2 floating homes community, while the homes to the southwest are a mixture of single detached- and multi-family residences (Marin County 2023b).

The Project is within the jurisdiction of multiple regional and local plans, including the BCDC San Francisco Bay Plan, Marin Countywide Plan, Richardson Bay Special Area Plan, City of Sausalito General Plan, and Marin City Community Plan.

SAN FRANCISCO BAY PLAN

The Project footprint is partially within BCDC jurisdiction, as defined by the McAteer-Petris Act and the San Francisco Bay Plan (BCDC 2023). The Project area, proposed improvements, and approximate limits of BCDC jurisdiction are shown on Figure 2-5. The BCDC is responsible for permitting any proposed project that involves fill; extraction of materials; or substantial changes in use of any water, land, or structure within BCDC jurisdiction (California Government Code Section 66632). The Project would include work within the shoreline band, which consists of all territory located between the shoreline of the Bay and 100 feet landward of and parallel with the shoreline (California Government Code Section 66610[b]).

Within the Project area, the shoreline band ends approximately halfway through the northbound US 101 travel lanes. The outfall of the new proposed culvert, along with its associated infrastructure, would be within the shoreline band. The following policies of the Bay Plan were identified as relevant to the Project:

- **Shoreline Protection, Policy 3:** Riprap revetments, the most common shoreline protective structure, should be constructed of properly sized and placed material that meet sound engineering criteria for durability, density, and porosity. Armor materials used in the revetment should be placed according to accepted engineering practice, and be free of extraneous material, such as

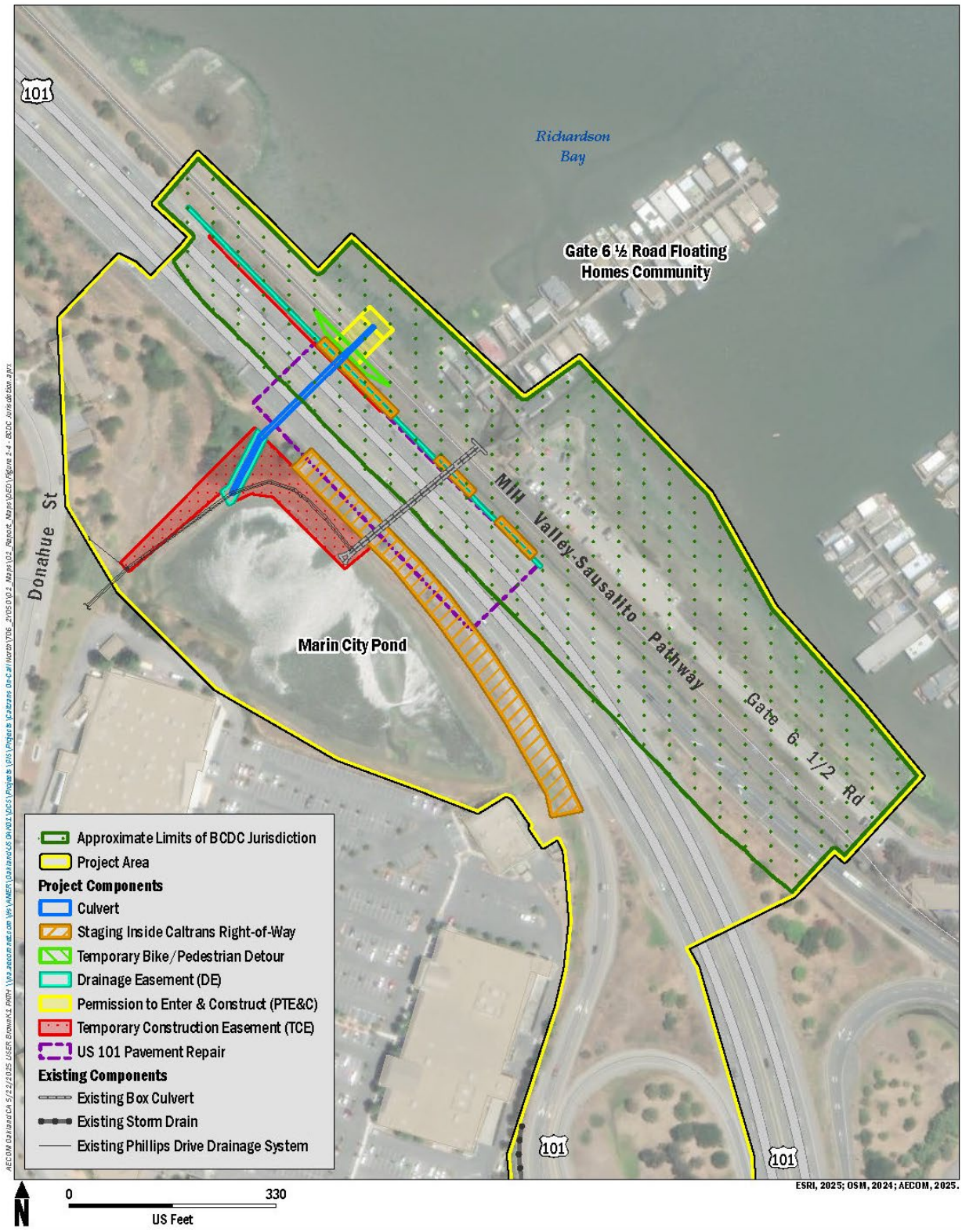

Figure 2-5. Approximate Limits of BCDC Jurisdiction

debris and reinforcing steel. Generally, only engineered quarrystone or concrete pieces that have either been specially cast, are free of extraneous materials from demolition debris, and are carefully selected for size, density, and durability will meet these requirements. Riprap revetments constructed out of other debris materials should not be authorized.

- **Transportation, Policy 4:** Transportation projects on the Bay shoreline and bridges over the Bay or certain waterways should include pedestrian and bicycle paths that will either be a part of the Bay Trail or connect the Bay Trail with other regional and community trails. Transportation projects should be designed to maintain and enhance visual and physical access to the Bay and along the Bay shoreline.

- **Public Access, Policy 1:** A proposed fill project should increase public access to the Bay to the maximum extent feasible, in accordance with the policies for Public Access to the Bay.

MARIN COUNTYWIDE PLAN

According to the Marin Countywide Plan, the Project footprint and surrounding area falls within the Richardson Bay Planning Area (Marin County 2023b). This Planning Area includes all of the Tiburon Peninsula; the cities of Belvedere, Sausalito, and Mill Valley; the Town of Tiburon; and the unincorporated communities of Strawberry, Marin City, and Tamalpais Valley, as well as the unincorporated neighborhoods of Alto, Homestead Valley, Almonte, Muir Woods Park, and the floating homes community on Richardson Bay. The relevant land use policies for the Project are as follows:

- **BIO-5.2, Limit Development and Access:** Ensure that development does not encroach into sensitive vegetation and wildlife habitats, damage fisheries or aquatic habitats, limit normal wildlife range, or create barriers that cut off access to food, water, or shelter for wildlife. Require an environmental assessment where development is proposed within the Baylands Corridor.

- **TRL-1.d, Establish Regional Trail Connections:** Strive to complete regional trail systems in Marin County, including the Bay Area Ridge Trail, the San Francisco Bay Trail, and the California State Coastal Trail. The proposed alignment of the Coastal Trail will be considered through the process to update the Marin County Local Coastal Program. In addition, collaborate with property owners and representatives from the agricultural community on the planning and appropriate alignment of the Coastal Trail and other new trail connections in the Coastal Zone.

RICHARDSON BAY SPECIAL AREA PLAN

The purpose of the Richardson Bay Special Area Plan is to provide findings and policies for the continued protection of Richardson Bay, which is referred to as a "unique and valuable scenic and natural resource," for which the "people of Marin County, the San Francisco Bay Area, and California have a substantial and continuing interest in its present and future use (Marin County 1984). As the Project is located adjacent to and partially within Richardson Bay, this plan was consulted for relevant information. The following policies of the Richardson Bay Special Area Plan were identified as relevant to the Project:

- Aquatic and Wildlife Resources, Policy 1: The open water, marshes, and mud flats of Richardson Bay are particularly valuable wildlife habitat and should be afforded maximum protection. Eelgrass beds, important to herring spawning and for production of detritus, should also receive maximum protection.

- Aquatic and Wildlife Resources, Policy 5: Any development within Richardson Bay should avoid destruction of marshes, mud flats, shellfish beds, and eelgrass beds. If such losses are unavoidable, the project should be authorized only if the minimum amount of habitat disturbance necessary to accomplish the purpose of the project occurs and the habitat loss is mitigated to the fullest extent. Mitigation should be within Richardson Bay, preferably at the development site, or if that is not feasible, at a site identified in the Tidal Restoration and Marsh Enhancement section of the Special Area Plan.

- Tidal Restoration and Marsh Enhancement, Policy 2: Tidal circulation should be restored to Flea Market Pond and Greenwood Cove Pond to the extent compatible with flood protection and sediment control needs. [*Note: Flea Market Pond was the previous name of the Marin City Pond. Greenwood Cove Pond is located in the northernmost portion of Richardson Bay, just east of Strawberry Point School.*]

- Public Access, Views, and Vistas; Policy 1: A continuous unified public access system should be provided around the entire periphery of Richardson Bay.

CITY OF SAUSALITO GENERAL PLAN

The City of Sausalito's General Plan provides a vision for Sausalito in 2040, as well as objectives, policies, and programs for achieving this vision. The Project Footprint is partially within the sphere of influence of the City of Sausalito. Specifically, the portion of the Project area east of US 101 toward Richardson Bay is subject to the policies of this plan. The following policies were identified as relevant to the Project:

- **Policy W-4.2 Bay Waters**: Preserve and enhance the wetlands, open waters, and ecosystem of Richardson's Bay and utilize these landscapes for sea level rise mitigation.

- **Policy W-2.3 Water Circulation Patterns**: Support maintenance and enhancement of circulation patterns on the water in Richardson's Bay.

- **Policy EQ-1.3 Wetlands Restoration**: Restore Sausalito's wetlands to improve environmental quality and mitigate sea level rise.

- **Policy CP-5.6 Regional Bicycle and Pedestrian Trails:** Continue to support the San Francisco Bay Trail, Bay Area Ridge Trail, and other agencies and jurisdictions in their efforts to provide bicycle and pedestrian trails throughout the nine counties of the San Francisco Bay Area.

MARIN CITY COMMUNITY PLAN

The Marin City Community Plan provides the goals, objectives, and policies for the future development of Marin City (Marin County 1992). The following policies of the Marin City Community Plan were identified as relevant to the Project:

- **EP 1. Improve the hydrologic system to minimize flooding hazards.**

    a. EP 1.1 Preserve and reclaim the existing stream channels and watersheds areas in the ridgelands.

    b. EP 1.2 Enlarge the holding capacity and resurrect the indigenous character and habitat of the flea market pond (Marin City Pond) area.

- **EP 2. Restore and enhance Marin City's vegetation systems and wildlife habitat areas.**

    a. EP 2.1 Maintain the ridgeland's diverse vegetation blocks i.e., oak/bay, grassland, coastal brush lands.

    b. EP 2.2 Insure that development will not alter significant tree massings or existing natural drainage patterns.

    c. EP 2.3 Control introduced or invasive plant species, i.e., Eucalyptus and French Broom and prohibit the further introduction of such species.

    d. EP 2.4 Restore tidal action to the pond area and allow pond/marsh system to revegetate.

a) No Impact

The Project would not change land use in a way that would divide an established community. Project construction would result in temporary detours and lane closures along US 101, as described in Section 2.2.17. However, there would be no permanent alteration to the transportation system, and no permanent changes that would divide an established community. A temporary detour would also be required along the Mill Valley–Sausalito Pathway during construction. Access along the path would be continuous throughout construction, despite the detour, and the path will not be closed at any point. Therefore, there would be no impact.

b) Less than Significant

Project construction would result in temporary impacts to sensitive species habitat and wetlands, which would be avoided or minimized through implementation of PF-BIO-2, PF-BIO-3, PF-BIO-6, PF-BIO-7, PF-BIO-10, PF-BIO-13, PF-BIO-14, (Section 1.6.2) and AMM-BIO-2, and AMM-BIO-4 through AMM-BIO-7 (Section 2.2.4). Permits would be obtained from NMFS, USACE, RWQCB, and BCDC for Project activities and improvements occurring within their respective jurisdictions. This includes approvals for work in Richardson Bay, in addition to BCDC approval for work within the shoreline band (100 feet from the shoreline of San Francisco Bay and its tidally influenced tributaries). A small area of permanent impact to aquatic habitat would result from construction of the proposed culvert outfall and would be compensated through implementation of MM-BIO-1 (Section 2.2.4). The permanent culvert outfall features would affect a small area (less than 0.01 acre), may replace existing rock slope protection, and would not result in a significant change to existing conditions. Therefore, there would be less-than-significant impacts related to conflicts with land use plans and policies.

The Project would not alter or impact the existing land use designations in Project area, in any of the jurisdictions described above. All land use designations would remain the same.

2.2.12 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

a, b) No Impact

The Project occurs within the Mineral Resource Zone (MRZ) category MRZ-1, which the California Geological Survey (CGS) designates as “areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources” (Stinson, Manson, and Plappert 1987). Therefore, there would be no impact.

2.2.13 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
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant
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

The information in this section is summarized from the Construction-Related Noise Analysis (Caltrans 2025g) and the Construction-Related Vibration Analysis (Caltrans 2025h).

a) Less than Significant Impact

Project construction has the potential to result in short-term, temporary increases in noise levels. While most construction would take place during the day, some nighttime construction would be necessary, as described in Section 1.4.5. The specific timing, duration, and locations of nighttime construction activities would be determined during the detailed design and preconstruction phases.

The following local noise ordinances apply to the Project area:

- City of Sausalito Noise Ordinance (City of Sausalito 2024): Operation of construction devices in residential zones is limited to daytime hours (8:00 a.m. to 6:00 p.m. on weekdays, 9:00 a.m. to 5:00 p.m. on Saturdays) and prohibited on Sundays and holidays. The ordinance would apply to the Project area east of US 101, including the Gate 6 ½ floating homes community, which is within the City of Sausalito sphere of influence.

- Marin County Noise Ordinance (Marin County 2024c): The ordinance limits construction noise to daytime hours (7:00 a.m. to 6:00 p.m. on weekdays, 9:00 a.m. to 5:00 p.m. on Saturdays), and construction noise is prohibited on Sundays and holidays. However, Section 6.70.030(5)(c) of the ordinance allows for exceptions for “construction projects of city, county, state or other public agency, or other public

utility." The ordinance does not specify decibel level limits for construction noise. This ordinance would apply to the Project area west of US 101.

Typically, work within the Caltrans ROW (shown on Figures 1-3A and 1-3B) is not subject to local noise ordinances; however, Caltrans will work with the contractor to meet the local requirements where feasible. Caltrans' standard for temporary construction noise impacts is to not exceed an L_{max} of 86 A-weighted decibels (dBA) at 50 feet from the construction site from 9:00 p.m. to 6:00 a.m.

Caltrans used the FHWA Roadway Construction Noise Model to assess potential construction noise impacts from the loudest anticipated Project activities: impact pile driving, culvert installation, paving, and cold planing (described in Section 1.4). The study measured the maximum hourly noise levels (L_{max}) and the average hourly noise levels (L_{eq}) that receptors could hypothetically experience at 50 feet, 100 feet, 200 feet, 300 feet, and 500 feet from each construction activity. The study also estimated construction noise levels for the following residential receptor (R) locations, which are shown in Figure 2-6.

- R1, R2, and R3: Three floating residences at the Gate 6 ½ floating homes community
- R4: 212 Donahue Street, Sausalito (northwest of the Marin City Pond)
- R5: 115 Drake Avenue, Sausalito (part of the Golden Gate Village residential complex, just to the south of Donahue Street)

Table 2-6 summarizes the construction noise estimates for locations R1 through R5 as well as for the general distances (represented by HP, or hypothetical distance).

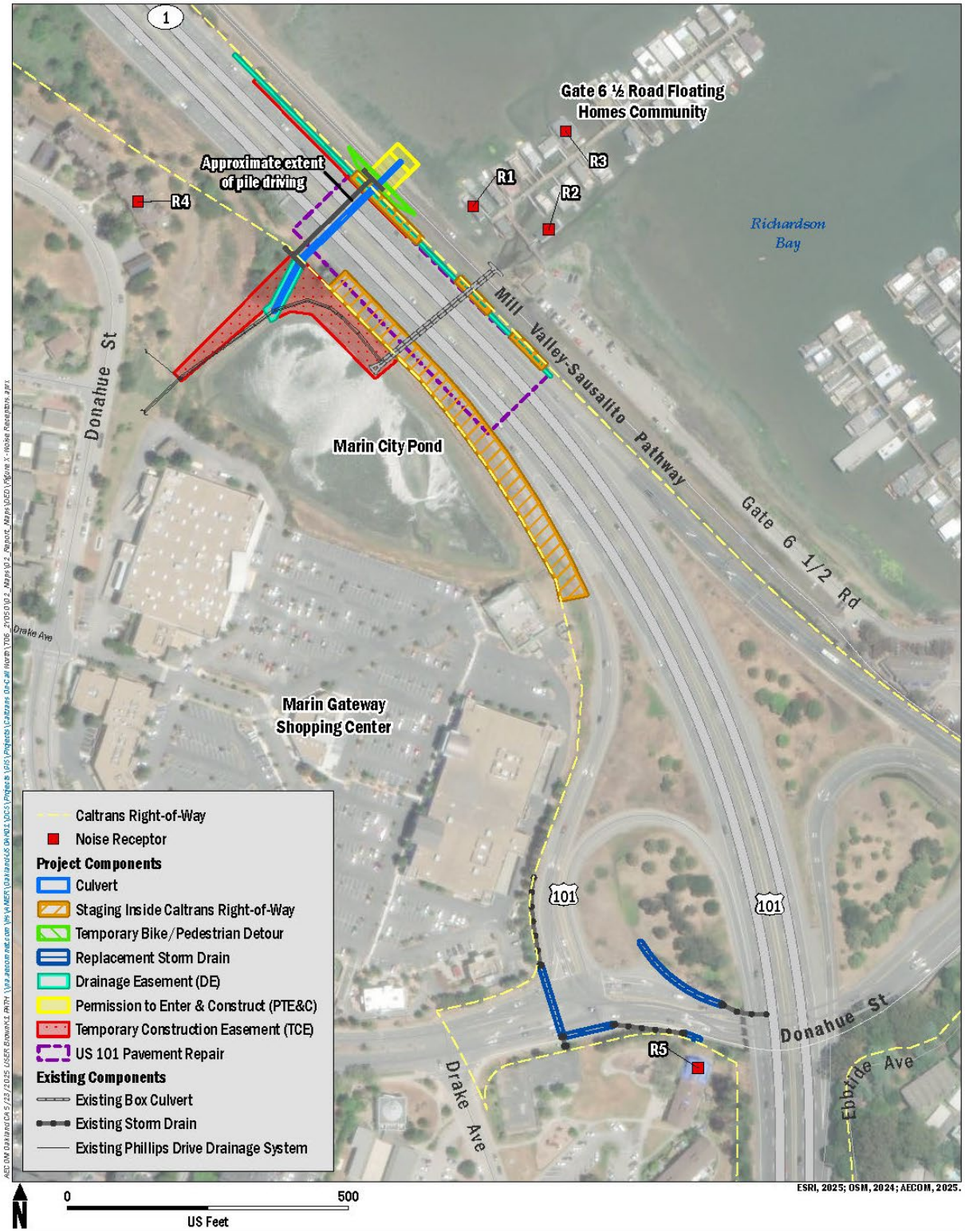

Figure 2-6. Construction Noise Study Receptor Locations

Table 2-6. Construction Noise Levels

Receptor Location (see Figure 2-6)	Impact Pile Driving (Distance)	Impact Pile Driving (L_{max})	Impact Pile Driving (L_{eq})	Installing Culvert (Distance)	Installing Culvert (L_{max})	Installing Culvert (L_{eq})	Cold Planing (Distance)	Cold Planing (L_{max})	Cold Planing (L_{eq})	Paving (Distance)	Paving (L_{max})	Paving (L_{eq})
HP	50	**101.3**	**94.6**	50	85	84.4	50	**89.5**	85.8	50	85	85.2
HP	100	**95.2**	**88.6**	100	79	78.4	100	83.5	81	100	79	79.2
HP	200	**89.2**	82.6	200	73	72.3	200	77.5	73.8	200	73	73.2
HP	300	85.7	79.1	300	69.4	68.8	300	73.9	71.5	300	69.4	69.6
HP	500	81.3	74.6	500	65	64.4	500	69.5	67.1	500	65	65.2
R1	148	**91.8**	85.2	124	77.1	76.5	110	82.7	80.2	110	78.2	78.3
R2	289	86	79.4	269	70.4	69.8	158	79.5	77.1	158	75	75.2
R3	334	84.8	78.1	286	69.9	69.2	316	73.5	71.1	316	69	69.2
R4	276	**86.4**	79.8	276	70.2	69.5	162	79.3	76.9	162	74.8	75
R5	NA	NA	NA	40	**86.9**	**86.3**	NA	NA	NA	40	**86.9**	**87.1**

Bold indicates values higher than 86 dBA.
NA = Not applicable; the activity would not occur within 1,000 feet or more of the receptor.

As shown in Table 2-6, the estimated construction noise levels would exceed the Caltrans noise standard of 86 dBA L_{max} at the following locations, if construction takes place between 9:00 p.m. and 6:00 a.m.:

- R1 and R4 due to pile driving, as well as for receptors within less than 300 feet from pile driving locations
- R5 due to culvert installation and paving
- Receptors within less than 50 feet of cold planing locations

Project construction would not conflict with the Marin County Noise Ordinance because exceptions to the construction noise limitations apply to state projects. However, nighttime Project construction activities could conflict with the City of Sausalito Noise Ordinance, which applies to the Project area east of US 101, including the Gate 6 ½ floating homes community.

The majority of the loudest Project activities (impact pile driving, culvert installation, paving, and cold planing) would occur during the five 55-hour weekend partial closures along US 101, described in Section 1.4.5. PF-NOI-1 in Section 1.6.7 includes standard Caltrans measures to reduce the potential for temporary noise impacts from Project construction. The implementation of AMM-NOI-1 (at the end of this section) would further minimize the potential for temporary noise impacts during construction. Under AMM-NOI-1, Caltrans would require the construction contractor to develop and implement a Noise Control Plan that includes construction noise monitoring, the use of noise control measures, and public outreach about the timing of construction activities.

The Project would not increase the capacity of US 101 or Donahue Street, and the new culvert system would not affect ambient noise levels in the Project vicinity. The Project would not result in a substantial temporary or permanent increase in ambient noise levels. Impacts would be less than significant.

b) Less than Significant Impact

Project construction has the potential to generate temporary groundborne vibration in the vicinity of residences. The Caltrans Transportation and Construction Vibration Guidance Manual (Caltrans 2020b) provides guidance criteria for potential structural damage and human annoyance. Tables 2-7 and 2-8 present the criteria considered for the proposed Project. Transient vibration sources include a single isolated event, such as blasting or drop balls, and continuous/frequent intermittent sources include impact pile drivers, vibratory pile drivers, and vibratory compaction equipment.

Table 2-7. Vibration Damage Potential Threshold Criteria

Structures and Condition	Transient Sources [Maximum Peak Particle Velocity (PPV) (inch/second)]	Continuous/ Frequent Intermittent Sources [Maximum Peak Particle Velocity (PPV) (inch/second)]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans 2020b, Table 19.

Table 2-8. Vibration Annoyance Potential Threshold Criteria

Human Response	Transient Sources [Maximum Peak Particle Velocity (PPV) (inch/second)]	Continuous/ Frequent Intermittent Sources [Maximum Peak Particle Velocity (PPV) (inch/second)]
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible (begin to annoy people)	0.9	0.10
Severe	2.0	0.4

Source: Caltrans 2020b, Table 20.

Because Project construction would include impact pile driving for culvert construction near residences, Caltrans assessed four locations in the Gate 6 ½ floating homes community for potential vibration impacts (structure [S] locations S1 through S4; see Figure 2-7). Caltrans also assessed vibration amplitudes that could hypothetically take place at residential structures within 25 feet, 50 feet, 100 feet, 200 feet, and 300 feet of the pile driving, if structures exist within those distances. To be conservative, all structure locations were assumed to be older residential structures.

Table 2-9 provides the results of the analysis for structure (S) locations S1 through S4 and the general distances (represented by HP, or hypothetical distance).

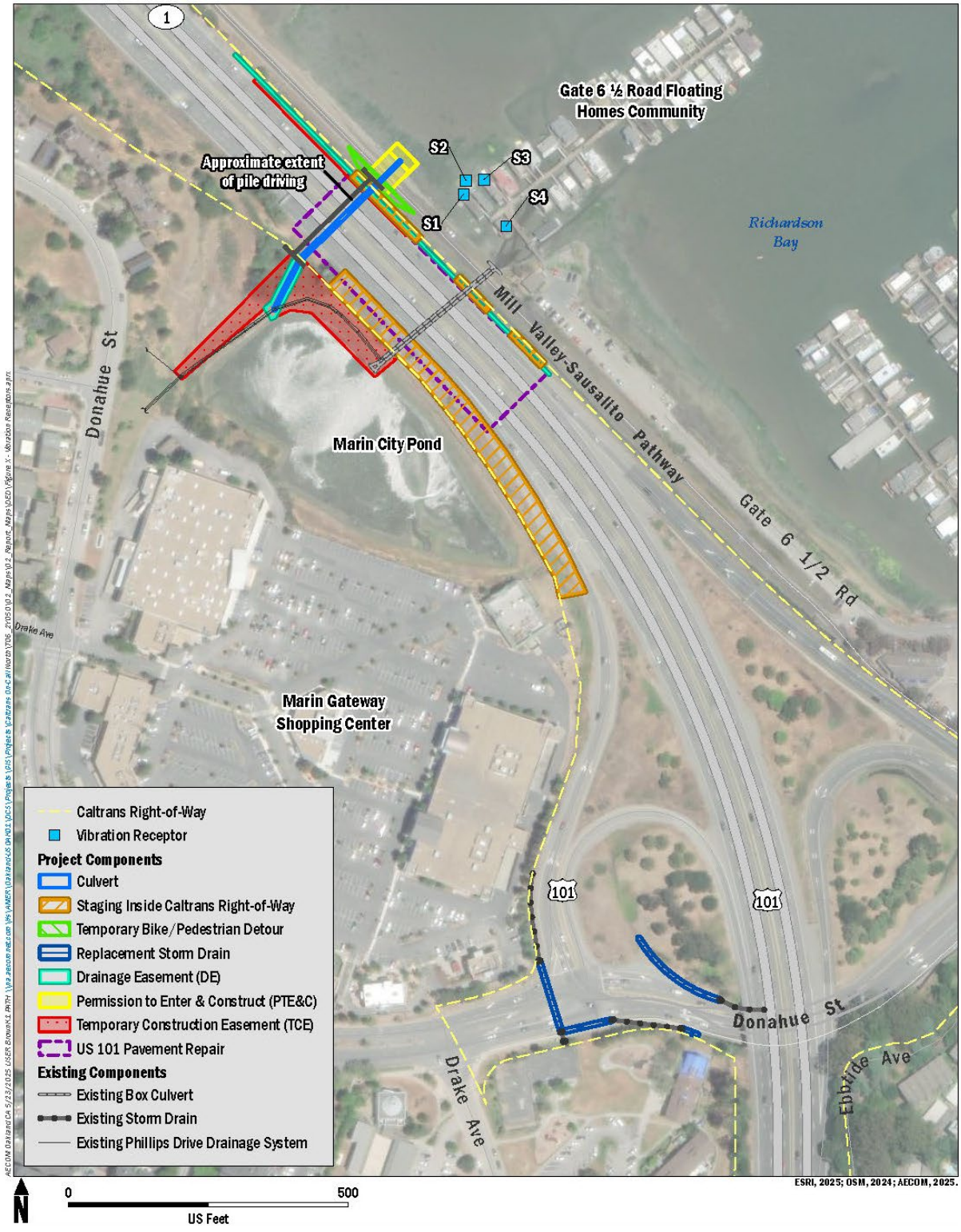

Figure 2-7. Construction Vibration Study Receptor Locations

Table 2-9. Vibration Damage and Annoyance Potential

Structure (see Figure 2-7)	Representative Structure Type (Table 2-7)	Approximate distance (feet)	Vibration Amplitude (inch/second)	Damage Threshold (inch/second)	Annoyance
HP-1	Older Residential Structure	25	**1.88**	0.3	Severe
HP-2	Older Residential Structure	50	**0.76**	0.3	Severe
HP-3	Older Residential Structure	100	**0.31**	0.3	Strongly perceptible
HP-4	Older Residential Structure	200	0.13	0.3	Strongly perceptible
HP-5	Older Residential Structure	300	0.07	0.3	Distinctly perceptible
S1	Older Residential Structure	141	0.20	0.3	Strongly perceptible
S2	Older Residential Structure	149	0.18	0.3	Strongly perceptible
S3	Older Residential Structure	176	0.15	0.3	Strongly perceptible
S4	Older Residential Structure	217	0.11	0.3	Strongly perceptible

Bold indicates values that exceed the vibration damage potential threshold criteria (Table 2-7). These criteria do not predict actual structure damage (Caltrans 2020b).

The four locations in the Gate 6½ floating homes community (S1 through S4 in Table 2-9 and Figure 2-7) would have vibration amplitudes that are below the vibration damage potential threshold. If other structures were present within 100 feet of the nearest pile driving location (HP-1 through HP-3 in Table 2-9), vibration amplitudes would exceed the vibration damage potential threshold; however, no structures exist within 100 feet.

Depending on their location, people in the Project vicinity could experience annoyance from construction vibration during the five 55-hour weekend partial closures along US 101, when pile driving would occur (Section 1.4.5). The effect would be temporary, and public outreach about scheduled construction activities (AMM-NOI-1 below) would allow residents, visitors, and others the opportunity to avoid the Project area during pile driving operations, if feasible. Temporary impacts associated with the generation of excessive groundborne vibration or groundborne noise levels would be less than significant.

The Project would not result in long-term excessive groundborne vibration or groundborne noise, as it would not increase road capacity or include features that would generate appreciable ground vibration. No permanent impacts would occur.

c) No Impact

The Commodore Center Seaplane Base and Commodore Center Heliport are both located approximately 1,000 feet north of the Project. Both are privately owned and used primarily for air tours. No other airports or heliports are located within 2 miles of the Project. The Project would not construct any features that would expose people to excessive aviation-related noise levels. No impact would occur.

AVOIDANCE, MINIMIZATION, AND/OR ABATEMENT MEASURE

AMM-NOI-1 would avoid or minimize potential short-term, construction-related noise impacts in the Project vicinity:

- **AMM-NOI-1, Noise Control and Monitoring.** Caltrans shall include a Special Provision in the Contract Specifications requiring Noise Monitoring and Control, which shall require the construction contractor to implement a construction Noise Control Plan. The Noise Control Plan shall include the following:
    - Monitoring construction noise to maintain noise levels within specified limits;
    - Providing additional noise controls where practical and feasible, such as noise blankets on equipment with high noise levels or barriers between noisy activities and sensitive receptors; and
    - Providing public outreach and a communication plan to alert residents, businesses, and others of upcoming construction-related activities and the Project construction schedule.

2.2.14 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

The Project is on US 101 in Marin County, California. The majority of the Project area is within Marin City, which is an unincorporated community of Marin County. However, the area east of US 101, including the Gate 6 ½ floating homes community along Richardson Bay, is part of the City of Sausalito's sphere of influence.

a) No Impact

The Project would not induce substantial unplanned population growth in an area, either directly by proposing new homes and businesses or indirectly through extension of roads or other infrastructure. The Project would not build commercial or residential establishments that may induce unplanned population growth, nor would the Project increase the configuration or capacity of US 101 or Donahue Street. There would be no impact.

b) No Impact

The Project would not displace any existing population or affect housing, necessitating the construction of replacement housing elsewhere. The Project would not encroach upon residential homes, nor would it impact any existing housing such that it would require replacement housing. There would be no impact.

2.2.15 Public Services

Would the Project:

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?	Less Than Significant Impact
Other public facilities?	Less Than Significant Impact

Public services, including for emergency response, are provided by multiple agencies within and near the Project area. Those services, and the agencies that provide them, are described below.

FIRE SERVICES

Marin County Fire Department, Marin City Station

The Marin City Fire Station is located within the County of Marin Public Safety Building, at 850 Drake Avenue, Sausalito. Through this station, the Marin County Fire Department is the fire response and Emergency Medical Services (EMS) provider for the Project area and its nearby residents.

POLICE SERVICES

Marin County Sheriff's Office

The Marin County Sheriff's Office maintains a substation at the Marin Public Safety Building, at 850 Drake Avenue, Sausalito. Through this station, the Marin County Sheriff's office provides police services throughout the Project area and beyond.

City of Sausalito Police Department

The City of Sausalito Police Department provides crime prevention, marine patrol, and other various programs for the community and resource for citizens of Sausalito, California. The police department is headquartered at 29 Caledonia Street, Sausalito, California, approximately 1.6 miles south of the Project area. The area east of US 101 closest to the Project area, including the nearby floating home community, is part of Sausalito's sphere of influence, and is therefore under the jurisdiction of their police department.

SCHOOLS

The Project is located within approximately 0.25 mile of Dr. Martin Luther King Jr. Academy (Phillips Campus), Manzanita Preschool, Horizon Community School, and Creative Gardens Preschool and Daycare Center.

PARKS AND OTHER FACILITIES

George Rocky Graham Park

George Rocky Graham Park is a public park in Marin City. The park features a variety of public use recreational features such as a picnic/barbeque area, open artificial turf lawn/assembly area, stage/pavilion, amphitheater, central plaza, community art, walking and jogging trail, tot lot and children's play area, exercise stations, and landscaping. It is owned and managed by the Marin City Community Services District.

Golden Gate National Recreational Area

Golden Gate National Recreational Area (GGNRA) is a U.S. National Recreation Area that encompasses over 82,000 acres of ecologically and historically significant landscapes in the San Francisco Bay Area. The Marin Headlands portion of the GGNRA is a part is southwest of the Project area. There are several multi-use trails, visitor amenities, and campgrounds within the Headland area. The Orchard Trail, Pacheco Trail, and Alta Trail are all popular trails within 0.5 mile of the Project area. The GGNRA is managed by the US National Park Service.

Martin Luther King Jr. Park

Martin Luther King Jr. Park is a public park in Sausalito. The park features a variety of public use recreational facilities such as a large lawn area, a softball field, track area, playground, basketball courts, pickle ball and tennis courts, dog park, and gym. It is owned and managed by the City of Sausalito.

Mill Valley-Sausalito Pathway

The Mill Valley-Sausalito Pathway is a 3.7-mile paved multi-use trail in Sausalito. Within the Project area, the pathway runs east of and parallel to US 101 along the west shore of Richardson Bay. It provides a scenic bay view and is part of the San Francisco Bay Trail. It is owned and managed by Marin County Parks.

Golden Gate Village Recreational Facilities

Recreational facilities for the community of Golden Gate Village include a playground, tennis courts, and basketball court. These facilities are at the corner of Donahue Street and Drake Avenue adjacent to the Project area. The facilities are owned and maintained by the Marin Housing Commission.

a) Less than Significant Impact

FIRE AND POLICE PROTECTION

Project construction would not result in the need for new or physically altered governmental facilities for fire or police protection. As described in Section 2.2.17, the Project would result in temporary short-term traffic impacts during construction. However, per PF-TRANS-01, a TMP would be prepared in coordination with local emergency service providers to avoid or minimize temporary construction to fire and police services during construction. Therefore, the Project would result in a less-than-significant temporary impact on fire and police services.

Once constructed, the Project would not result in the need for new or physically altered governmental facilities for fire or police protection. No permanent impact would occur.

SCHOOLS

The project would not require new or physically altered schools.

PARKS AND OTHER PUBLIC FACILITIES

Temporary construction-related impacts on park and recreation facilities are described in Section 2.2.16. PF-REC-1 in Section 1.6.8 would reduce the potential for impacts during project construction. Temporary impacts would be less than significant.

Once constructed, the Project would not result in the need for new or physically altered governmental facilities for parks and other public facilities in the Project area. No permanent impacts would occur.

2.2.16 Recreation

Would the Project:

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?	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Less than Significant

There are several parks and recreational resources within a 0.5-mile radius of the Project area, as shown in Figure 2-8. These resources are listed in Table 2-10 and described in detail below.

Table 2-10. Recreational Resources within a 0.5-Mile Radius of Project Area

Recreational Resource	Location	Resource Type
Bayside Martin Luther King Jr. Academy	200 Philips Drive, Sausalito	Public School with after-school public use recreational facilities
Brickyard Park	Along Eastern Shore of Richardson Bay	Public Park
George Rocky Graham Park	850 Drake Avenue, Sausalito	Public Park
Golden Gate National Recreational Area	Southwest of the Project area	National Park
Martin Luther King Jr. Park	601 Coloma Street, Sausalito	Public Park
Mill Valley-Sausalito Pathway	Within Mill Valley and Sausalito	Trail/Pathway
Golden Gate Village Recreational Facilities	At the southwest corner of the Donahue Street/Drake Avenue intersection	Playground, tennis courts, basketball court

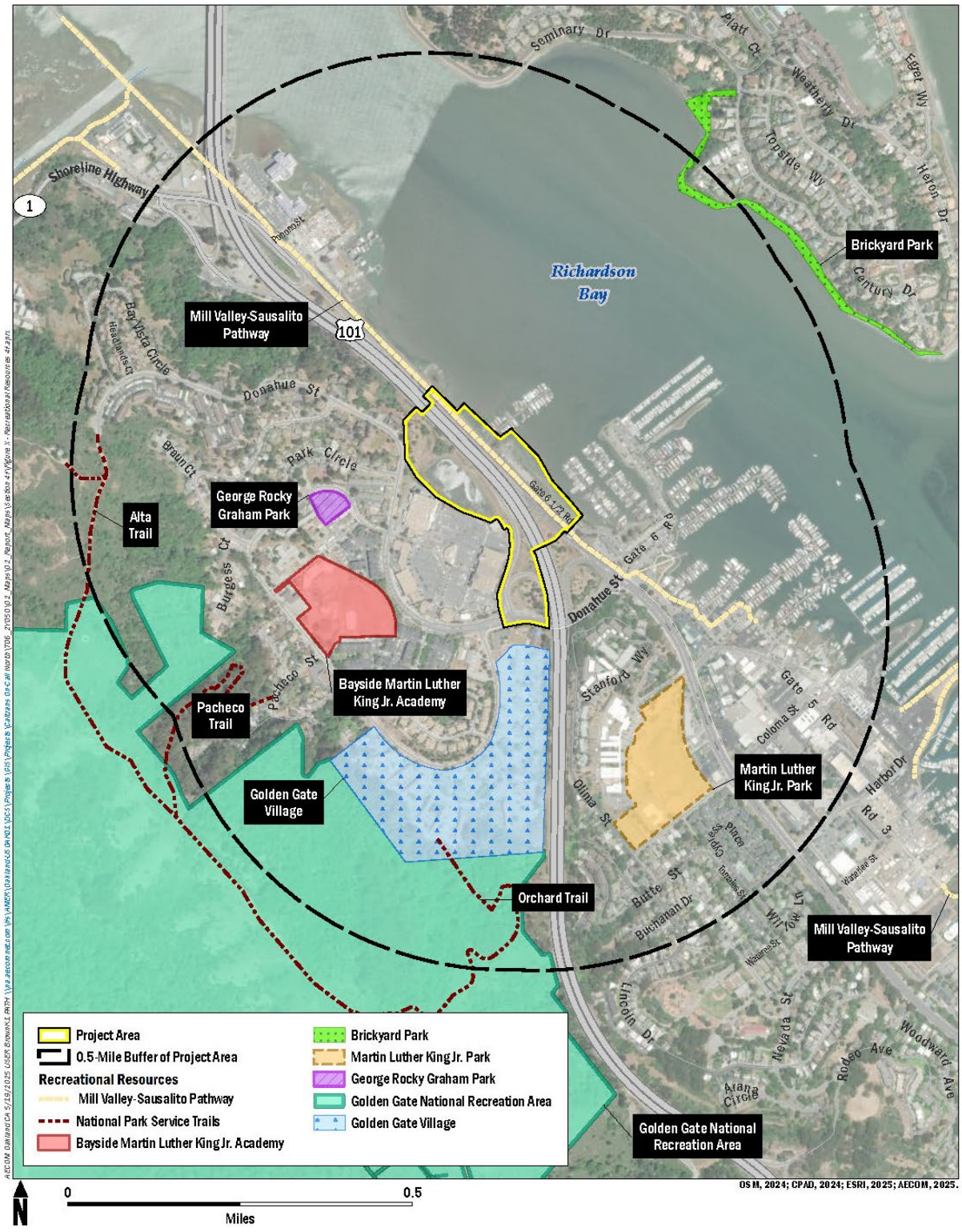

Figure 2-8. Recreational Resources Within a 0.5-Mile Radius of Project Area

BAYSIDE MARTIN LUTHER KING JR. ACADEMY

Bayside Martin Luther King Jr. Academy is a public elementary school (K through 8th grade) that is part of the Sausalito Marin City School District in Sausalito. The Academy is at 200 Phillips Drive in Marin City with an approximate student population of 108 students. There is a playground and recreational area available for public use after school hours.

BRICKYARD PARK

Brickyard Park is a semi-developed park on the eastern shore of Richardson Bay in the community of Strawberry. It is accessible via Seminary Drive and Great Circle Drive and contains a play structure, picnic tables, and benches. Brickyard Park is owned and maintained by the Strawberry Recreation District.

GEORGE ROCKY GRAHAM PARK

George Rocky Graham Park is a public park in Marin City. The park features a variety of public use recreational features such as a picnic/barbeque area, open artificial turf lawn/assembly area, stage/pavilion, amphitheater, central plaza, community art, walking and jogging trail, tot lot and children's play area, exercise stations, and landscaping. It is owned and managed by the Marin City Community Services District.

GOLDEN GATE NATIONAL RECREATIONAL AREA

Golden Gate National Recreational Area (GGNRA) is a U.S. National Recreation Area that is over 82,000 acres of ecologically and historically significant landscapes in the San Francisco Bay Area. The Marin Headlands portion of the GGNRA is southwest of the Project area. There are several multi-use trails, visitor amenities, and campgrounds within the Headlands area. The Orchard Trail, Pacheco Trail, and Alta Trail are within 0.5 mile of the Project area. The GGNRA is owned and managed by the U.S. National Park Service.

MARTIN LUTHER KING JR. PARK

Martin Luther King Jr. Park is in Sausalito. The public park features a variety of public use recreational facilities such as a large lawn area, a softball field, track area, playground, basketball courts, pickle ball and tennis courts, dog park, and gym. It is owned and managed by the City of Sausalito.

MILL VALLEY-SAUSALITO PATHWAY

The Mill Valley-Sausalito Pathway is a 3.7-mile paved multi-use trail that connects Mill Valley with Sausalito Within the Project area, the pathway runs east of and parallel to US 101 along the west shore of Richardson Bay and is part of the San Francisco Bay Trail. The Mill Valley-Sausalito Pathway is owned and managed by Marin County Parks and is open 24 hours a day.

GOLDEN GATE VILLAGE RECREATIONAL FACILITIES

Recreational facilities for the community of Golden Gate Village include a playground, tennis courts, and basketball court. These facilities are at the corner of Donahue Street and Drake Avenue adjacent to the Project area. The facilities are owned and maintained by the Marin Housing Commission.

a) No Impact

The proposed Project does not include features that would add roadway capacity or increase the population of the Project area. It would not directly or indirectly result in an increase in the use of existing recreational facilities in the Project area. No physical deterioration of these facilities due to increased use would result with implementation of the Project.

b) Less Than Significant Impact

The proposed Project does not include new recreational facilities nor would it require the construction or expansion of existing recreational facilities that would result in an adverse physical effect on the environment.

Construction of the new pipe culvert under US 101 would require a construction easement along an approximately 75-foot portion of the 3.7-mile Mill Valley-Sausalito Pathway within the Project area. However, as described in Section 1.4.5, a temporary detour with one-way traffic control would be provided to allow for continuous use of the Mill Valley−Sausalito Pathway. The approximately 150-foot-long, 10-foot-wide detour would entail the temporary widening of the western side of the pathway to maintain bicycle and pedestrian access and ensure safe and continued use of the pathway. The detour would be constructed with temporary barriers between the existing pathway and the work zone adjacent to Richardson Bay. The temporary detour would accommodate the same number of users as the existing pathway. A flagger and signage would be used to assist with one-way traffic control for the detour during specific work activities (such as moving equipment, installing cofferdam, etc.) to ensure safe and continued use of the pathway.

The temporary detour for the Mill Valley−Sausalito Pathway would only be required during the Weekend 2 and/or Weekend 4 55-hour partial closures. Once construction activities are completed for the new pipe culvert under US 101, the pathway would be restored to pre-existing conditions. There would be no permanent impact to the Mill Valley-Sausalito Pathway, and temporary construction impacts would be less than significant. Additionally, the Project includes PF-REC-1 (Section 1.6.8), which would require the contractor to accommodate passage through and around work zones for Mill Valley–Sausalito Pathway users.

2.2.17 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)?	Less than Significant 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

This section describes transportation and circulation and the potential impacts that may result from construction and operation of the Project.

In the Project area, US 101 consists of an eight-lane freeway facility (four lanes in each direction, northbound and southbound) plus two auxiliary lanes, with 12-foot-wide travel lanes and variable-width shoulders. Donahue Street has one lane in each direction, except in the two blocks west of US 101, where there are up to three lanes in the eastbound direction and up to two lanes in the westbound direction. In the Project area, Donahue Street has a sidewalk on the south side only and no striped bicycle lanes. East of US 101, the Mill Valley–Sausalito Pathway and Gate 6 ½ Road parallel the highway. Gate 6 ½ Road, which extends from the Donahue Street/Bridgeway Avenue intersection to the Gate 6 ½ Road floating homes community, is a two-lane road with shared bicycle lanes on both sides and a separate path along the west side.

Marin Transit operates bus routes along US 101 and Donahue Street in the Project area, including Routes 17, 22, 36, 61, and 71 (Marin Transit 2025). Golden Gate Transit Routes 114, 130, 132, and 150 also provide service within the Project area (Golden Gate Transit 2025).

The Larkspur Ferry Terminal (101 East Sir Francis Drake Boulevard) is approximately 4.7 miles north of the Project area, and the Sausalito Ferry Terminal (Humboldt Street at Anchor Street) is approximately 2.2 miles southeast of the Project area. Golden Gate Ferry provides daily service between both terminals and the San Francisco Ferry Building, and the Larkspur Ferry provides limited service to Oracle Park (Golden Gate Ferry 2025). The Blue & Gold Fleet also provides daily ferry service between Sausalito and Pier 41 in San Francisco (Blue & Gold Fleet 2025). The southern terminus of Sonoma-Marin Area Rail Transit (SMART) is also in Larkspur approximately 4.7 miles

north of the Project area and provides intermodal connections to the Larkspur Ferry Terminal.

No park-and-ride facilities exist within the Project area. The closest park-and-ride facilities are the Manzanita Lot, located approximately 0.5 mile north of the Project area; and the Spencer Avenue east and west lots, located approximately 1.6 miles south of the Project area.

The Metropolitan Transportation Commission (MTC) functions as the state Regional Transportation Planning Agency and the federal Metropolitan Planning Organization. MTC is responsible for planning and funding transportation projects in the nine-county San Francisco Bay Area region.

Local transportation planning agencies include the Transportation Authority of Marin, which is designated as both the Congestion Management Agency and the Transportation Sales Tax Authority for Marin County. The Marin County Measure AA Strategic Plan includes addressing flooding impacts along US 101 (Transportation Authority of Marin 2021).

a) Less than Significant Impact

Project construction would result in temporary, short-term traffic impacts. Construction of the new culvert under US 101 is anticipated to require a combination of nighttime lane closures and up to five 55-hour weekend partial closures. At least two lanes of traffic in each direction of US 101 would remain open at all times, and emergency access will be maintained throughout Project construction. Motorists traveling on US 101 through the Project area could experience substantial delays on the Saturdays and Sundays of the up to five weekend partial closures. Under the current construction staging concept, the delays could last for approximately eight to 10 days over four to five weekends. Staging options will be further refined during the detailed design and preconstruction phases to minimize delays to the traveling public, as described in Section 1.4.5.2.

Temporary construction staging for the Phillips Drive Drainage system would require one lane closure on Donahue Street near Park Circle, during which one-way traffic control would be provided. Replacement of the damaged storm drains near the US 101 southbound ramps would involve temporary shoulder and lane closures along Donahue Street and the US 101 southbound off-ramp. No full closures are expected, and pedestrian and bicycle access would be maintained throughout construction.

Temporary construction activities at the Mill Valley–Sausalito Pathway are described in Section 2.2.16. The pathway would remain open throughout construction. Temporary access for construction workers and vehicles could be required across or along the

pathway, the unpaved shoulder areas on the east side of US 101, and Gate 6 ½ Road. The Project includes PF-REC-1 (Section 1.6.8), which would require the contractor to accommodate passage through and around work zones for Mill Valley–Sausalito Pathway users.

As described in PF-TRANS-1 (Section 1.6.9), a TMP would be prepared during the detailed design phase. The TMP would be incorporated as part of standardized measures to address traffic disruptions from Project construction. Access would be maintained for all emergency response vehicles. Periodic delays may occur during lane closures, but these would be minimized and planned during nonpeak periods. Effects on traffic during project construction would be temporary, and travel access along US 101 and Donahue Street would be maintained during peak travel periods. The TMP would include notifications to trail users, local transit agencies, and emergency service providers to minimize travel disruption during construction.

Local programs, plans, ordinances, or policies addressing the circulation system identify the need to address flooding in the Project area and do not contain specific requirements that pertain to temporary construction-related transportation impacts on US 101 (Section 2.2.11; Transportation Authority of Marin 2021). Temporary construction-related traffic impacts on US 101 and the other temporary lane closures and the trail detour described above are needed to construct the Project and reduce flooding in the Project area, as discussed in Section 1.2.2. PF-TRANS-1 (Section 1.6.9) would be implemented to reduce the potential for short-term impacts to circulation, and emergency access would be maintained at all times. Short-term, temporary construction impacts would not conflict with a program, plan, ordinance, or policy addressing the circulation system. The impact would be less than significant.

The Project would not change the capacity or configuration of US 101, the northbound and southbound on-ramps and off-ramps, Donahue Street, or any other road in the Project vicinity. No permanent changes to traffic circulation, the Mill Valley–Sausalito Pathway, or any other bicycle or pedestrian facilities in the Project area would occur. As such, Project operation would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b) Less than Significant Impact

During construction, there would be a temporary increase in vehicle trips from workers traveling to and from the Project area, construction equipment trips, and materials transport. Public outreach and notifications would be used to inform drivers using US 101 to expect delays, which could discourage discretionary trips and reduce vehicle miles traveled (VMT) during construction. Vehicle trips associated with construction

would be temporary and limited to the construction period only. The impact would be less than significant.

The Project would not increase the capacity of any roadway in the Project area and would have no permanent impacts on VMT. Therefore, the Project would be consistent with CEQA Guidelines Section 15064.3(b).

c) No Impact

The Project would not increase hazards due to a geometric design feature. The Project would reduce hazards associated with flooding in the US 101/Donahue Street interchange. There would be no impact.

d) Less than Significant Impact

The Project would reduce the potential for flooding in the vicinity of the US 101/Donahue Street interchange, which would be a long-term benefit to emergency service access. Vehicle access along US 101 and Donahue Street would be maintained throughout construction, allowing law enforcement, fire, and other emergency services uninterrupted access through the Project area. Additionally, a TMP will be prepared for the Project, which would include the development of contingency plans in coordination with CHP and local law enforcement (PF-TRANS-1; Section 1.6.9). Temporary impacts would be less than significant. No long-term impacts would occur.

2.2.18 Tribal Cultural Resources

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

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.	Less than Significant Impact

This section describes Tribal Cultural Resources and impacts that have the potential to result from construction and operation of the Project. Formal notification under Assembly Bill 52 began with the Native American consultation initiation letters sent to the following individuals and tribes on October 18, 2023:

- Federated Indians of Graton Rancheria (FIGR),
- Guidiville Rancheria of California (Guidiville)
- Wuksachi Indian Tribe/Eshom Valley Band (Wuksachi)

FIGR responded on November 15, 2023, with a formal request for consultation under both AB 52 and Section 106. Follow up emails to Guidiville and Wuksachi were sent on August 27, 2024, and phone calls were made on September 5, 2024. No response from either group has been received to date. Consultation on Tribal Cultural Resources under CEQA will remain ongoing throughout the life of the Project.

Between December 21, 2023, and April 29, 2024, correspondence with FIGR took place via email and virtual meetings to consult on the Project. A program of geoarchaeological coring was undertaken as a good-faith effort to identify obscured or buried resources that could be affected by Project construction. FIGR provided a monitor during the geocore drilling for the Project on July 8, 2024, and in the laboratory to open the geocores on July 24, 2024. The Archaeological Survey and Extended Phase I Report

(Caltrans 2024f) was sent to FIGR for review on September 26, 2024. FIGR, noting the sensitivity of the area, requested Tribal and archaeological monitoring during all ground-disturbing construction activities for the Project.

a) No Impact

There are no known resources listed or eligible for listing in the California Register of Historical Resources or local register of historical resources in the Area of Potential Effects. Therefore, the Project would have no impact on Tribal Cultural Resources.

b) Less than Significant Impact

Under Section 106 of the National Historic Preservation Act and Assembly Bill 52, Caltrans sent consultation letters initiating consultation to the identified tribes and individuals from the list provided by the NAHC. Based on the Sacred Lands File record and tribal consultation, there is the potential for a California Native American tribal resource to be discovered during construction. PF-CUL-1 and PF-CUL-2 (Section 1.6.3) would reduce the potential for impacts by stopping work and requiring consultation with a cultural or Tribal resources specialist upon discovery of a new potential resource.

Additionally, Caltrans has identified AMM-TCR-1 and AMM-TCR-2 to address the potential for the unanticipated discovery of Tribal Cultural Resources, which includes sensitivity training for project staff, monitoring by professional archaeologists and Tribal staff, and work stoppage in the event of an unanticipated discovery. Therefore, the impact would be less than significant.

AVOIDANCE AND MINIMIZATION MEASURES

AMM-TCR-1 and AMM-TCR-2, presented in the following and in Appendix B, would avoid or minimize potential impacts to Tribal Cultural Resources.

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

- **AMM-TCR-2:** Caltrans will work with FIGR to develop and implement a construction training, monitoring, and discovery plan for encountering potential Tribal Cultural Resources in the Project construction area. The plan may include, but is not limited to, the following:

a. Archaeological awareness and Tribal Cultural Resources sensitivity training of construction staff, with information about the possibility of encountering cultural resources (including Tribal Cultural Resources) and the appearance and types of resources that could be encountered during project construction.

b. Native American and archaeological monitoring during ground-disturbing activities, as determined through consultation among Caltrans and FIGR prior to construction.

c. Work stoppage and tribal consultation protocols in the event that previously unidentified cultural resources are discovered. Recommendations for treatment and disposition of finds could include, but are not limited to, the collection, recordation, and analysis of any significant cultural materials, or the transfer of Tribal Cultural Resources to Tribal representatives for appropriate treatment.

Implementing a construction training, monitoring, and discovery plan would avoid or reduce impacts to potential Tribal Cultural Resources by providing for resource avoidance or protection-in-place measures where possible, and treatment of resources in accordance with Tribal cultural values when avoidance or protection is not feasible. The plan for this Project would be developed in coordination with FIGR representatives.

2.2.19 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?	Less than Significant
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

This section describes the potential impacts on utilities and service systems that could result from Project construction and operation. Utility providers along the Project corridor include PG&E (gas and electric), AT&T, Marin Municipal Water District, Sausalito-Marin City Sanitary District, Comcast, and Verizon.

a) Less than Significant Impact

The Project would construct new stormwater infrastructure and address damaged storm drain pipes to address flooding and prevent further structural degradation in the US 101/Donahue Street interchange area. Additional drainage capacity is needed to accommodate existing drainage demands from the Marin City Pond and surrounding stormwater inflow, including from the Phillips Drive drainage system. Project features and AMMs (PF-WQ-1 and PF-WQ-2, Section 1.6.6; and AMM-BIO-2, AMM-BIO-4 through AMM-BIO-8, Section 2.2.4) would be implemented to reduce the potential for impacts to water quality and aquatic resources.

The Project is anticipated to require temporary utility relocations during construction. All utility relocations would be coordinated with the utility owners during the detailed design phase.

The Project would not increase demand on water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities. Impacts would be less than significant.

b) – e) <u>No Impact</u>

The Project would not require new or expanded water entitlements or affect public utilities for wastewater treatment. The Project would not generate or require solid waste disposal in excess of state or local standards, or in excess of the capacity of local infrastructure. Construction waste would be disposed at a certified facility based on the waste type and would not affect landfill capacity. The Project would comply with statutes and regulations related to solid waste management and reduction.

2.2.20 Wildfire

If located in or near state responsibility areas (SRAs) 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

The Project area is partially within a California Department of Forestry and Fire Protection (CAL FIRE) state responsibility area (SRA), which is classified as a Moderate Fire Hazard Severity Zone. There are other SRAs and Local Responsibility Areas (LRAs) west of the Project area that range from Moderate to High, but there are no Very High Fire Hazard Severity Zones nearby (Cal Fire 2025).

The 2023 Marin County Unit Strategic Fire Plan and Community Wildfire Protection Plan was funded by CAL FIRE to provide a hazard risk assessment to identify areas of concern throughout Marin County and prioritize areas where wildfire threat is greatest (Marin County 2023c). The Plan provides the framework for future collaboration that can be used to identify, prioritize, implement, and monitor hazard reduction activities throughout the County. Mitigation measures provided in the Plan are focused on public and community outreach, wildfire preparedness and planning, and evacuation planning and preparation. According to the Plan, the Project footprint is within the jurisdiction of Southern Marin Fire Protection District fire services. There are a total of 61 fire personnel and three fire stations in this area.

The Marin Wildfire Prevention Authority leads the development of fire adapted communities using scientific, financial, programmatic, ecological practices, vegetation management, community education, evacuation and warning systems with the support of its member and partner agencies. It provides its own goals and objectives that follow closely to the priorities set in the Marin Community Wildfire Protection Plan. Fire Safe Marin is a non-profit organization that provides a range of programs and resources to

promote wildfire safety preparedness and fire mitigation practices. The organization is the official outreach arm of the Marin Wildfire Prevention Authority.

a) Less than Significant Impact

During Project construction, short-term temporary lane closures would be required along both US 101 and Donahue Street, resulting in short-term temporary traffic impacts.

As described in Section 1.4.5, construction of the new culvert under US 101 is anticipated to require a combination of nighttime lane closures and up to five 55-hour weekend partial closures. At least two lanes of traffic in each direction of US 101 would remain open at all times. Additionally, temporary construction staging for the Phillips Drive Drainage system may require one lane closure on Donahue Street near Park Circle, during which one-way traffic control would be provided. Replacement of the damaged storm drains near the US 101 southbound ramps would involve temporary shoulder and lane closures along Donahue Street and the US 101 southbound off-ramp. No full closures are expected.

PF-TRANS-1 (Section 1.6.9) details the preparation and adoption of a TMP prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and providing further safety measures for those accessing the Project corridor during construction. Emergency access would be maintained throughout construction, and the TMP would provide for priority access for emergency and medical vehicles associated with essential services, thereby avoiding or minimizing short-term, localized traffic congestions and delays. Notifications and instructions for rapid response or evacuation in the event of an emergency would be provided.

Project construction would not exacerbate wildfire risks or expose people or structures to significant risks. Therefore, the Project would have a less-than-significant impact.

The Project would not alter the capacity or configuration of US 101 or Donahue Street, and would therefore not result in long-term impacts to an adopted emergency response plan or evacuation plan.

b) No Impact

The Project area is a mixture of urban, developed land, publicly owned marshland, and bayfront. The Project area is generally flat, with little to no slope. As stated above, the Project area is partially within an SRA classified as a Moderate Fire Hazard Severity Zone, and is located near LRAs that range from Moderate to High.

The Project would not alter the alignment of US 101 or Donahue Street, and would not exacerbate fire conditions. During construction, most work would occur within the

Caltrans ROW. PF-WF-1 (Section 1.6.10) includes BMPs to minimize fire risks, such as clearing vegetation from the work area; prohibiting the use of highly flammable chemicals; following locally changing meteorological conditions; and maintaining awareness of the possibility of increased fire danger during the time work is in progress. All construction activities would follow state and federal fire regulations. The Project is not expected to exacerbate wildfire risks or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a wildfire. Therefore, there would be no impact.

c) No Impact

No new or expanded utilities are included in the Project. However, as described in Section 1.4.9, temporary utility relocations would be required during construction. This would include the temporary relocation of one utility pole that carries overhead PG&E 12 kilovolt electrical and Comcast cable lines along the southbound shoulder of US 101. The utility pole and lines would be moved back to the existing location after work in the shoulder area is completed.

Project construction would follow state and federal fire regulations during the temporary relocation of the utility pole. PF-WF-1 (Section 1.6.10) includes BMPs to minimize fire risks, such as clearing vegetation from the work area; prohibiting the use of highly flammable chemicals; following locally changing meteorological conditions; and maintaining awareness of the possibility of increased fire danger during the time work is in progress. Therefore, the project is not expected to exacerbate wildfire risks or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a wildfire. Therefore, there would be no impact.

d) No Impact

No recent fires have occurred in or near the Project area that could result in post-fire slope instability or drainage changes. Furthermore, the Project area is generally flat with little to no slopes. Implementation of standard Caltrans practices for erosion control and other measures would avoid or minimize the project's potential to result in downslope or downstream flooding or landslides. These measures are incorporated into the Project design as a matter of Caltrans practice and are not mitigation. The proposed Project would not expose the public to a risk of post-fire slope instability or drainage changes. No impact would occur.

2.2.21 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 Impact with Mitigation
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 Cumulatively 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

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, substantially reduce the number of 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.

As described in Section 2.2.4, due to the lack of suitable spawning and rearing conditions in the BSA for all anadromous salmonids and green sturgeon, and the fact that estuarine waters within the BSA constitute marginally suitable migration and foraging habitat for green sturgeon, it is unlikely that any life stage of coho, steelhead, or green sturgeon would be found in the tidal portion of the BSA in Richardson Bay during the proposed in-water work window (April 15 to October 31).

The Project would result in temporary impacts to wetlands and waters and a small area of permanent impact to other waters. This includes temporary impacts to 0.21 acre of brackish wetland, 0.03 acre of tidal marsh, 0.03 acre of estuarine waters, 0.04 acre of muted tidal pond, 0.04 acre of muted tidal wetland, and 0.23 acre of developed waters; and less than 0.01 acre of permanent impact to estuarine waters (Richardson Bay). Temporary impacts would include but not be limited to access to construction areas, detour areas, temporarily dewatered areas, and grading, clearing, and grubbing of

upland areas that could result in erosion and sedimentation. Permanent impacts to other waters (Richardson Bay Estuarine intertidal – developed waters) would occur from construction of the culvert outfall. Direct impacts to other waters would be minimized through removal of existing rock slope protection and would be subject to regulatory agency review and permit requirements (Section 1.9). With the implementation of MM-BIO-1 (Section 2.2.4), the Project would result in less-than-significant impacts to protected wetlands.

The Project would not eliminate important examples of the major periods of California history or prehistory.

b) Less than Cumulatively Significant Impact

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

- **Marin City Pond Pump Station Flood Reduction Project.** This Flood District project would construct a new permanent 50 cfs pump station near the northeastern side of the Marin City Pond to pump stormwater from the pond into Richardson Bay via a new storm drain force main connection to the existing box culvert, construct a floodwall adjacent to the pond along the southbound US 101 off-ramp to Donahue Street to prevent overtopping, and address damaged areas of the existing box culvert by using polyurethane foam to fill voids behind the culvert and seal the cracks and separations (Flood District 2025b). Construction is anticipated to be in 2028 or 2029.

- **Manzanita Sea Level Rise Project.** The Manzanita Sea Level Rise Project has been initiated by Caltrans to study potential options for addressing recurring flooding and long-term sea level rise along US 101 and SR 1 between the US 101/SR 1 interchange and the US 101/Donahue Street interchange, and at the Caltrans' Manzanita Park-and-Ride lot. Options to address these issues include the reconstruction or potential relocation of Caltrans facilities and the Mill Valley–Sausalito Pathway in the project area. A timeline for the implementation of the preferred option has yet to be determined (Caltrans 2024a).

- **Wetlands Restoration and Public Enhancement Project for the Marin City Pond.** Richardson Bay Audubon and Shore-Up Marin City are developing a wetlands restoration and public enhancement project for the Marin City Pond.

Project details and a timeline for implementation of the project have yet to be determined.

- **United States Army Corps of Engineers Study.** USACE, in coordination with the Marin City Community Services District, has initiated a study of civil works projects to reduce flooding in Marin City as well as prepare a flood emergency action plan. Project details and a timeline for implementation of the project have yet to be determined.

- **Marin County Large Trash Capture Devices Project.** This Marin County Department of Public Works project proposes to install and maintain up to six trash capture devices at existing storm drain systems within unincorporated Marin County watersheds. One of the trash capture systems is planned within the storm drainage system at the Gateway Shopping Center parking lot. The Marin County Department of Public Works filed a CEQA Notice of Exemption in January 2024 and hired a design consultant in May 2024 (Marin County Department of Public Works 2024a, 2024b). Project details and a timeline for project implementation have yet to be determined.

- **Marin City Pond Dredging Project.** The Flood District is considering a separate dredging project at the Marin City Pond to address historic lead and associated zinc from vehicles on US 101. The dredging would involve soil sampling and risk assessments to establish cleanup levels for the contaminants of concern. The maximum amount of dredged material is anticipated to be up to 9,000 cubic yards of soil. The work would be completed through mechanical excavation with a long reach excavator from the banks and/or aquatic dredging excavator from within the Marin City Pond. Sediment free of contaminants may be reused on site in berms or buried backfill consistent with permits issued for the dredging project. Sediments requiring off-site disposal would be transported to an appropriate landfill in trucks via the access gate behind Target or through a temporary roadway on the east side of the Marin City Pond in coordination with Caltrans (Flood District 2025b). Project details and a timeline for implementation of the project have yet to be determined.

The cumulative impacts analysis follows the Caltrans six-step process established in the May 2025 interim guidance on cumulative impact analysis under CEQA (Caltrans 2025i), as follows:

1. Determine which environmental resources to include in the cumulative impact analysis.

2. Determine the resource study area.

3. Describe the existing cumulative condition.

4. Discuss whether the project's impacts are cumulatively considerable

5. If the project's contribution is cumulatively considerable, discuss any additional proposed mitigation for Caltrans' contribution to cumulative condition.

6. State post-mitigation conclusion (if additional mitigation was added to address cumulative impacts).

The proposed Project would have no impacts on agriculture and forest resources, mineral resources, and population and housing. The Project would have less-than-significant impacts on aesthetics, air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, recreation, transportation and traffic, Tribal Cultural Resources, utilities and service systems, and wildfire. The Project includes measures to avoid or minimize the potential for impacts on aesthetics, biological resources, noise, and Tribal Cultural Resources. These resources have not been included in the cumulative impact analysis, as they are not considered to have impacts that would be considered cumulatively considerable in combination with past, current, and reasonably foreseeable future actions. The health of these resources would not be impacted by the construction or operation of the proposed Project.

The proposed Project is expected to have potentially significant impacts to the following resource that would require mitigation and is therefore included in the cumulative analysis:

- Biological Resources: Wetlands and Other Waters of the United States

For the purpose of this analysis, the resource study area for biological resources is the BSA, as defined in Section 2.2.4.

As noted Item "a)" above, the Project would result in temporary impacts to 0.21 acre of brackish wetland, 0.03 acre of tidal marsh, 0.03 acre of estuarine waters, 0.04 acre of muted tidal pond, 0.04 acre of muted tidal wetland, and 0.23 acre of developed waters; and less than 0.01 acre of permanent impact to estuarine waters (Richardson Bay). Temporary impacts would include but not be limited to access to construction areas, detour areas, temporarily dewatered areas, and grading, clearing, and grubbing of upland areas that could result in erosion and sedimentation. Permanent impacts to other waters (Richardson Bay) would result from construction of the culvert outfall. Direct impacts to other waters would be minimized through removal of existing rock slope protection and would be subject to regulatory agency review and permit requirements

(Section 1.9). MM-BIO-1 is proposed to compensate for potential impacts to wetlands and other waters.

All of the reasonably foreseeable future projects listed above have the potential to occur in or adjacent to the proposed Project's BSA. However, only the Marin City Pond Pump Station Flood Reduction Project has an estimated schedule for construction.

The April 2025 Draft Initial Study with Mitigated Negative Declaration for the Marin City Pond Pump Station Flood Reduction Project identifies a total of 0.07 acre of permanent impacts and 0.68 acre of temporary impacts to wetlands in and adjacent to the Marin City Pond (Flood District 2025). The Marin City Pond Pump Station Flood Reduction Project includes the establishment of on-site mitigation to achieve no net loss of wetlands, preparation and implementation of a wetland mitigation plan, and, if needed to achieve regulatory agency-required ratios, additional on-site establishment, purchase of mitigation credits, or another agency-approved habitat mitigation method (e.g., preservation, etc.). The impacts are generally confined to the northeastern corner and eastern side of the Marin City Pond and are anticipated to substantially overlap with temporary impact areas from the Marin City Second Culvert Project. The Marin City Second Culvert Project is expected to be constructed before the Marin City Pond Pump Station Flood Reduction Project. Anticipated regulatory agency permit conditions for the Marin City Pond Pump Station Flood Reduction Project will require aquatic impacts to be minimized and mitigated.

The other projects evaluated for the cumulative impact analysis are either in the initial planning stages and potential impacts to wetlands and waters have not been determined (Manzanita Sea Level Rise Project, Wetlands Restoration and Public Enhancement Project for the Marin City Pond, USACE Study, Marin City Pond Dredging Project), or impacts to wetlands and waters have not been identified (Marin County Large Trash Capture Devices Project). By addressing flooding, sea level rise, wetland restoration, and water quality, these projects are anticipated to improve the general health of wetlands and waters in the resource study area. The projects would also be subject to regulatory agency permit requirements that would require aquatic impacts to be minimized and mitigated.

Therefore, the aquatic resources present in the BSA, including wetlands impacted by the proposed Project, would not be unduly affected by construction of another project.

The avoidance, minimization, and mitigation measures that have been included in the Project (Section 2.2.4) are intended to restore or improve the health of wetlands and waters following Project construction. With the appropriate measures in place, and the implementation of MM-BIO-1, the contribution of the proposed Project on cumulative impacts on wetlands and waters would be minimized to less than significant and would

not result in a cumulatively significant impacts when considered in conjunction with the projects listed above. No additional avoidance, minimization, and/or mitigation measures for cumulative impacts on wetlands would be required.

As such, the proposed Project would not result in impacts that would be considered cumulatively considerable in combination with past, current, and reasonably foreseeable future actions, including those listed above.

c) Less than Significant Impact

The Project would have no impact on agriculture and forest resources, mineral resources, and population and housing. The Project would potentially affect aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, recreation, transportation, Tribal Cultural Resources, utilities and service systems, and wildfire. However, with implementation of PFs (Section 1.6) and AMMs (Appendix B) these potential impacts would be reduced, avoided, and/or minimized to a less-than-significant level. Construction-related activities would temporarily increase criteria air pollutant emissions and ambient noise levels, and the Project would incorporate PFs (Section 1.6) and AMMs (Appendix B) to reduce, avoid, or minimize potentially adverse effects to humans. Therefore, the Project would not have a substantial direct or indirect impact on the human environment. Impacts would be less than significant.

2.3 Climate Change

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

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

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

2.3.1 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 (SER), Chapter 16, Climate Change.

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

In 2005, EO S-3-05 initially set a goal to reduce California’s GHG emissions to 80 percent below year 1990 levels by 2050, with interim reduction targets. Later EOs and

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

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

2.3.2 Environmental Setting

The proposed Project is in a suburban area of Marin County with a well-developed road and street network. The Project area is mainly residential with commercial and mixed use land uses and public facilities. US 101 in the Project area is heavily used during peak hours. Plan Bay Area 2050, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the nine-county Bay Area, guides transportation and housing development in the Project area. Marin County has a Climate Action Plan (CAP) and addresses GHGs in the Project area.

2.3.2.1 GHG INVENTORIES

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

National GHG Inventory

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

were CO2, 11% were CH4, and 6% were N2O; the balance consisted of fluorinated gases. From 1990 to 2022, CO2 emissions decreased by only 2% (U.S. EPA 2024a).

The transportation sector's share of total GHG emissions remained at 28% in 2022 and continues to be the largest contributing sector (Figure 2-9). Transportation activities accounted for 37% of U.S. CO2 emissions from fossil fuel combustion in 2022. This is a decrease of 0.5% from 2021 (U.S. EPA 2024a, 2024b).

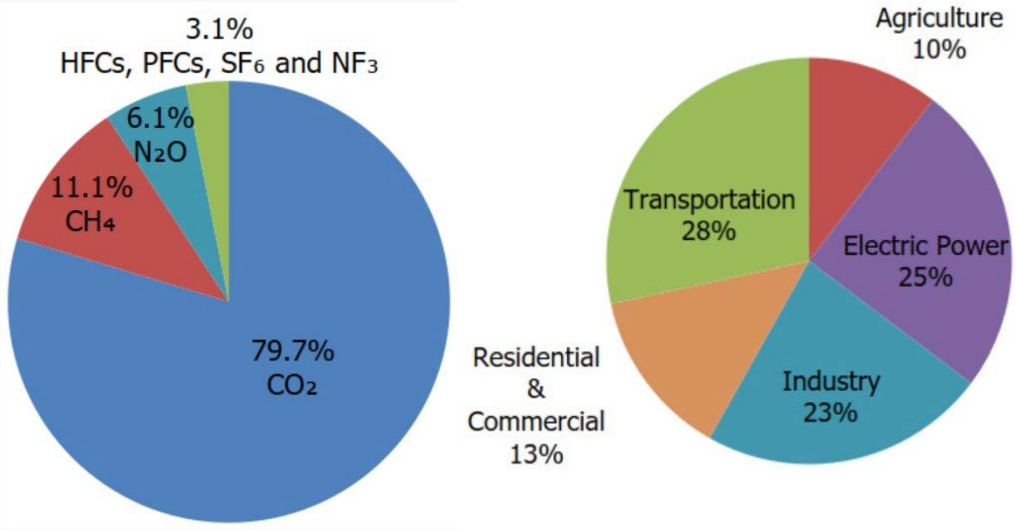

Figure 2-9. U.S. 2022 Greenhouse Gas Emissions

(Source: U.S. EPA 2024b)

State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. Overall statewide GHG emissions declined from 2000 to 2021 despite growth in population and state economic output (Figure 2-10). Transportation emissions remain the largest contributor to GHG emissions in the state (Figure 2-11) (CARB 2023).

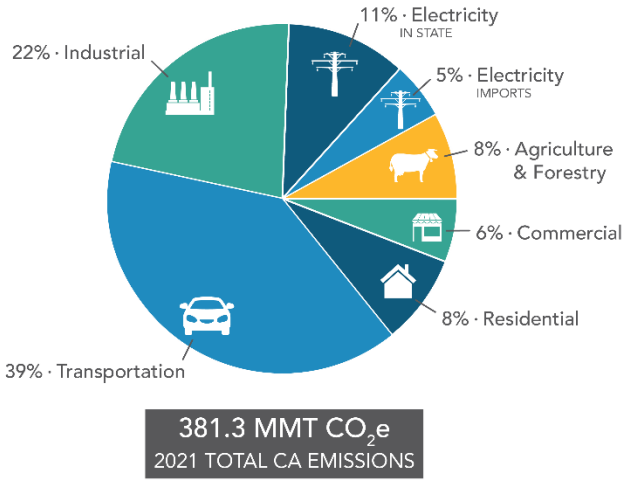

Figure 2-10. California 2021 Greenhouse Gas Emissions by Economic Sector

(Source: CARB 2023)

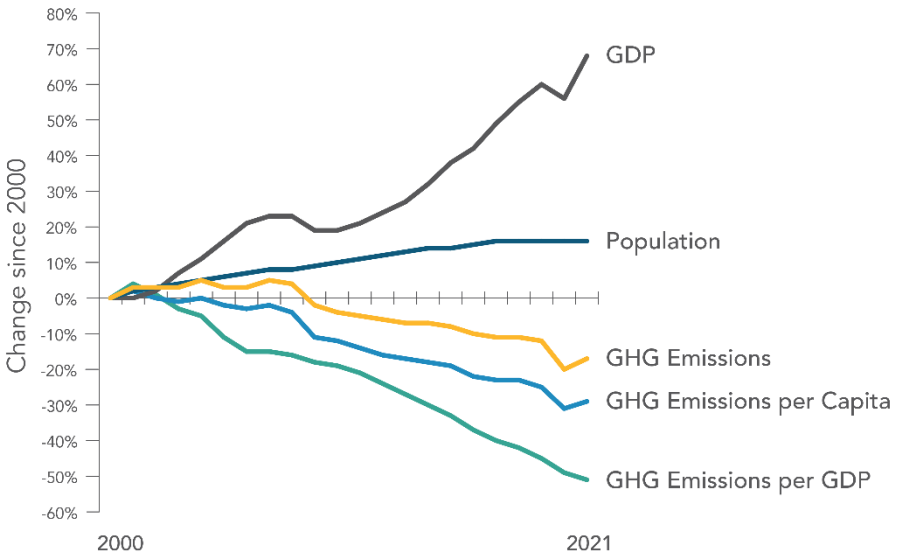

Figure 2-11. Change in California GDP, Population, and GHG Emissions Since 2000

(Source: CARB 2023)

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. 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 2022a).

2.3.2.2 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 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed Project is included in the RTP/SCS for the Metropolitan Transportation Commission (MTC) region in which the proposed Project is located. The regional reduction target for MTC is 19 percent by 2035 (ABAG and MTC 2021).

The proposed Project is within the jurisdiction of Plan Bay Area 2050. Table 2-11 provides a summary of GHG reduction policies or strategies from the RTP/SCS and other climate action plans for the Project area.

Table 2-11. Regional and Local Greenhouse Gas Reduction Plans

Title	GHG Reduction Policies or Strategies
Plan Bay Area 2050	Environmental Strategies for Reducing Climate Emissions: • EN7. Expand commute trip reduction programs at major employers. Set a sustainable commute target for major employers as part of an expanded Bay Area Commuter Benefits Program, with employers responsible for funding incentives and disincentives to shift auto commuters to any combination of telecommuting, transit, walking and/or bicycling. • EN8. Expand clean vehicle initiatives. Expand investments in clean vehicles, including more fuel-efficient vehicles and electric vehicle subsidies and chargers. • EN9. Expand transportation demand management initiatives. Expand investments in programs like vanpools, bikeshare, carshare and parking fees to discourage solo driving. • Implementation Actions for Reducing Climate Emissions: • 11a. Evaluate and, if determined necessary and feasible, seek legislative authority to modify or expand the existing Bay Area Commuter Benefits Program in partnership with the Air District. • 11b. Seek new revenues and/or increased funding to support climate, electrification and travel demand management needs. • 11c. Convene local governments, transportation demand management (TDM) partners, transit agencies and employers to expand and foster relationships, target outreach, support education, develop metrics, share data and identify shared goals. • 11d. Identify the resources and capacities necessary to implement an expanded Bay Area Commuter Benefits Program at both the Air District and MTC, including an effort to improve program data and enhance database functionality, while using existing resources to develop program messaging. • 11e. Restructure MTC's Climate Initiatives Program to ensure it can effectively scale over the next five years, while advancing existing initiatives including electric vehicle incentives, electric vehicle charger programs, local parking policies, curb management, Targeted Transportation Alternatives, Mobility Hubs, vanpooling, car sharing, MTC SHIFT as well as bikeshare and e-bike incentive programs. • 11f. Coordinate an agency-wide, cross-sectional approach for operational TDM programs to increase equity, efficiency and effectiveness and support a shared regional vision for TDM. • 11g. Conduct research such as focus groups, workshops, surveys, polls and studies to support the development of strategies and approaches that will maximize the viability of sustainable commute targets for major employers to implement.

Title	GHG Reduction Policies or Strategies
Marin County Unincorporated Area – Climate Action Plan 2030	• Low Carbon Transportation • Renewable Energy and Electrification Strategies • Energy Efficiency • Waste Reduction • Water Conservation • Adaptation and Community Resiliency • Community Engagement and Empowerment

2.3.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation and use of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are 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 greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation v. San Diego Assn. of Governments [2017] 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130).

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

Operational Emissions

The purpose of the proposed Project is to reduce flooding and address damaged storm drain pipes in the vicinity of the US 101/Donahue Street interchange. The Project would not increase the motor vehicle capacity of US 101 or other roadways, or affect travel

demand or travel patterns in a way that would contribute to a long-term increase in operational GHG emissions. 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.

As discussed in Section 2.2.8, the Project's construction-related GHG emissions were calculated using CAL-CET 2021, version 1.0.3. For the total construction duration, the estimated amount of carbon dioxide equivalent (CO2e) would be 209 metric tons.

GHG emissions during construction would be temporary, and the emission reduction measures included in PF-AQ-1 through PF-AQ-4 (Section 1.6.1) would limit unnecessary GHG emissions to the extent feasible.

CEQA Conclusion

The project would not increase the capacity of US 101 or other Project area roadways. Non-capacity increasing projects are considered by Caltrans to have less than significant GHG impacts under CEQA. GHG reduction measures would be implemented during construction. The impact would be less than significant.

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

2.3.3.1 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 2022b).

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

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

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

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

Caltrans Activities

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

GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

Climate Action Plan for Transportation Infrastructure

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

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 2021).

Caltrans Strategic Plan

The *Caltrans 2024-2028 Strategic Plan* includes goals of safety, climate action, and prosperity. Climate action strategies include decarbonizing Caltrans fleet, equipment, and facilities; prioritizing transportation projects that provide multimodal options encouraging fewer and shorter car trips; promoting low carbon/zero emission practices in project development and construction; facilitating the transition to zero emission vehicles and infrastructure across all transportation modes; adapting state transportation assets and lands that are vulnerable to climate stressors; and proactively collaborating with external partners to lead on climate action (Caltrans 2024g).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a policy to ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. Other Director's policies promote energy efficiency, conservation, and climate change, and commit Caltrans to sustainability practices in all planning, maintenance, and operations. Caltrans Greenhouse Gas Emissions and Mitigation Report (Caltrans 2020c) 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 Department-controlled emission sources, in support of Caltrans and State goals.

Project-Level GHG Reduction Strategies

The following measures from Section 1.6.1 will be implemented to reduce GHG emissions and potential climate change impacts from the Project.

- **PF-AQ-1, Contractor Air Quality Compliance.**
- **PF-AQ-2, Control Measures for Construction Emissions of Fugitive Dust.**
- **PF-AQ-3, Construction Vehicles and Equipment.**
- **PF-AQ-4, Minimize Idling.**

2.3.3.2 ADAPTATION

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

State Efforts

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

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

to experience an up to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures; a two-thirds decline in water supply from snowpack resulting in water shortages; a 77% increase in average area burned by wildfire; and large-scale erosion of up to 67% of Southern California beaches due to sea level rise. These effects will have profound impacts on infrastructure, agriculture, energy demand, natural systems, communities, and public health (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 Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies*, to encourage a uniform and systematic approach to building resilience.

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

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 implementation of sustainable practices at Caltrans. The *Sustainability Roadmap* is a periodic progress report and plan for meeting the Governor's sustainability goals related to EOs B-16-12, B-18-12, and B-30-15. The Roadmap includes designing new buildings for climate change resilience and zero-net energy, and replacing fleet vehicles with zero-emission vehicles (Caltrans 2023c).

Project Adaptation Analysis

Sea Level Rise

Regulatory and Regional Planning Context

The proposed Project is in the San Francisco Bay Estuary within the San Francisco Bay segment of the California Coastal Zone and within the federal Coastal Zone as defined by the Coastal Zone Management Act (CZMA). The BCDC has federal authority to administer the CZMA, and state authority to regulate development in jurisdictional areas of the Bay as defined under the McAteer Petris Act, California Code of Regulations Title 14 (Division 5), and the San Francisco Bay Plan. The project's study area overlaps

BCDC's Bay and Shoreline Band jurisdictions. BCDC's Bay Plan does not identify any priority use in the Project study area. Recently, in response to rising sea levels, SB 272 was passed requiring local governments along the Bay shoreline to develop shoreline resilience plans (Laird 2023). Under SB 272, BCDC developed guidelines for these plans, and will review and approve Subregional Adaptation Management Plans developed by counties that abut the San Francisco Bay. BCDC is administering SB 272 requirements and providing adaptation plan guidelines under its Regional Shoreline Adaptation Plan (BCDC 2024).

Marin County does not have a final Subregional Shoreline Adaptation Plan, but will be required to submit one to BCDC by January 1, 2034.

Analysis

To assess sea level rise vulnerability in this analysis, Caltrans draws from the guidance provided in BCDC's Regional Shoreline Adaptation Management Plan (BCDC 2024), the projected sea level rise scenarios provided in the State of California Sea Level Rise Guidance, 2024 Science and Policy Update prepared by the California Ocean Protection Council (OPC 2024), and BCDC's Adapting to Rising Tides maps and data (BCDC 2025) to assess potential flood risks from sea level rise within the project area. BCDC's guidance suggests that planning considers exposure to coastal flood hazards using state standards for sea level rise (i.e., OPC guidance), assess and describe flood risk conditions, and describe the potential cost of damages, disruption and loss to economy, ecology and community that would occur in absence of adaptation measures being implemented.

Coastal Flood Hazards

Two scenarios were considered for this analysis, an intermediate-high sea level rise scenario for a short-term period (to year 2050) that is consistent with the interim nature of the proposed project, and an intermediate-high sea level rise scenario at end of century (year 2100). Estimated sea level rise increases were sourced from the state OPC guidance as the starting point for this assessment (OPC 2024). The OPC intermediate-high sea level rise scenario assumes global rapid ice sheet loss, high future emissions, and high warming that correspond to other scientific estimates of plausible high end projections. The intermediate-high sea level rise scenario at year 2050 presents a tidal water level increase of approximately 1 foot (12 inches), and the estimate at year 2100 is 4.9 feet (58.8 inches). Additionally, king tide events were assumed and incorporated into the sea level rise scenarios to assess a reasonable worst-case-scenario for sea level rise. The year 2050 scenario during a king tide event provides an estimated 2 feet (24 inches) of increased water level, and the year 2100 sea level rise estimate plus king tide event provides a flood risk scenario of 5.5 feet (66 inches).

Flood Risk Conditions

BCDC's Adapting to Rising Tides tool (BCDC 2025) was used to illustrate existing conditions and both the short-term and long-term scenarios considered here. Figure 2-12 illustrates existing conditions during a king tide event that would increase tidal water levels by 1 foot (12 inches). Under this scenario, overtopping from the Bay would be limited to areas outside of the US 101 roadway (including the Mill Valley–Sausalito Pathway), and no overtopping is anticipated from the Marin City Pond.

Figure 2-13 illustrates a scenario of 2 feet (24 inches) of tidal water level increase within the project area anticipated in year 2050. Under this scenario, overtopping would occur along the Bay shoreline and would cause flooding to the US 101 northbound entrance from Bridgeway Road, Gate 6 ½ Road and the parking lot for the floating homes community, and the Mill Valley–Sausalito Pathway. No flooding or overtopping of the Marin City Pond is shown in this scenario, and areas inland of the US 101 Bayward edge in the project area would not experience flood risks.

Figure 2-14 illustrates a year 2100 scenario of 5.5 feet (66 inches) of tidal water level increase within the project area. Under this scenario, US 101, Donahue Street, Gate 6 ½ Road and the parking lot for the floating homes community, the Mill Valley–Sausalito Pathway, the Marin City Pond, and most of the Marin Gateway Shopping Center parking lot would be inundated. Waters from the Bay and the Marin City Pond would overtop adjacent lands and roadways and spill into existing low-lying developed areas, causing flooding.

Potential Risks to Existing Natural and Manmade Resources

During the interim period, through year 2050, the study area is anticipated to experience relatively minimal flooding at the Bay shoreline that would temporarily impact the US 101 northbound on-ramp from Bridgeway Road, and would likely result in long-term damage or loss of the Mill Valley–Sausalito Pathway along the shoreline. Flood risks to US 101 itself, the Marin City Pond, and surrounding landward areas is not anticipated. With implementation of the proposed project, flood risks during storm and high tide events are anticipated to be reduced in comparison to a no-project scenario where flood risks from stormwater are currently known to occur.

Over the long term, the project area would experience flooding from sea level rise into areas that are primarily developed. Damage to or loss of existing development includes the Marin Gateway Shopping Center, US 101, local streets, and possibly some residential areas. Most landcover in the area that is at risk is hardscape, structures, or landscaped vegetation that provides little to no meaningful habitat for special-status species. Existing tidal marsh habitat is present, but limited in area, and could provide forage and refuge habitat for bird species. Marsh areas would be lost or substantially changed under the sea level rise scenario considered. Flooding from sea level rise

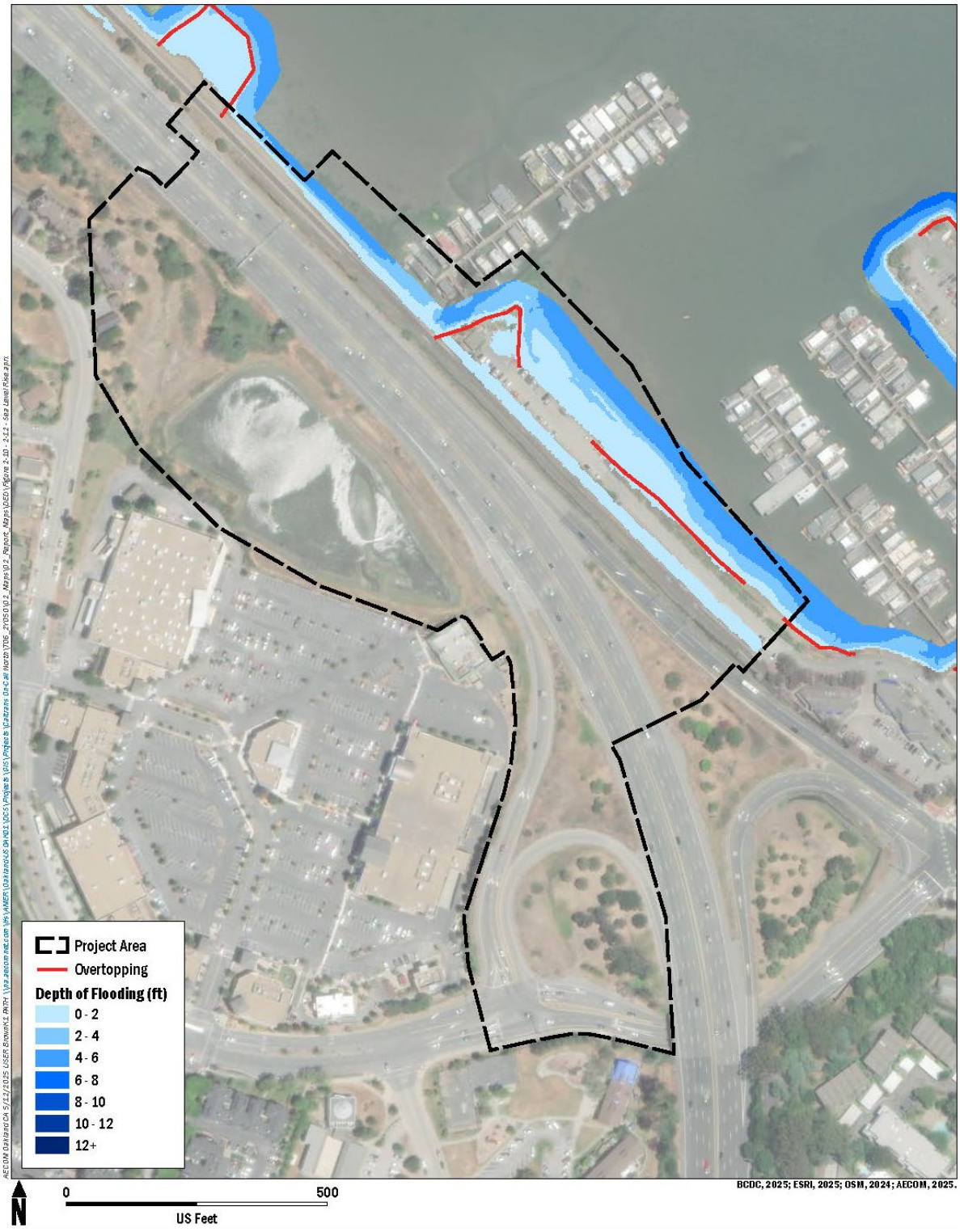

Figure 2-12. Existing Estimated Sea Level Rise Overtopping and Flood Risk Scenario During a King Tide Event (1 foot [12 inches])

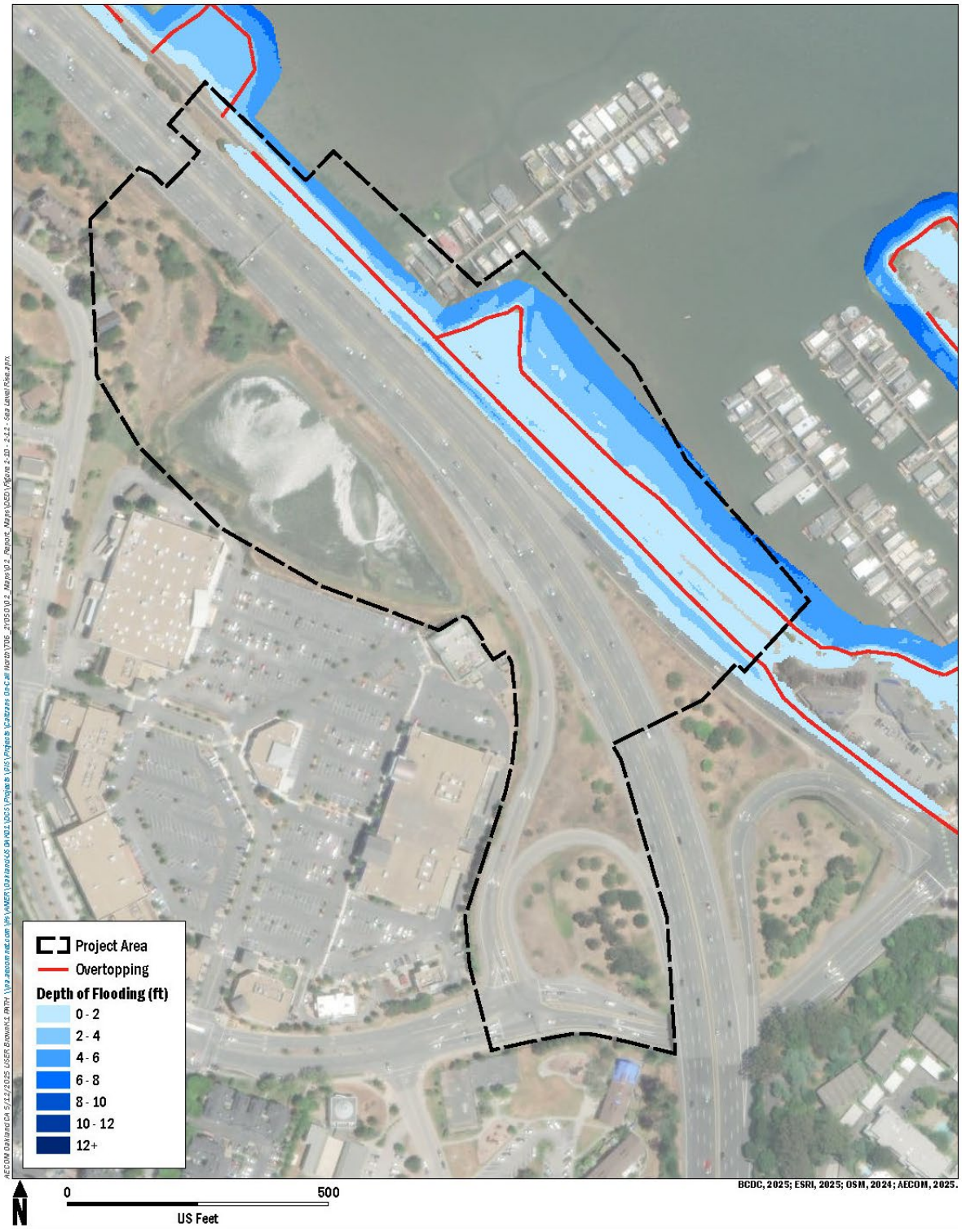

Figure 2-13. Year 2050 Estimated Sea Level Rise Overtopping and Flood Risk Scenario During a King Tide Event (2 feet [24 inches])

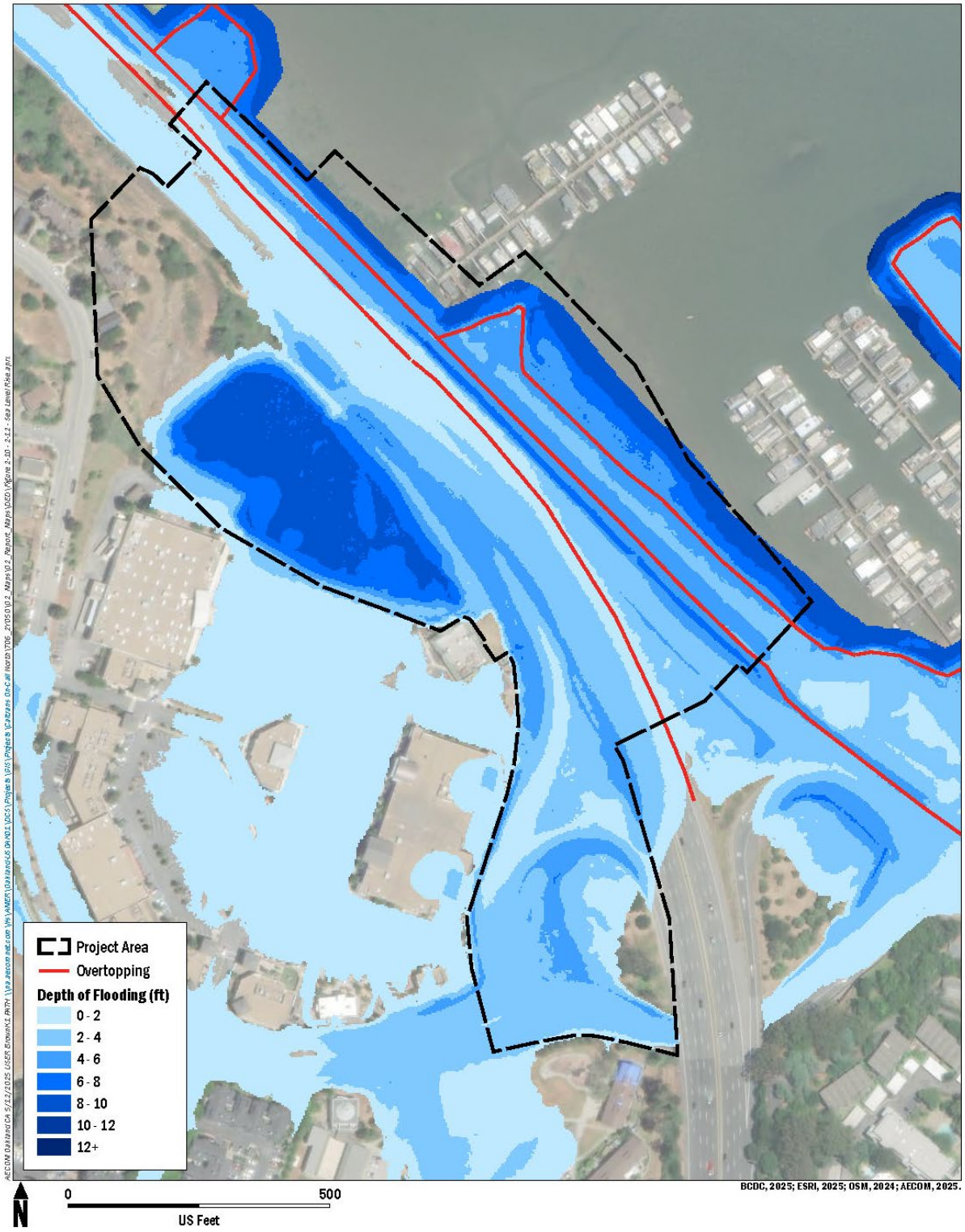

Figure 2-14. Year 2100 Estimated Sea Level Rise Overtopping and Flood Risks Scenario During a King Tide Event (5.5 feet [66 inches])

would likely result in a reduction in ecosystem quality and function. However, the site's existing conditions are not known to support meaningful populations of special-status species. Water quality impacts from increased water levels are not known, but potential risks from flood events are likely and could affect aquatic species. Costs due to loss or damage to existing infrastructure and ecological conditions are not understood, and would likely be substantial under the scenario presented. The Mill Valley–Sausalito Pathway would be unusable under the scenario considered. The communities that use this area would experience major disruptions to travel and would realize economic loss through damage and/or repairs to property, facilities, and natural resources.

Conclusion

The proposed project over the near term is not anticipated to be at risk from sea level rise, is expected to reduce flood risks during storm events, and would thereby contribute to reductions in flood risks over the near term under near-term sea level rise scenarios (i.e., existing through year 2050 scenarios). Because the proposed project is anticipated to address an immediate, relatively interim flood risk abatement need, sea level risks to the project are relatively minimal and manageable over the short term. Over the long term, flood risks from sea level rise to the existing transportation facility and adjacent drainage features would need to be addressed through a separate project with a scope that is beyond the purpose and need of this effort.

Caltrans acknowledges that this area is at high risk of inundation from sea level rise over the long term, and that the proposed Project is intended to address an immediate need to reduce imminent flood risks to the roadway and surrounding development from stormwater inputs into the Marin City Pond.

Precipitation and Flooding

The proposed Project is located in a FEMA-designated 100-year floodplain, Zone AE (EL 10) and Zone EL 11 (FEMA 2008, 2014). According to the Caltrans Vulnerability Assessment Mapping tool, precipitation is expected to increase by a range of 4.1 to 5.6% in 2055 and by a range of 5.7 to 7.6% in 2085 (Caltrans 2019). The Build Alternative would increase impervious surface by 0-64-acre relative to the No Build Alternative, which can result in an increase in flow discharges. However, the purpose of the Project is to address flood risk.

As stated in Section 2.2.10, and shown in Table 2-5, the Build Alternative would result in benefits to flood reduction. With the Build Alternative, the peak water surface elevation in Marin City Pond, maximum flooded area at Donahue Street and US 101, and average/peak flow rate discharged from the existing culvert to Richardson Bay would all be reduced relative to existing conditions. These Project benefits would better prepare for the compounding precipitation and flood risks anticipated with climate change.

Wildfire

The Project is not located in or near lands classified as Very High Fire Hazard Severity (Cal Fire 2025). The Project is partially within an SRA classified as a Moderate Fire Hazard Severity Zone, and there are other SRAs and LRAs to the west that range from Moderate to High (Cal Fire 2025).

The Project is expected to use non-flammable construction materials, such as concrete and steel, which would further reduce the Project's vulnerability in the event of a nearby wildfire. Additionally, PF-WF-1 has been included in the Project, which mandates that BMPs such as clearing vegetation from the work area, prohibiting the use of highly flammable chemicals, following locally changing meteorological conditions, and maintaining awareness of the possibility of increased fire danger during the time work is in progress be incorporated into design and construction.

Temperature

The Caltrans Climate Change Vulnerability Assessment indicates that average minimum temperatures within the Project area could increase by 3.6 degrees Fahrenheit by 2055 and 5.8 degrees Fahrenheit by 2085 with average 7-day maximum temperatures increasing by 1.4 degrees Fahrenheit by 2055 and 4.7 degrees by 2085 (Caltrans 2017). During final design, Caltrans will evaluate construction material choices for the potential future temperature increase of 5.8 degrees.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners to determine the necessary scope of environmental documentation and the level of analysis required; and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Consultation and public participation for this project has been ongoing and will continue to be accomplished through a variety of formal and informal methods. This chapter summarizes the results of Caltrans' preliminary efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

3.1 Community Outreach

Public input on the project will be solicited during the review period for this Initial Study with Proposed Mitigated Negative Declaration, which will last a minimum of 30 days. The public will be notified of the availability of the IS/MND by a number of methods, including newspaper ads, postings on the Caltrans website and the CEQANet database, and a mailed announcement. During the review period, Caltrans will hold a public meeting to share information about the project and collect comments on the IS/MND from interested parties. The review period and instructions for submitting comments are included on the first page of this document. All formal comments received during the comment period will be addressed and responses published in the final Initial Study with Mitigated Negative Declaration.

3.2 Consultation and Coordination with Public Agencies and Organizations

Table 3-1 lists meetings and coordination for the proposed Project. Additional information about agency coordination is provided below Table 3-1.

Table 3-1. Coordination and Meetings

Organization(s)	Date	Topic
Native American Heritage Commission (NAHC)	September 27, 2023	Assembly Bill 52 Formal Notification
Local Native American tribes (identified in Section 2.2.5 and Section 2.2.18)	October 18, 2023	Assembly Bill 52 Formal Notification
California Department of Fish and Wildlife	April 2, 2024, October 15, 2024	Technical assistance regarding 1600 permit jurisdiction
San Francisco Bay Conservation and Development Commission	February 20, 2025, May 20, 2025	Proposed activities within BCDC jurisdiction

Organization(s)	Date	Topic
San Francisco Bay Regional Water Regional Water Quality Control Board	October 16, 2024	Section 401 permitting
U.S. Fish and Wildlife Service	March 29, 2024, May 16, 2024, September 10, 2024, September 18, 2024	Section 7 request for technical assistance
National Marine Fisheries Service	September 10, 2024, September 12, 2024, April 14, 2025	Section 7 request for technical assistance
U.S. Army Corps of Engineers	July 24, 2024	Section 404 and Section 10 permitting
Marin City Climate Resilience (County in attendance)	November 20, 2024	Presentation on Marin City Second Culvert
Marin City Climate Resilience (County in attendance)	January 10, 2025	Caltrans responds to questions from the Marin City Climate Resilience Group
Marin City Climate Resilience (County in attendance)	March 20, 2025	Presentation from UC Berkeley on Green Infrastructure Stormwater Treatment

3.2.1 Native American Tribal Consultation

On September 27, 2023, the NAHC was contacted to request a search of the Sacred Lands File for Native American cultural resources in or near the APE. The NAHC responded with a list of interested tribes or individuals. Native American consultation is described further in Section 2.2.5.

3.2.2 California Department of Fish and Wildlife

A California Fish and Game Code Section 1600 Lake or Streambed Alteration Agreement from is not anticipated, based on coordination with CDFW.

With the implementation of the project features and AMMs discussed in Section 2.2.4, the Project would avoid take of coho and Chinook salmon, as defined by the California Endangered Species Act. Therefore, Caltrans does not anticipate the need for an Incidental Take Permit application to CDFW for potential impacts on any state-listed species; no take is anticipated of any state-listed species under the California Endangered Species Act.

3.2.3 San Francisco Bay Conservation and Development Commission

Sections 2.2.10 and 2.2.11 discuss BCDC jurisdiction with respect to the Project. An application for a Regionwide Permit 2 or Administrative Permit for areas regulated under McAteer-Petris Act would be submitted during the detailed design phase.

3.2.4 San Francisco Bay Regional Water Regional Water Quality Control Board

Pursuant to Section 401 of the CWA, a joint “Application for 401 Water Quality Certification and/or Report of Waste Discharge” will be submitted to the RWQCB during the final design phase. The project will implement any general Waste Discharge Requirements issued by the RWQCB.

3.2.5 U.S. Fish and Wildlife Service

A USFWS species list was created for the project on March 8, 2024, most recently updated on September 18, 2024, and May 12, 2025, and used to identify target species for reconnaissance-level surveys for terrestrial plants and animals. The need for formal or informal consultation under Section 7 of the Federal Endangered Species Act is not anticipated and will be confirmed during the detailed design phase.

3.2.6 National Marine Fisheries Service

A NMFS species list was created for the project on March 8, 2024. Caltrans has initiated informal consultation with NMFS regarding the fish species described in Section 2.2.4. Caltrans will complete informal consultation during the detailed design phase.

3.2.7 U.S. Army Corps of Engineers

A preliminary jurisdictional wetland delineation has been prepared, and an application for a Section 404 permit will be submitted to the USACE during the detailed design phase.

Chapter 4 List of Preparers

The primary people responsible for contributing to, preparing, and reviewing this report are listed in Table 4-1.

Table 4-1. List of Preparers and Reviewers

Organization Name	Name	Role
Caltrans	Christopher Caputo	Deputy District Director, Division of Environmental Planning and Engineering
Caltrans	Larry Bonner	Office Chief, Office of Environmental Analysis
Caltrans	Inho (Eddie) Kim	Project Manager, Project Management North
Caltrans	Daniel Cuellar Vitae	Project Manager, Project Management North
Caltrans	Christopher Pincetich	Senior Environmental Scientist, Office of Environmental Analysis
Caltrans	Zachary Gifford	Senior Environmental Scientist, Office of Environmental Analysis
Caltrans	Mary Cooprider	Environmental Planner, Office of Environmental Analysis
Caltrans	Japtej Gill	Environmental Planner, Office of Environmental Analysis
Caltrans	Lindsay Vivian	Office Chief, Office of Biological Sciences and Permits
Caltrans	Robert Blizard	Branch Chief, Office of Biological Sciences and Permits
Caltrans	Kathleen Grady	Environmental Scientist, Office of Biological Sciences and Permits
Caltrans	Kristina Montgomery	Branch Chief, Office of Cultural Resource Studies, PI Prehistoric Archaeology/ Co-PI Historical Archaeology
Caltrans	Michael Meloy	Associate Environmental Planner, Office of Cultural Resource Studies, Architectural History
Caltrans	Daniel Jackson	Environmental Scientist, Office of Cultural Resource Studies, Archaeology
Caltrans	Alex McDonald	Branch Chief, North Office of Landscape Architecture
Caltrans	Camille Thoma-Fill	Landscape Associate, Office of Landscape Architecture
Caltrans	Brian Rowley	Office Chief, Office of Water Quality
Caltrans	Hamideh Riazi	Branch Chief, Office of Water Quality
Caltrans	Andrew Chuong	Water Quality Engineer, Office of Water Quality
Caltrans	Shilpa Mareddy	Branch Chief, Office of Environmental Engineering
Caltrans	Va Lee	Air and Noise Specialist, Office of Environmental Engineering
Caltrans	Yrgalem Gebreslasie	Transportation Engineer, Geotechnical Design West
Caltrans	Chris Risden	Branch Chief, Office of Geotechnical Design-West

Organization Name	Name	Role
Caltrans	Carlos Mora	Branch Chief, Hazardous Waste Branch, Office of Environmental Engineering
Caltrans	Marisol Marin	Transportation Engineer, Hazardous Waste Branch, Office of Environmental Engineering
Caltrans	Mark Morancy	District Branch Chief, Office of Hydraulic Engineering
Caltrans	Nazeer Babacarkhial	Senior Transportation Engineer, Office of Design South, Special Projects
Caltrans	Archie Tan	Project Engineer, Design
Caltrans	Shella Orson	Right of Way Agent, Office of Right of Way Acquisitions & Project Management Services
Caltrans	Jim Murphy	Right of Way Agent, Office of Right of Way Acquisitions & Project Management Services
Caltrans	William Woolery	Senior Transportation Engineer, Traffic Operations
Catrans	Sipan Yavarian	Transportation Engineer, Traffic Operations
Jacobs	Joza Burnam	Senior Environmental Planner
Jacobs	Will Packard	Senior Environmental Planner
Jacobs	Harrison Qiu	Associate Environmental Planner
Jacobs	Lorretta Meyer	Senior Environmental Planner
Jacobs	Joe Aguirre	Environmental Planner
Jacobs	Shianne Howe	Environmental Planner
Jacobs	Chris Archer	Geospatial Professional
Jacobs	Clarice Ericsson	Senior Publications Technician
Jacobs	Bryan Bell	Technical Editor
Jacobs	Katie Schwartz	Remediation Specialist
AECOM	Lynn McIntyre	Project Manager
AECOM	Nick Duffort	Senior Environmental Planner
AECOM	Michael Kay	Senior Environmental Planner
AECOM	Dillon Lennebacker	Environmental Planner
AECOM	Broden Farazmand	Environmental Scientist
AECOM	Katie Brown	GIS Specialist
AECOM	Derek McCulloch	Senior Editor
AECOM	Danni Kline	Editor

Chapter 5 Distribution List

The following agencies and government officials received copies of this Initial Study with Proposed Mitigated Negative Declaration.

5.1 Federal Agencies

- United States Fish and Wildlife Service
- United States Army Corps of Engineers
- National Marine Fisheries Service
- United States Coast Guard

5.2 State Agencies

- Bay Area Air Quality Management District
- California Department of Fish and Wildlife
- Bay Conservation and Development Commission
- Regional Water Quality Control Board

5.3 Local Agencies and Organizations

- City of Sausalito Police Department
- San Francisco Bay Regional Water Quality Control Board
- Marin County Parks
- Marin County Planning Division
- Marin County Sheriff's Office
- Marin County Transportation Authority
- San Francisco Bay Conservation and Development Commission (BCDC)
- State Water Resources Control Board
- Marin City Climate Resilience

5.4 Elected Officials

- United States Senator Laphonza Butler
- United States Senator Alex Padilla
- California State Senator Mike McGuire
- Congressman Jared Huffman
- Assembly Member Damon Connolly
- Supervisor Stephanie Moulton-Peters
- Marin County Sheriff Jamie Scardina
- Sausalito Police Chief Stacie Gregory

5.5 Other Entities

- Federated Indians of Graton Rancheria
- Marin City Climate Resilience

Appendix A Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DIRECTOR
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September 2024

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

It is the policy of the California Department of Transportation (Caltrans), in accordance with Title VI of the Civil Rights Act of 1964 and the assurances set forth in the Caltrans' Title VI Program Plan, to ensure that no person in the United States shall on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. Related non-discrimination authorities, remedies, and state law further those protections, including sex, disability, religion, sexual orientation, age, low income, and Limited English Proficiency (LEP).

Caltrans is committed to complying with 23 C.F.R. Part 200, 49 C.F.R. Part 21, 49 C.F.R. Part 303, and the Federal Transit Administration Circular 4702.1B. Caltrans will make every effort to ensure nondiscrimination in all of its services, programs, and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin (including LEP). In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

The overall responsibility for this policy is assigned to the Caltrans Director. The Caltrans Title VI Coordinator is assigned to the Caltrans Office of Civil Rights Deputy Director, who then delegates sufficient responsibility and authority to the Office of Civil Rights' managers, including the Title VI Branch Manager, to effectively implement the Caltrans Title VI Program. Individuals with questions or requiring additional information relating to the policy or the implementation of the Caltrans Title VI Program should contact the Title VI Branch Manager at title.vi@dot.ca.gov or at (916) 639-6392, or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

TONY TAVARES
Director

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

Appendix B Summary of Project Features, Avoidance and Minimization Measures, and Mitigation Measures

This appendix summarizes proposed Project features (PFs) and avoidance and minimization measures (AMMs) to reduce potential environmental impacts resulting from Project implementation.

Project Features

Air Quality

- **PF-AQ-1, Contractor Air Quality Compliance.** The contractor will adhere to Caltrans Standard Specifications for Construction, Sections 14.9-02 and 7-1.02c, which require contractor compliance with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

- **PF-AQ-2, Control Measures for Construction Emissions of Fugitive Dust.** Dust control measures will be implemented to minimize airborne dust and soil particles generated from graded areas. For disturbed soil areas, the use of an organic tackifier to control dust emissions will be included in the construction contract. Watering guidelines will be established by the contractor and approved by the Caltrans Resident Engineer. Any material stockpiled during construction shall be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

- **PF-AQ-3, Construction Vehicles and Equipment.** Construction vehicles and equipment shall be maintained and tuned in accordance with manufacturer specifications. In addition, solar-powered traffic control lights will be used if feasible.

- **PF-AQ-4, Minimize Idling.** Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.

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, U.S. Fish and Wildlife Service [USFWS], National Marine Fisheries Service [NMFS], RWQCB, and/or California Department of Fish and Wildlife [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, Worker Environmental Awareness Training.** Prior to ground-disturbing activities, an agency-approved biologist will conduct an education program for all construction personnel. At a minimum, the training will include a description of special-status species with potential to occur, migratory birds and their habitats, how the species might be encountered within the Project area, an explanation of the status of these species and protection under the federal and state regulations, the measures to be implemented to conserve listed species and their habitats as they relate to the work site, boundaries within which construction may occur, and how to best avoid the incidental take of listed species. The field meeting will include topics on species identification, life history, descriptions, and habitat requirements during various life stages. Emphasis will be placed on the importance of the habitat and life stage requirements within the context of Project maps showing areas where AMMs are to be implemented. The program will include an explanation of applicable federal and state laws protecting endangered species as well as the importance of compliance with Caltrans and various resource agency conditions.

- **PF-BIO-3, Marking of Environmentally Sensitive Areas.** Before starting construction, environmentally sensitive areas (ESAs), defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed, will be clearly delineated using high-visibility fencing. The ESA fencing will remain in place at each location until work at that location is complete and will prevent construction equipment or personnel from entering sensitive habitat areas. The final Project plans will depict the locations where ESA fencing will be installed and how it will be assembled/constructed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. The ESA fencing will be removed following completion of construction activities.

- **PF-BIO-4, Protection and Avoidance of Nesting Birds.** If feasible, vegetation and tree removal will be scheduled to avoid impacts on nesting birds. If Project activities occur between February 1 and September 30, a pre-construction survey will be conducted for nesting birds no more than 3 days before construction. If active nests are found, 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 Section 3503.

- **PF-BIO-5, Active Nest Buffers.** If an active bird nest is found during construction activities, 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 non-raptor migratory birds is observed, a 50-foot ESA buffer will be implemented to protect the young until they have fledged. Buffers may be reduced in consultation with USFWS and CDFW regarding appropriate action to comply with the MBTA and California Fish and Game Code Section 3503.

- **PF-BIO-6, Stormwater Best Management Practices.** In accordance with RWQCB requirements, a Stormwater Pollution Prevention Plan will be developed, and erosion control best management practices implemented to minimize wind- or water-related erosion. The Caltrans Construction Site Best Management Practices Manual (Caltrans 2024b) provides guidance for the inclusion of provisions in all construction contracts to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. 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 sealable 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, located at least 50 feet from watercourses.

    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 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 along toes of slopes or along edges of designated staging areas, erosion control netting (jute or coir), hydraulic mulch, temporary cover, drainage inlet protection, or other appropriate sediment control methods. 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-7, 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 in the Project area in unpaved and paved areas to reduce dust and excessive soil disturbance.

  b. Locating construction access, staging, storage, and parking areas within the Project area outside 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 or grading.

  c. Certifying imported 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.

  g. Maintaining equipment to prevent the leakage of vehicle fluids such as gasoline, oils, or solvents, and developing a Spill Response Plan. Hazardous materials such as fuels, oils, and solvents will be stored in industry or manufactured approved container in a designated location that is at least 50 feet from aquatic habitats.

- **PF-BIO-8, Invasive Weed Control.** To reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112 – Invasive Species. 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. In the event that 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 it 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.

- **PF-BIO-9, Vegetation Removal.** Upland vegetation that is within the cut and fill line or growing in locations where permanent structures will be placed will be cleared. Wetland vegetation will not be removed from temporary impact areas. Marsh mats or other materials will be placed in wetland areas to temporarily cover marsh surfaces during construction access. Vegetation will be cleared only where necessary and will be cut above soil level, except in areas that will be permanently impacted or excavated. This will allow plants that reproduce vegetatively to resprout after construction. Clearing and grubbing of woody vegetation will occur by hand or using construction equipment such as mowers, backhoes, and excavators. If clearing and grubbing occurs between February 1 and September 30, the biological monitor will survey for nesting birds within the areas to be disturbed (including a perimeter buffer of 50 feet for passerines/migratory birds and 300 feet for raptors) before clearing activities begin. Cleared vegetation will be removed from the Project area to prevent attracting animals to the Project site.

- **PF-BIO-10, Restoration of Disturbed Areas.** Caltrans will restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where vegetation is removed to construct culverts, no shrub or tree species will be replanted within 50 feet of center of the culvert. These locations will be hydroseeded.

- **PF-BIO-11, Prevention of Inadvertent Entrapment.** To prevent inadvertent entrapment of animals during construction, excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day using plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight will be inspected before they are subsequently moved, capped, or buried.

- **PF-BIO-12, Nighttime Restrictions/ Lighting.** Nightwork will be limited wherever possible. If nightwork must be performed, lighting will be directed towards the roadway to the greatest extent practicable to avoid exposing nocturnal wildlife and their habitats to excessive glare.

- **PF-BIO-13, Work in Dry Weather Only.** Work within wetlands, or in the bed, bank, or channel of a stream or pond and in any associated riparian habitat, will be

conducted only during periods of dry weather. Forecasted precipitation will be monitored. When 0.25 inch or more of precipitation is forecasted to occur, work will stop before precipitation commences. No Project activities will be started if their associated erosion control measures cannot be completed prior to the onset of precipitation. After any storm event, all sites currently under construction and all sites scheduled to begin construction within the next 72 hours will be inspected for erosion and sediment problems, and corrective action will be taken as needed; 72-hour weather forecasts from the National Weather Service will be consulted, and work will not resume until runoff ceases, and there is less than a 50 percent forecast for precipitation for the following 24-hour period.

- **PF-BIO-14, Dewatering.** 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.

Cultural Resources

- **PF-CUL-1, Unanticipated Archaeological Discovery.** If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer.

- **PF-CUL-2, Unanticipated Human Remains Discovery.** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie the remains, and the county coroner will be contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), which will then notify the Most Likely Descendant (MLD). At that time, the person who discovered the remains will contact the Environmental Senior and PQS, who will work with the MLD to ensure respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 will be followed, as applicable.

Geology and Soils

- **PF-GEO-1, Paleontological Resources.** The Project's construction contract will include the 2024 Caltrans Standard Specification 14-7.03, which provides for stopping work within a 60-foot radius, securing the area, notifying the resident engineer, and performing further investigation if paleontological resources are encountered during project construction.

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, Preliminary Site Investigations.** A preliminary site investigation (PSI) for aerially deposited lead, agricultural chemicals, and potential hazardous materials concerns related to soil and groundwater will be conducted during the Project design phase to investigate soil within Project limits proposed to be excavated, encountered, or disturbed and managed. The findings of the preliminary site investigation will be used to evaluate soil and groundwater handling practices, construction worker health and safety concerns, and soil and groundwater reuse and disposal options. If hazardous materials are identified during the preliminary site investigation, additional investigation could be required. The results of the site investigation will determine the special provisions to be used in the final design package. The site investigation report will be included as part of the information handout made available as a part of the final design package.

Hydrology and Water Quality

- **PF-WQ-1, Stormwater Pollution Prevention Plan and Job Site Management:** A SWPPP will be prepared by the contractor and approved by Caltrans, pursuant to the 2024 Caltrans Standard Specifications Section 13-3, Stormwater Pollution Prevention Plan, and the Caltrans SWPPP Preparation Manual. In addition to the SWPPP, job site management work specifications pursuant to the 2018 Caltrans Standard Specifications Section 13-4, Job Site Management, will be implemented prior to the beginning of construction.

- **PF-WQ-2, Construction and Implementation of Best Management Practices.** Erosion control BMPs will be included in the final Project plans, and Standard Special Provisions will be included in the final construction package to comply with the conditions of the Caltrans National Pollutant Discharge Elimination System permit. The Caltrans BMP Guidance Handbook (Caltrans 2017) will provide guidance for provisions to be included in the construction contract for measures to protect environmentally sensitive areas and avoid or minimize stormwater and non-stormwater discharges. Construction BMPs for stormwater may include, but are not limited to, the following:

- Construction tracking control practices
- Job site management
- Sediment control (fiber rolls and silt fencing)
- Waste management and materials pollution control
- Materials stockpile management
- Dust and wind erosion controls
- Non-stormwater management
- Water quality monitoring
- Maintaining and tuning construction vehicles and equipment approximately 50 feet away from known water features
- Locating designated fueling areas approximately 50 feet from downslope drainage facilities

Noise

- **PF-NOI-1, Construction Noise.** The Caltrans 2024 Standard Specifications, Section 14-8.02, requires that the Maximum Sound Level not exceed 86 A-weighted decibels at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. The following measures will be implemented to reduce noise levels during construction where feasible:
  - Schedule noisy operations within the same timeframe. The total noise level will not be substantially greater than the level produced if operations are performed separately.
  - Avoid unnecessary idling of internal combustion engines within 100 feet of sensitive receptors.
  - Locate all stationary noise-generating construction equipment as far as practicable from noise-sensitive receptors, or provide baffled housing or sound aprons for equipment when sensitive receptors adjoin or are near a Project construction area.
  - Equip all internal combustion engine-driven equipment with manufacturer-recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment. Maintain all internal combustion engines properly to minimize noise generation.

- Use “quiet” air compressors and other “quiet” equipment where such technology exists.
- No construction equipment will be delivered and dropped off before 6:00 a.m.
- If feasible, use solar or electricity as a power source instead of diesel generators.

Recreation

- **PF-REC-1, Provide Trail Access and Notification During Construction.** The contractor shall accommodate travelers on the Mill Valley–Sausalito Pathway through and around work zones consistent with Caltrans 2024 Standard Specifications Sections 7-1.04, 12-1.03, and 12-4.04. 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.

Transportation

- **PF-TRANS-1, Transportation Management Plan.** A TMP will be prepared by Caltrans prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and enhancing safety measures for those accessing the Project corridor during construction. Emergency access would be maintained throughout construction, and the TMP would provide for priority access for emergency and medical vehicles associated with essential services. Notifications and instructions for rapid response or evacuation in the event of an emergency will be provided. The TMP will include public notifications, portable changeable message signs, traffic control systems (ground-mounted signs), and a Construction Zone Enhanced Enforcement Program (COZEEP) to enhance safety in the Project area during construction.

Wildfire

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

Avoidance and Minimization Measures

- **AMM-AES-1, Staging Area Vegetation Avoidance.** Where feasible, construction staging areas shall be located to avoid the removal of vegetation or result in ground compaction affecting tree roots.

- **AMM-AES-2, Staging Area Screening.** Construction materials and equipment shall be stored in a staging area beyond direct view of travelers and residential properties. The staging area shall be obscured from public views using temporary fencing and/or screening materials. If construction materials and equipment are not properly stored, they could affect public views.

- **AMM-AES-3, Materials and Design.** Select materials and design site features for the outfall at Richardson Bay to be appropriate for the visual character of the location and to maintain corridor consistency. As stated in Section 1.3.1, a new headwall would be placed at the culvert outfall. The Caltrans Office of Landscape Architecture will provide final recommendations for the appearance of the headwall during the detailed design phase. Recommendations may include ensuring that the headwall is an appropriate color to blend in with the surrounding environment.

- **AMM-BIO-1, Rare Plant Pre-construction Survey.** During the appropriate 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, if found, 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 area during the pre-construction survey, appropriate agencies will be notified, and protection measures will be implemented.

- **AMM-BIO-2, Wetland Protection.** The following measures would be implemented in and adjacent to delineated wetland ESAs in the Project limits:

a. Work in and adjacent to delineated wetlands where flooding has potential to occur would be scheduled outside of the wet-weather season.

b. Work in and adjacent to delineated tidal wetlands would not occur within 2 hours before or after extreme high tide events (6.5 feet above mean lower low water elevation or greater, as determined from the National Oceanic and Atmospheric Administration tidal gage station nearest to the activity) when the marsh plain is inundated.

c. Heavy Vehicle Access in Wetlands: Marsh mats will be used across access routes in most instances where heavy vehicles must traverse wetland surfaces. Plywood marsh mats will be used at selected locations where only lighter

wheeled vehicles or pedestrians will be traveling. Other materials may be chosen by the contractor that preserve wetland vegetation during construction activities.

- **AMM-BIO-3, Tree Protection.** The Project would clearly indicate on all construction plan sets the trees to be either fully protected in place, trimmed/limbed, cut above soil level, or fully removed.

a. To minimize effects on trees that occur within the Project area, the following minimization measures will be implemented:

b. For trees that are within the Project boundary, but are only to be temporarily affected, or not affected, fencing shall be placed at the dripline to ensure the tree is protected during work.

c. Only those trees requiring removal will be cut down.

d. Whenever possible, trees will be trimmed rather than removed.

e. To avoid potential damage to retained trees, trees will be safeguarded during construction through implementation of the following measures as applicable:

    - No construction equipment, vehicles, or materials will be stored, parked or staged within the tree dripline.

    - Work will not be performed within the dripline of the remaining trees without consultation with an International Society of Arboriculture (ISA) certified arborist. If trees are damaged during construction and become unhealthy or die, the damaged tree(s) will be removed and may be replaced.

- **AMM-BIO-4, In-water Work Window.** The in-water work window within Richardson Bay will prevent construction disturbance when most rainfall typically occurs, avoiding impacts to water quality and challenges to the cofferdams by increased flows that occur during rain events. All work in aquatic habitat for fish species within Richardson Bay will take place from April 15 to October 31.

- **AMM-BIO-5, Placement of Nontoxic Structures.** All material placed in Richardson Bay will be nontoxic. Any combination of wood, plastic, cured concrete, steel pilings, or other materials used for in-channel structures will 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-6, Construction within Cofferdams.** All work in aquatic habitat will take place within cofferdams in dewatered areas. Cofferdams will effectively isolate the work areas from the bay and significantly reduce potential construction effects and stressors, such as noise and vibration. Cofferdams will be designed and constructed to isolate work areas, avoiding disturbance of potential fish habitat areas in Richardson Bay and allowing tidal flows to easily pass through the Project limits.

- **AMM-BIO-7, Cofferdam Installation.** During construction, sheet pile would be driven using vibratory methods during a period of low tide, when the cofferdam area is not inundated, to minimize the potential for fish to be present within the work area.

- **AMM-NOI-1, Noise Control and Monitoring.** Caltrans shall include a Special Provision in the Contract Specifications requiring Noise Monitoring and Control, which shall require the construction contractor to implement a construction Noise Control Plan. The Noise Control Plan shall include the following:

    - Monitoring construction noise to maintain noise levels within specified limits;

    - Providing additional noise controls where practical and feasible, such as noise blankets on equipment with high noise levels or barriers between noisy activities and sensitive receptors; and

    - Providing public outreach and a communication plan to alert residents, businesses, and others of upcoming construction-related activities and the Project construction schedule.

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

- **AMM-TCR-2:** Caltrans will work with FIGR to develop and implement a construction training, monitoring, and discovery plan for encountering potential Tribal Cultural Resources in the Project construction area. The plan may include, but is not limited to, the following:

a. Archaeological awareness and Tribal Cultural Resources sensitivity training of construction staff, with information about the possibility of encountering cultural resources (including Tribal Cultural Resources) and the appearance and types of resources that could be encountered during project construction.

b. Native American and archaeological monitoring during ground-disturbing activities, as determined through consultation among Caltrans and FIGR prior to construction.

c. Work stoppage and tribal consultation protocols in the event that previously unidentified cultural resources are discovered. Recommendations for treatment and disposition of finds could include, but are not limited to, the collection, recordation, and analysis of any significant cultural materials, or the transfer of Tribal Cultural Resources to Tribal representatives for appropriate treatment.

Implementing a construction training, monitoring, and discovery plan would avoid or reduce impacts to potential Tribal Cultural Resources by providing for resource avoidance or protection-in-place measures where possible, and treatment of resources in accordance with Tribal cultural values when avoidance or protection is not feasible. The plan for this Project would be developed in coordination with FIGR representatives.

Mitigation Measure

- **MM-BIO-1, Impacts to Wetlands.** Caltrans will mitigate for permanent impacts to aquatic resources at a ratio determined appropriate in coordination with regulatory agencies with jurisdiction, which are anticipated to be USACE and RWQCB. The mitigation credit, in-lieu fee contribution, or mitigation site will be chosen in consultation with regulatory agencies with jurisdiction.

Appendix C List of Technical Studies and References

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