State Route 1/Manor Drive Overcrossing Improvement Project



Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment

SAN MATEO, CALIFORNIA
DISTRICT 4 – SM – 01 (PM R44.77–R45.48)
EA 04-1Y230 / 0422000449

Prepared by the
State of California, Department of Transportation,
City of Pacifica, and San Mateo County Transportation Authority

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

September 2026

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment (IS/EA) for the proposed State Route 1 (SR 1)/Manor Drive Overcrossing Improvement Project (project). Caltrans, in cooperation with the City of Pacifica and the San Mateo County Transportation Authority (SMCTA), proposes to widen the Manor Drive overcrossing of SR 1 between Palmetto Avenue and Oceana Boulevard, replace the existing stop signs with traffic and pedestrian signals, and construct new sidewalks and bicycle lanes. The project may include the construction of a new on-ramp to northbound SR 1 at Milagra Drive and Oceana Boulevard. Caltrans is the lead agency under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
    - View or download the document at https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

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 will be held on Thursday, December 3, 2026 from 6:00 PM to 8:00 PM:

    City Council Chambers
    2212 Beach Boulevard, 2nd Floor
    Pacifica, CA 94044

- 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: Nina Hofmarcher

P.O. Box 23660, MS-8B
Oakland, CA 94623-0660

- Or, electronically via email to:

  EA04-1Y230PublicComments@dot.ca.gov

- Be sure to send all comments by the deadline: **Monday, December 28, 2026**.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA, may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, the City of Pacifica and SMCTA could design and construct all or part of the project.

Alternative Formats:

For individuals with sensory disabilities, this IS/EA can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to Caltrans District 4, Attn: Nina Hofmarcher, P.O. Box 23660, MS:8B, Oakland, CA 94623-0660, 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/EA is available to download at https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

04-SM-01 (PM R44.77/R45.78)
EA No. 04-1Y230
Project No. 0422000449

Replace or widen the Manor Drive Overcrossing of State Route 1 in the City of Pacifica, San Mateo County (post mile R44.77 to post mile R45.78)

Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment

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

THE STATE OF CALIFORNIA
Department of Transportation, City of Pacifica, and San Mateo County Transportation Authority

Responsible Agencies: California Transportation Commission, San Francisco Bay Regional Water Quality Control Board, San Mateo County and City of Pacifica



09/03/2026

Doanh Nguyen
Acting District Director
California Department of Transportation, District 4
CEQA/NEPA Lead Agency

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), in cooperation with the City of Pacifica (City) and the San Mateo County Transportation Authority (SMCTA), proposes to modify the State Route (SR) 1/Manor Drive overcrossing. The SR 1/Manor Drive Overcrossing Improvement Project (project) would widen the Manor Drive overcrossing of SR 1 between Palmetto Avenue and Oceana Boulevard, replace the existing stop signs with traffic and pedestrian signals, and construct new sidewalks and bicycle lanes. The project may include the construction of a new on-ramp to northbound SR 1 at Milagra Drive and Oceana Boulevard, utilizing an existing bus pull-out/bus stop that is no longer in use. The project area extends for approximately 0.7 mile along SR 1, from post mile (PM) R44.77 to R45.48.

DRAFT Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that Caltrans intends to adopt an MND for this project. This Mitigated Negative Declaration is subject to change based on comments received by the general public, responsible agencies, and trustee agencies.

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

- The proposed project would have no effect to agriculture and forestry resources, land use and planning, mineral resources, population and housing, public services, recreation, and wildfire.
- In addition, the proposed project would have less than significant effects to aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise (specifically traffic and construction noise and post-construction vibration), transportation, Tribal Cultural Resources, and utilities and service systems.
- With the implementation of mitigation measure MM-NOI-2, the project would have less-than-significant impacts on noise (specifically construction vibration).



09/03/2026

Doanh Nguyen
Acting District Director
California Department of Transportation, District 4
CEQA/NEPA Lead Agency

Date

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Acronyms and Abbreviations

Abbreviation	Definition
AB	Assembly Bill
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
Agreement	Aerially Deposited Lead Agreement between Caltrans and the California Department of Toxic Substances Control
AMM	avoidance and/or minimization measure
APE	Area of Potential Effect
AVE	Area of Visual Effect
BAAD	Bay Area Air Quality Management District
bgs	below ground surface
BMP	best management practice
BSA	Biological Study Area
Btu	British Thermal Unit
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
C/CAG	City/County Association of Governments of San Mateo County
CCC	California Coastal Commission
CGS	California Geologic Survey
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	Methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	carbon dioxide

Abbreviation	Definition
CO_2e	carbon dioxide equivalent
COZEEP	Construction Zone Enhanced Enforcement Program
dBA	A-weighted decibel
DSA	disturbed soil area
DTSC	Department of Toxic Substances Control
ESA	environmentally sensitive area
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
GHG	greenhouse gas
HREC	historic recognized environmental condition
IS/MND	Initial Study/Proposed Mitigated Negative Declaration
LED	light-emitting diode
LCP	Local Coastal Program
LCLUP	Local Coastal Land Use Plan
L_{eq}	average hourly noise level
L_{max}	maximum hourly noise level
LOS	level of service
LRA	local responsibility area
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MM	mitigation measure
MRP	Municipal Regional Permit
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
NAHC	Native American Heritage Commission
n.d.	no date
NEPA	National Environmental Policy Act
NOAA Fisheries	National Oceanographic and Atmospheric Administration Fisheries
NO_2	nitrogen dioxide

Abbreviation	Definition
NO_x	nitrogen oxides
NCST	National Center for Sustainable Transportation
OPC	California Ocean Protection Council
pCi/L	picoCuries per liter
PF	project feature
PM	post mile
$PM_{2.5}$	particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers
PM_{10}	particulate matter with aerodynamic diameter equal to or less than 10 micrometers
PQS	Professionally Qualified Staff
project	SR 1/Manor Drive Overcrossing Improvement Project
PSA	Paleontological Study Area
PSI	Preliminary Site Investigation
REC	recognized environmental condition
ROW	right-of-way
RWQCB	San Francisco Bay Regional Water Quality Control Board
SB	Senate Bill
SF_6	sulfur hexafluoride
SHOPP	State Highway Operation and Protection Program
SR 1	State Route 1
SRA	state responsibility area
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TMP	Traffic Management Plan
UCMP	University of California Museum of Paleontology
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency

Abbreviation	Definition
USFWS	U.S. Fish and Wildlife Service
VHD	vehicle hours of delay
VTA	Santa Clara Valley Transportation Authority
VOC	Volatile organic compound

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with the City of Pacifica (City) and the San Mateo County Transportation Authority (SMCTA), proposes to modify the Manor Drive overcrossing of State Route (SR) 1. The SR 1/Manor Drive Overcrossing Improvement Project (project) would widen the Manor Drive overcrossing of SR 1 between Palmetto Avenue and Oceana Boulevard, replace the existing stop signs with traffic and pedestrian signals, and construct new sidewalks and bicycle lanes. The project may include the construction of a new on-ramp to northbound SR 1 at Milagra Drive and Oceana Boulevard, utilizing an existing bus pull-out/bus stop that is no longer in use.

1.1.1 NEPA Assignment

Since 2007, Caltrans has performed federal responsibilities for environmental decisions and approvals under the National Environmental Policy Act (NEPA) for highway projects in California that are funded or otherwise approved by the Federal Highway Administration (FHWA). These responsibilities have been assigned to Caltrans by FHWA pursuant to Title 23 United States Code (USC) Sections 326 and 327 and two Memoranda of Understanding signed by FHWA. Please see the Caltrans Standard Environmental Reference (SER) Volume 1, Chapter 38, "NEPA Assignment" for additional information.

Caltrans, as assigned by FHWA, is the lead agency under NEPA. Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

1.1.2 Project Location

The project area extends for approximately 0.7 miles along SR 1, from post mile (PM) R44.77 to R45.48, and includes portions of Manor Drive, Oceana Boulevard, Palmetto Avenue, and Milagra Drive in Pacifica, San Mateo County. The project area is shown in Figure 1-1, and roads in the project vicinity are described in more detail below.



Figure 1-1. Project Area

SR 1 is a north–south highway connecting Pacifica to Daly City and San Francisco to the north, and Half Moon Bay and the San Mateo County coastline to the south. Within the project area, SR 1 is also referred to as the Cabrillo Highway. Originally constructed as a two-lane road in the early 1950s, SR 1 in the project area now has two lanes in each direction, with a posted speed limit of 55 miles per hour. Near the SR 1/Manor Drive overcrossing in Pacifica, the highway functions as an access-controlled freeway. While SR 1 accommodates motorized vehicles, cross-traffic and pedestrian or bicycle mobility are limited to parallel routes and grade-separated crossings over or under the highway.

The Manor Drive overcrossing serves as an important east-west connector for northern Pacifica. Manor Drive extends from Esplanade Avenue to SR 35 (Skyline Boulevard) and is one of five east-west crossings of SR 1 in the city of Pacifica. Manor Drive has one lane in each direction except at the overcrossing and just to the west, where it has two lanes in each direction. The posted speed limit is 25 mph. On-street parking is permitted along both sides of Manor Drive except in the westbound direction between Manor Plaza and Palmetto Avenue. There are multiple bus stops near the Manor Drive overcrossing, with bus routes running along Oceana Boulevard, Palmetto Avenue, and Manor Drive. There are no existing bike lanes within the project limits. The overcrossing provides access to several retail stores and restaurants, including Pacific Manor shopping center; civic facilities, including a United States post office, the City public works corporation yard, the beach and Esplanade Coastal Trail; and single-family and multi-family residential areas on both sides of SR 1.

Oceana Boulevard is a north-south roadway that is parallel to and east of SR 1. Within the study area, Oceana Boulevard has one travel lane in each direction and a posted speed limit of 30 mph. Paved sidewalks are provided on the east side from Milagra Drive to Manor Drive and on the west side from Milagra Drive to Avalon Drive. There are no existing bicycle facilities along Oceana Boulevard. On-street parking is available within the study area along the east side of Oceana Boulevard from Milagra Drive to Manor Drive and along both sides of Oceana Boulevard from Milagra Drive to Avalon Drive.

Milagra Drive is an east-west roadway that extends east from Oceana Boulevard. Milagra Drive has one travel lane in each direction and an assumed speed limit of 25 mph (no speed limit is posted). Paved sidewalks are provided on both sides of Milagra Drive. There are no existing bike facilities along Milagra Drive. On-street parking is available along Milagra Drive within the project limits.

Palmetto Avenue is a north-south roadway that is parallel to and west of SR 1. Within the study area, Palmetto Avenue has one travel lane in each direction and the posted speed limit is 30 miles per hour. On-street parking is available between Manor Drive and West Avalon Drive and south of the southbound SR 1 on-ramp. A paved sidewalk is

provided on the west side of the street; there are no existing bicycle facilities along Palmetto Avenue within the project footprint.

There is no access to SR 1 in the northbound direction from Milagra Drive, only an off-ramp with a bus stop and bus lane in the northbound direction that are no longer in use.

Other nearby east-west connectors with interchange ramps to SR 1 are Monterey Road, approximately 0.2 mile to the north of Manor Drive; and Paloma Drive, approximately 1.0 mile to the south.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of this project is to:

- Improve traffic circulation and operations on and adjacent to the Manor Drive overcrossing;
- Provide enhanced pedestrian and bicycle facilities across the Manor Drive overcrossing and on adjacent streets; and
- Enhance the overall safety and structural stability of the facility.

1.2.2 Need

The existing traffic controls on each side of the Manor Drive overcrossing hinder efficient traffic circulation and operations, contributing to localized delays and reduced travel reliability for all roadway users. The current lane, shoulder, and sidewalk widths on the overcrossing do not accommodate pedestrian and bicycle facilities that meet modern design standards. The project is needed to address existing and future congestion, close gaps in the pedestrian and bicycle network, and correct roadway and structural deficiencies along the overcrossing. Improvements are also needed to enhance safety for motorists, pedestrians, and bicyclists and to provide a multimodal connection across SR 1 consistent with current design standards and local active transportation goals.

1.2.2.1 Traffic Circulation and Operations

The existing traffic controls on each side of the Manor Drive overcrossing contribute to delays and queuing at adjacent and nearby intersections. A queue is a build-up of traffic that exceeds the capacity of a road or intersection and is often measured by distance. Level of Service (LOS) is an indicator of operational conditions on a roadway or at an intersection and is defined in categories ranging from A to F. LOS A represents free-flow traffic conditions with little or no delay, and LOS F represents oversaturated conditions where traffic exceeds capacity and results in long queues and delays. The City's policy is to maintain, if possible, LOS D for City streets (City of Pacifica 2022a). LOS is not

used as a metric for analyzing transportation impacts under CEQA but helps to illustrate existing and future operations and delays.

In the project area, most movements, including all-way stop-controlled and side-street stop-controlled movements, operate at LOS C or better during the morning and afternoon peak hours, which are 8:00 to 9:00 AM and 3:00 to 4:00 PM, respectively. However, some specific vehicle travel movements through intersections—through (straight), right, and left—operate at LOS D or worse. The following locations at and near the Manor Drive overcrossing operate at LOS D, E, or F at the AM and/or PM peak hours (Fehr & Peers 2025):

- Palmetto Avenue/Manor Drive
    - Eastbound left/through lane: LOS E (PM peak hour)
    - Eastbound through/right lane: LOS D (PM peak hour)
    - Southbound left lane: LOS D (AM peak hour) and LOS F (PM peak hour)
- Oceana Boulevard/Manor Drive
    - Westbound lane: LOS D (AM peak hour) and LOS E (PM peak hour)
    - Northbound lane: LOS D (PM peak hour)
- Palmetto Avenue/Monterey Road
    - Southbound lane: LOS D (PM peak hour)

Vehicle demand volumes in the project area are projected to grow by 1% to 2% on SR 1 and by 0.5% to 1% on local streets, based on data from Plan Bay Area 2050 (MTC and ABAG 2021) and the joint Santa Clara Valley Transportation Authority (VTA) and City/County Association of Governments of San Mateo County (C/CAG) travel demand model (VTA-C/CAG model) (Fehr & Peers 2025). These projections indicate that demand would continue to increase during peak hours, increasing delays and queuing in the project area. Additional information about existing and projected future traffic conditions is provided in Sections 2.2.5 and 3.6.17.

1.2.2.2 PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian and bicycle access on the Manor Drive overcrossing and its connections with Palmetto Avenue and Oceana Boulevard are inadequate for the surrounding land uses. Manor Drive connects residential areas on both sides of SR 1 with commercial, civic, and recreational destinations. In addition, there are six different bus stops within approximately one block of the Manor Drive overcrossing.

The Manor Drive overcrossing has a 6-foot-wide sidewalk on each side of the bridge. The sidewalks are protected from vehicle traffic by short railings on the roadside and by taller fencing on the outer edges over SR 1. No formal bicycle facilities are present on the overcrossing or adjacent streets, and cyclists must share the vehicle lanes or use sidewalks. The closest designated bicycle facilities are along Esplanade Avenue. The City's 2020 Bicycle and Pedestrian Master Plan identifies the Manor Drive area as a "pedestrian priority area," a location with the highest need for pedestrian improvements. Also, some existing curb ramps within the project limits do not meet the latest Americans with Disabilities Act (ADA) requirements.

The project is needed to address existing deficiencies in non-motorized access across SR 1; support local and regional active transportation goals; and improve connectivity between neighborhoods, businesses, civic facilities, recreational areas, and coastal resources. Additional information about these topics is provided in Sections 2.2.1 through 2.2.3.

1.2.2.3 Safety and Structural Deficiencies

The Manor Drive overcrossing of SR 1 was constructed in 1963. The overcrossing has narrow traffic lanes and no shoulders. The narrow lanes and tight turning radii require buses and large trucks to cross the center line into opposing traffic lanes to make right and left turns onto Palmetto Avenue and Oceana Boulevard. The sidewalks and guardrails show evidence of multiple sideswipes from vehicle contact.

The bridge deck underwent extensive repairs in 2010, which included removing and cutting unsound concrete, coating the top mat of reinforcement with a corrosion protection agent, and overlaying the entire deck with an epoxy resin binder.

In 2016, Caltrans inspected the overcrossing to characterize its structural adequacy and safety, serviceability and functional obsolescence, and essentialness for public use. The Caltrans inspection report assigned the overcrossing with a low sufficiency rating (67.8). The inspection report identified several maintenance issues that need to be addressed, including various cracks on the end abutments and large spalls (up to 8 inches wide by 36 inches long by 1 inch deep) on the bridge deck surface.

Structural defects include structural distress in the concrete and intrusion of water, various surface spalls, reinforced concrete cracks, and delamination or separation of layered material at the railing.

1.2.3 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the project be evaluated for independent utility and logical termini. "Logical termini" for a project are defined as rational end points for transportation improvements. These

rational end points help facilitate a thorough review of environmental effects. Having "independent utility" means a project's improvements function and provide value on its own, without depending on other, related projects.

This project is needed to address inefficient traffic circulation and operations on and adjacent to the Manor Drive overcrossing, pedestrian and bicycle facilities that do not meet current standards, and the overall safety and structural stability of the facility. The project limits were defined to encompass the whole of the action necessary to address the project needs. Therefore, the project has logical termini. The build alternatives would address the purpose and need without additional improvements; therefore, the project also has independent utility. Further, the build alternatives would not restrict the consideration of alternatives for other reasonably foreseeable transportation improvements.

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 No Build Alternative, Build Alternative 1 (Manor Drive Improvements without Milagra Drive On-Ramp to Northbound SR 1), and Build Alternative 2 (Manor Drive Improvements with Milagra Drive On-Ramp to Northbound SR 1). Build Alternative 1 is shown in Figure 1-2, and Build Alternative 2 is shown in Figure 1-3.

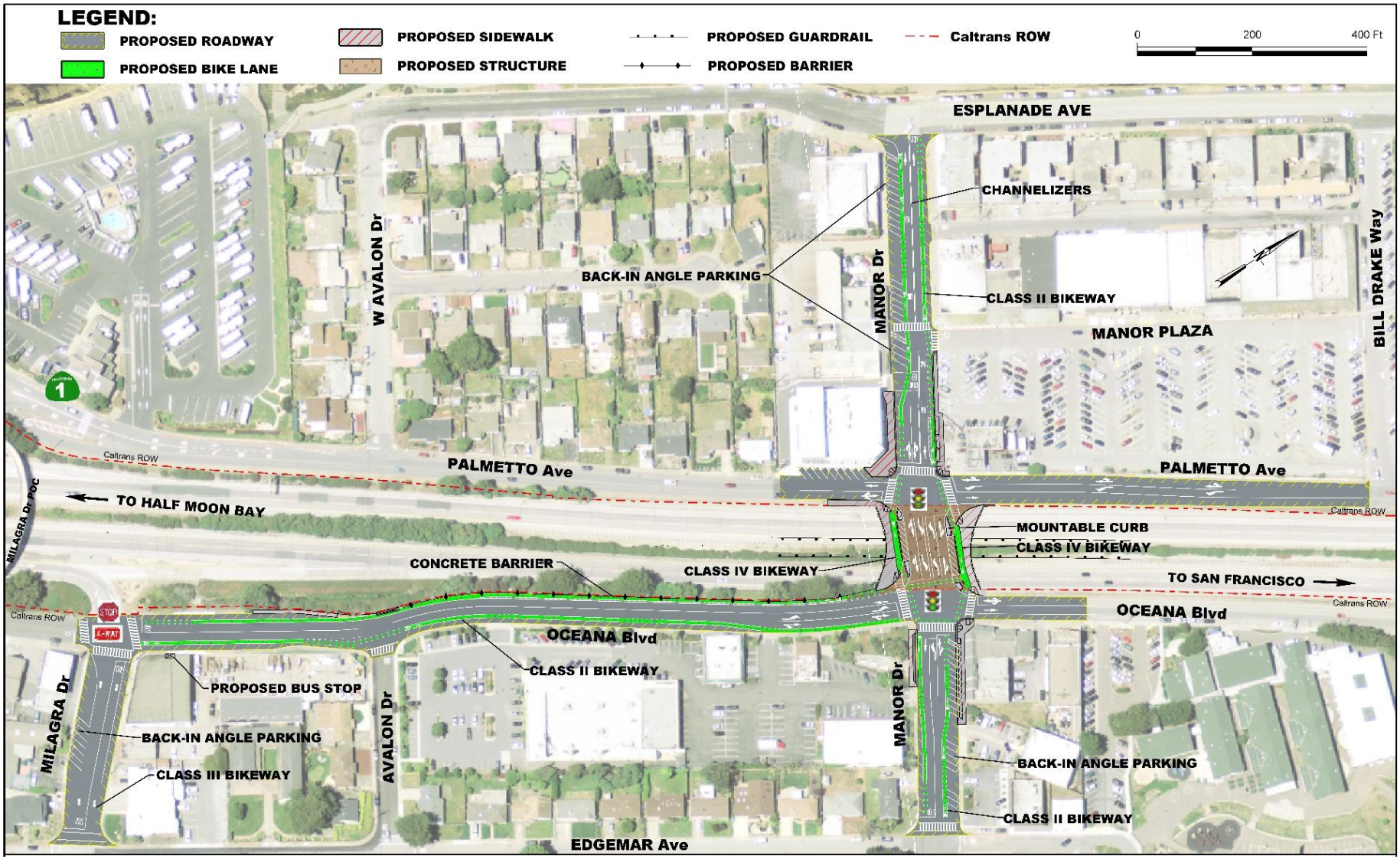

Figure 1-2. Build Alternative 1 (Manor Drive Improvements without Milagra Drive On-Ramp to Northbound SR 1)

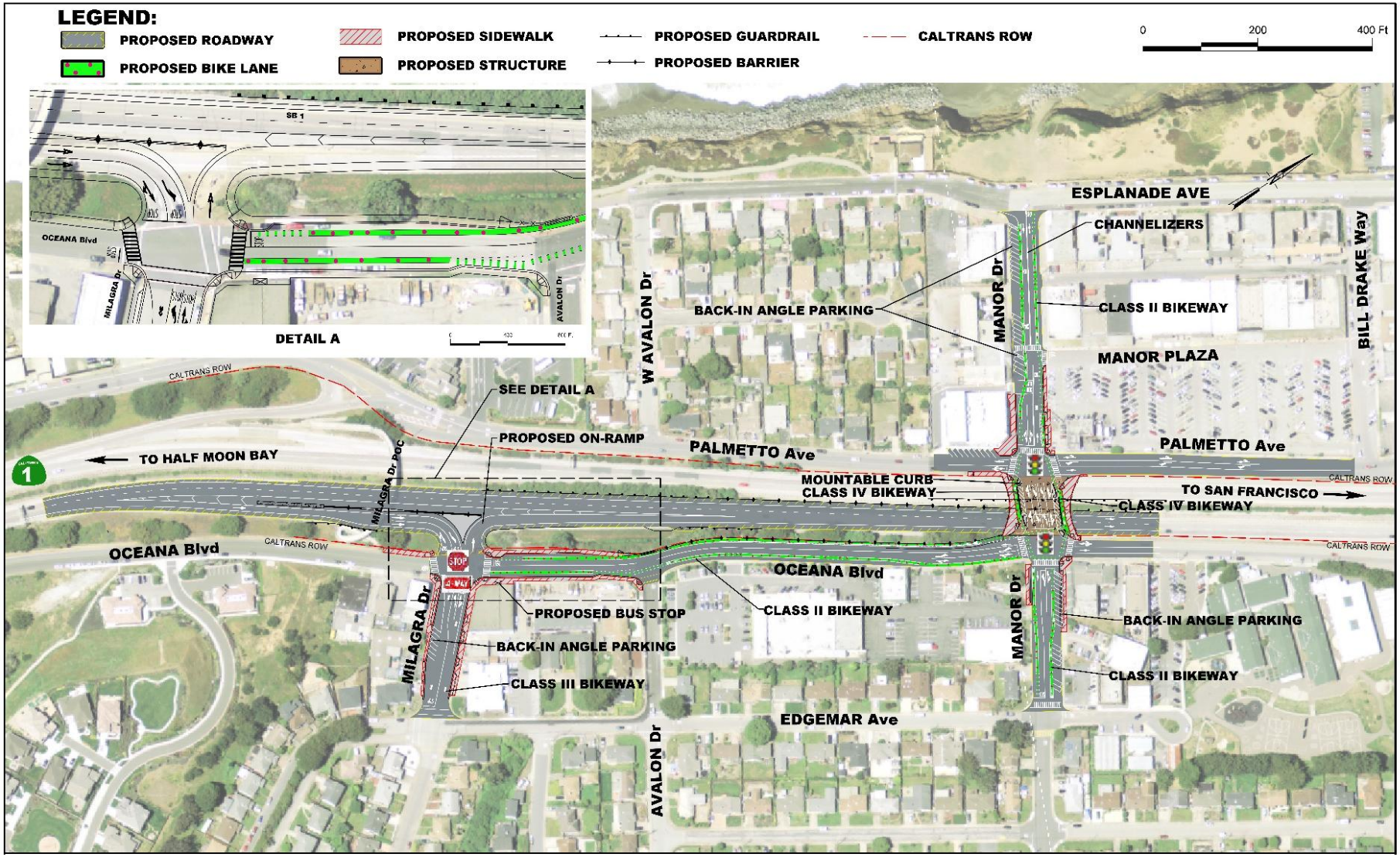

Figure 1-3. Build Alternative 2 (Manor Drive Improvements with Milagra Drive On-Ramp to Northbound SR 1)

Both Build Alternative 1 and Build Alternative 2 would widen the Manor Drive overcrossing of SR 1 between Palmetto Avenue and Oceana Boulevard, replace the existing stop signs with traffic and pedestrian signals, and construct new sidewalks and bicycle lanes. Build Alternative 2 would also include the construction of a new on-ramp to northbound SR 1 at Milagra Drive and Oceana Boulevard, utilizing an existing bus pull-out/bus stop that is no longer in use. The purpose of the project is to improve traffic circulation and operations on and adjacent to the Manor Drive overcrossing; provide enhanced pedestrian and bicycle facilities with access across the Manor Drive overcrossing; and enhance the overall safety and structural stability of the facility.

1.4 Project Alternatives

1.4.1 No Build Alternative

Under the No Build Alternative, the Manor Drive overcrossing would not be modified or replaced, the existing four-way stop signs at the Manor Drive/Palmetto Avenue and Manor Drive/Oceana Boulevard intersections would remain in place, and no crosswalk and bicycle lane striping improvements would be made. No on-ramp to northbound SR 1 would be considered at Milagra Drive and Oceana Boulevard. The No Build Alternative would not address the traffic congestion associated with the four-way stop signs. The sidewalks on the Manor Drive overcrossing would not be widened, and bicyclists in the project area would continue to use vehicle lanes or sidewalks due to the lack of formal bicycle facilities. The structural deficiencies of the Manor Drive overcrossing would remain.

1.4.2 Build Alternatives

1.4.2.1 Alternative 1 (Manor Drive Improvements without Milagra Drive On-Ramp to Northbound SR 1)

With Build Alternative 1, the Manor Drive overcrossing of SR 1 between Palmetto Avenue and Oceana Boulevard would be widened or replaced. The overcrossing would consist of one 12-foot dedicated left-turn lane and one 14-foot combined through and right-turn lane in each direction. The overcrossing would have 10-foot sidewalks, 7-foot Class IV bicycle lanes, and a wider turning radius at each corner of the overcrossing to accommodate bus and truck turning movements. The project would construct new ADA ramps for ease of access by persons with disabilities, with enhanced visibility crosswalks. The overcrossing profile would be maintained at the existing standard vertical clearance of 16 feet, 6 inches above SR 1.

Build Alternative 1 would replace the existing all-way-stop-controlled intersections at Manor Drive/Palmetto Avenue and Manor Drive/Oceana Boulevard with traffic signals and pedestrian signal heads.

Existing angled parking along Manor Drive between the U.S. Post Office and Mazzetti's Bakery would be converted to back-in angled parking to maintain the existing number of on-street parking spaces within the project limits. Parking along Oceana Boulevard would remain as parallel parking, while existing parking on Milagra Drive in the eastbound direction would also be converted to back-in angled parking. On-street parking would be a mix of back-in angled and parallel parking.

There would be a minimum of 10.5 feet dedicated for left-turn lanes and combined through and right-turn lanes on Oceana Boulevard/Manor Drive in the northbound direction and Manor Drive/Oceana Boulevard in the westbound direction. The existing lane configuration along Palmetto Avenue would remain unchanged. The existing combined through and right-turn lane along Manor Drive west of Palmetto Avenue would be extended to increase queuing capacity.

The existing bus stop located along the southeast quadrant of the Manor Drive/Oceana Boulevard intersection would be relocated to the south by approximately 0.21 mile, to the northeast quadrant of Oceana Boulevard and Milagra Drive. The bus stop located along the southeast quadrant of the Manor Drive/Palmetto Avenue intersection would remain in place, and the unpaved area between Manor Drive and the bus stop would be paved for easier access. The existing bus stop at the southeast quadrant of Milagra Drive and Oceana Boulevard would be relocated to the northeast quadrant of the intersection.

Figure 1-2 shows the proposed design features under Build Alternative 1.

1.4.2.2 ALTERNATIVE 2 (MANOR DRIVE IMPROVEMENTS WITH MILAGRA DRIVE ON-RAMP TO NORTHBOUND SR 1)

Build Alternative 2 includes all proposed improvements under Build Alternative 1, plus the construction of a new on-ramp to northbound SR 1 at Milagra Drive and Oceana Boulevard. The on-ramp would replace an existing bus pull-out ramp that is no longer in use. The ramp would be realigned and widened to provide standard lane and shoulder widths for all vehicles entering SR 1. A section of the existing raised median divider between the northbound shoulder and bus pull-out ramp would also be removed to accommodate the proposed on-ramp. The existing triangular raised median adjacent to the existing off-ramp and the existing bus stop sidewalk would be removed. The northbound traffic lanes would be shifted to the west to accommodate the proposed northbound on-ramp.

Approximately 1,330 feet of the inside (right) shoulder of northbound SR 1 would be widened by up to 17 feet to accommodate the proposed on-ramp. The widening would avoid the existing retaining wall and drainage channel along northbound SR 1. The

existing guardrail along the center median of SR 1 would be replaced with an approximately 700-foot-long concrete barrier within the proposed widening area.

The right shoulder of the Milagra Drive off-ramp would also be widened to conform to Caltrans design standards for shoulder width.

Build Alternative 2 would have the same bicycle facilities as Build Alternative 1. Milagra Drive would be improved to include a left-turn lane and a combined through and right-turn lane in the westbound direction along with enhanced visibility crosswalks and new ADA-compliant sidewalks with curb ramps. Other improvements include upgraded sidewalks along Oceana Boulevard between Avalon Drive and just south of Milagra Drive.

Figure 1-3 shows the proposed design features under Build Alternative 2.

1.4.3 Common Design Features of the Build Alternatives

Project construction would take approximately 16 to 24 months. The following activities and components are anticipated as part of project construction.

1.4.3.1 Construction Closures and Detours

Construction would be conducted mainly during the daytime with some nighttime closures. Partial and full closures would be required for local streets and SR 1. Temporary lane closures of SR 1 would be required to set up and remove temporary falsework towers (high-load-bearing vertical structures) that would be adjacent to the proposed columns for overcrossing construction. One or more full nighttime closures of SR 1 are anticipated. For Build Alterative 2, temporary closure of the Milagra Drive northbound off-ramp shoulders (both right and left) would also be required to widen the shoulders. Temporary nighttime closures of one lane of SR 1 (along the inside median and outside shoulder) and temporary off-ramp closures would be needed for pavement overlay, striping, and installation of temporary barriers along construction areas.

Temporary, short-term detours may be necessary during construction and would be further developed during detailed design. During temporary full closures of SR 1, the proposed detour route for southbound traffic would be to exit SR 1 at Monterey Road, travel south on Palmetto Avenue, and re-enter SR 1 just south of West Avalon Drive near the San Francisco RV Resort. The proposed detour route for northbound traffic would be to exit SR 1 at Milagra Drive (signed as Manor Drive and Monterey Road) and travel north on Oceana Boulevard to re-enter SR 1 at Monterey Road.

One lane in each direction of the Manor Drive overcrossing would remain open throughout construction.

1.4.3.2 RIGHT-OF-WAY

All proposed improvements would be constructed within existing Caltrans and City ROW. The proposed Class II bikeway along southbound Oceana Boulevard from Avalon Drive to Manor Drive would be located partially within Caltrans ROW. The land is currently unimproved and non-traversable, consisting mainly of ornamental/landscaped trees within the Caltrans ROW between Oceana Boulevard and northbound SR 1.

A temporary construction easement from a private property owner (Peninsula Investment Associates LLC; Assessor's Parcel Number 000-96-550) would be required to construct a portion of sidewalk along the southwest quadrant of Palmetto Avenue and Manor Drive.

1.4.3.3 MANOR DRIVE OVERCROSSING STRUCTURE

The existing Manor Drive overcrossing of SR 1, constructed in 1963, is two-span bridge that is approximately 62 feet wide.

With both build alternatives, the overcrossing would be widened or reconstructed. The structure is anticipated to have a 'butterfly' shape to accommodate safe bus and truck turning movements at the Manor Drive intersections with Oceanside Boulevard and Palmetto Avenue (shown in Figures 1-2 and 1-3). The width of the overcrossing would range from approximately 150 feet at each end to approximately 120 feet in the middle, over the centerline of SR 1. For both build alternatives, the recommended bridge type is a two-span, cast-in-place reinforced concrete slab.

Concrete barriers topped with chain-link or other fencing would be constructed along either side of the Manor Drive overcrossing. The combined height of the barriers and fencing would be approximately 9 feet. These barriers would replace the existing fences on either side of the overcrossing, which are 6 feet high. Additionally, both build alternatives may install traffic channelizers in the median of Manor Drive.

1.4.3.4 OTHER BARRIERS WITH FENCING

With both build alternatives, a concrete barrier topped by fencing is proposed along the west side of Oceana Boulevard, to replace the existing chain-link fencing. The concrete barrier would extend along Oceana Boulevard from Manor Drive to Avalon Drive. The barrier would be approximately 720 feet long, 3 to 4 feet high, and topped by chain-link fencing that would be 4 to 6 feet high, for a maximum combined height of 10 feet.

1.4.3.5 PEDESTRIAN AND BICYCLE FACILITIES

The project would construct curb ramps and sidewalks that conform to ADA standards along Manor Drive from Manor Plaza to Oceana Boulevard and in the southbound direction along Oceana Boulevard from Milagra Drive to Avalon Drive. With Build

Alternative 2, sidewalks would also be replaced along Milagra Drive from Edgemar Avenue to Oceana Boulevard and along Oceana Boulevard from Milagra Drive to Avalon Drive. High-visibility crosswalks would be installed at designated crossing locations within the project limits..

The project would include the following bicycle facilities:

- A Class IV bikeway, which has a physical separation such as a curb between the bikeway and adjacent traffic lane, would be constructed on the Manor Drive overcrossing.
- Class II bikeways, which are striped for one-way bike travel, would be constructed along Manor Drive from Esplanade Avenue to Palmetto Ave and Oceana Boulevard to Edgemar Avenue, and along Oceana Boulevard from Milagra Drive to Manor Drive.
- The existing Class III bikeways, which are shared with motor vehicles and identified by signs and sometimes pavement markings, would be restriped along Milagra Drive from Oceana Boulevard to Edgemar Avenue.

Figures 1-2 and 1-3 show the locations of the proposed pedestrian and bike facilities.

1.4.3.6 SAFETY LIGHTING AND AESTHETICS

The project would add overhead safety lighting along Manor Drive at the intersections of Oceana Boulevard and Palmetto Avenue, as well as along Oceana Boulevard. Eight new lights are currently proposed: four along Manor Drive and four along Oceana Boulevard. One existing light along Manor Drive and four existing lights along Oceana Boulevard would be replaced.

Aesthetic treatments of the Manor Drive overcrossing railing, barriers, retaining walls, landscaping, hardscaping and upgraded lighting would be developed in coordination with the City and Caltrans. Aesthetic treatments may include decorative fencing and color and texture for concrete elements, as discussed further in Section 2.2.6.3.

1.4.3.7 UTILITIES

Build Alternative 1 would require relocation of five utility poles along the western side of Oceana Boulevard from Avalon Drive to Manor Drive to accommodate proposed roadway improvements. The existing Pacific Gas & Electric (PG&E) overhead transmission line east of Oceana Boulevard would be relocated underground.

Build Alternative 2 would also require relocation of an additional joint utility pole located at the northwest quadrant of the Milagra Drive/Oceana Boulevard intersection.

All electrical service would be maintained during the relocation of the utility poles.

1.4.3.8 DRAINAGE AND STORM WATER TREATMENT

As drainage tributary areas and low points would be altered due to the bridge widening or replacement and local street improvements, modifications to the existing drainage system would be required for both build alternatives. Additional drainage systems may be required for Build Alternative 2 to accommodate new impervious surface from the proposed on-ramp to northbound SR 1 at Milagra Drive and Oceana Boulevard and in the SR 1 median.

1.4.3.9 HIGHWAY PLANTING

Existing landscaping, mature trees, and irrigation facilities would be protected to the extent feasible. Temporary high-visibility fencing would be placed around vegetation for protection before roadway work begins.

Replacement highway planting and irrigation will be provided for vegetation that is removed by the project, provided that safety and maintenance requirements can be met. This approach ensures that areas affected by construction activities will be restored with suitable plantings and irrigation systems, preserving the visual character and ecological function of the corridor. The replacement planting work would be under construction within 2 years of acceptance of the highway contract that resulted in the damage or removal of the existing planting.

Additional measures related to vegetation preservation and highway planting are discussed in Section 1.4.3.10 below, under “Visual/Aesthetics.”

1.4.3.10 PROJECT FEATURES

This project contains a number of standardized project 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 impacts from the proposed project. AMMs, MMs, and other measures are discussed separately in each environmental section in Chapter 2.

A list of project features is included below, in the order in which they appear in the environmental resource discussions in Chapter 2.

Transportation

PF-TR-1, Transportation Management Plan. A TMP will be prepared by Caltrans prior to the beginning of construction and in consultation with the appropriate agencies and local jurisdictions 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 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.

Visual/Aesthetics

- PF-VIS-1, Vegetation Preservation. Minimize the removal of vegetation, including groundcover, shrubs, and mature trees to the maximum extent feasible to maintain existing visual character. Protect trees and existing vegetation outside of the clearing and grubbing limits from the contractor's operations, equipment, and materials storage. High-visibility temporary fencing will be placed around vegetation to be protected before roadway work begins. No trenching or materials storage will occur within tree driplines.

- PF-VIS-2, Highway Replacement Planting. Replacement highway planting and irrigation along with a minimum one-year plant establishment period will be provided in all areas of highway planting removal consistent with the corridor's Eligible State Scenic Highway and Classified Landscaped Freeway Status and where safety and maintenance requirements can be met. This will include replacement planting for the mature trees that are anticipated to be removed west of Oceana Boulevard, to the maximum feasible extent. Replacement planting with a minimum one-year plant establishment period shall be funded from the parent roadway contract, and must be under construction within 2 years of acceptance of the highway contract that damaged or removed the existing planting.

- PF-VIS-3, Revegetation Planting. After construction, disturbed areas will be revegetated using hydroseed mixtures with a combination of native grasses, shrubs, and legumes. Plants for revegetation should be regionally appropriate drought-tolerant or native plants. Temporarily disturbed areas will be restored to pre-construction conditions within one year of disturbance. Naturally occurring plants that are invasive will not be replanted.

- PF-VIS-4, Erosion Control. After construction, all areas of disturbed soil within the project limits resulting from construction activities including contractor access, staging, and trenching operations will be treated with appropriate certified weed-free erosion control measures (such as decompaction, mulch, hydroseed, and fiber rolls). All areas of disturbed soil will be reseeded using native grasses and forbs.

- PF-VIS-5, Construction Staging. Except as detailed in the Contract Plans, construction staging will not occur outside of paved areas. Staging or equipment storage in unpaved areas will provide soil decompaction and erosion control once use of the area is complete.

- PF-VIS-6, Construction Waste. During construction operations, unsightly materials and equipment in staging areas would be placed where they are less visible and/or covered where possible.

- PF-VIS-7, Construction Lighting. Construction lighting will be directed toward the immediate vicinity of active work to avoid light trespass through directional lighting, shielding, and other measures as needed.

Cultural Resources

- PF-CUL-1, Inadvertent Discovery of Cultural Resources. If archaeological resources are discovered within or near construction limits, do not disturb the resources and immediately:

  1. Stop all work within a 60-foot radius of the discovery
  2. Secure the area
  3. Notify the Engineer

  Caltrans investigates the discovery. Do not move archaeological resources or take them from the job site. Do not resume work within the radius of discovery until authorized.

  If ordered, furnish resources to assist in the investigation or recovery of archaeological resources. This work will require a contract change order for the construction contractor.

- PF-CUL-2, Unanticipated Human Remains Discovery. If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American

Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the most likely descendent. At this time, the person who discovered the remains will contact the Caltrans Office of Cultural Resource Studies so that they may work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

Water Quality and Storm Water Runoff

- 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 best management practices (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 Construction Site Best Management Practices (BMP) Manual (Caltrans 2024a) 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

Paleontology

- 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.

Hazardous Waste/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.

Wildfire

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

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.

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.

Biological Resources

- PF-BIO-1, Worker Environmental Awareness Training. Before the start of construction activities, a United States Fish and Wildlife Service (USFWS)-approved biologist will conduct a training program for all construction personnel. At a minimum, the training will include a description of the special-status bats and western bumble bee, and their habitats; the potential occurrence of these species in the biological study area (BSA); an explanation of the status of these species and protection under the federal Endangered Species Act; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction crews and personnel before they enter the BSA. On completion of this training, each person will sign a form, confirming attendance and understanding of all the avoidance and minimization measures.

- PF-BIO-2, Minimize Vegetation Removal. Vegetation removal will be minimized to the greatest extent feasible. No clearing or grubbing will be permitted beyond the designated work area. All cleared vegetation will be removed from the BSA to prevent attracting animals to work sites. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing such materials.

- PF-BIO-3, Preconstruction Clearance Surveys. Before the start of ground-disturbance activities, a qualified biologist will perform preconstruction surveys for special-status wildlife and plant species. If no special-status species or nesting birds are observed, then work may proceed. If any special-status species are observed, a qualified biologist will conduct daily pre-clearance surveys before the start of any ground-disturbing activities and will be required on-site to monitor during construction. In addition, the qualified biologist will determine whether additional species-specific avoidance or minimization measures (e.g., fencing, biological monitors during construction, delays to work) will be required before work proceeds and will coordinate with the California Department of Fish and Wildlife (CDFW) and/or USFWS as appropriate. Observations of special-status species will be documented in a field survey form and entered into the California Natural Diversity Data Base (CNDDB).

- PF-BIO-4, Preconstruction Nesting Bird Surveys. Tree removal or trimming will be conducted during the non-nesting period, between September 1 and February 14, to the maximum extent feasible. If vegetation trimming or tree removal occurs between February 15 and August 31, a qualified biologist(s) will survey for nesting birds, including raptors. The survey area will include the entire BSA and a buffer 300 feet beyond the boundaries of the BSA. If active raptor nests are detected in the BSA or 300 feet from its boundaries, or if active nests of other migratory birds are detected within 50 feet of BSA boundaries, the biologist monitor will establish an appropriate non-disturbance buffer to avoid direct effects or construction-related disturbance. All nest avoidance requirements of the Migratory Bird Treaty Act and the California Fish and Game Code will be observed.

- PF-BIO-5, Predesignated Staging Areas. All material stockpiling, vehicle parking, and equipment staging areas for the project will be permitted only in areas cleared by a qualified biologist. The limits of the designated staging area will be clearly marked before the start of construction. Staging areas will be within the Caltrans right-of-way (ROW), in non-sensitive locations at designated disturbed/developed areas outside construction zones. No staging will be allowed outside the predesignated staging areas. All construction equipment will be restricted to operating within the existing roadway or staging locations.

- PF-BIO-6, General Biological Resource Protection Measures.

    - Discharge of pollutants into storm drains or watercourses from vehicle and equipment cleaning will be prohibited.
    - Spill containment kits will be maintained on site at all times during construction operations and/or staging or fueling of equipment.
    - Dust control measures will include the use of water trucks and dust palliatives to control dust in excavation-and-fill areas, and to cover temporary stockpiles when weather conditions warrant such action.
    - To prevent listed species from becoming entangled or trapped in erosion-control materials, plastic mono-filament netting (i.e., erosion-control matting or wattles) or similar material will not be used in the BSA. Straw wattles will be made of natural fiber, and no plastic or synthetic material will be used.
    - All excavated, steep-walled holes or trenches more than 6 inches deep will be covered at the end of each workday, or a dirt ramp or plywood ramp will be placed to provide a means of escape for wildlife. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals.

- All pipes, culverts, and similar structures that are staged in the BSA will be capped or will be thoroughly inspected for trapped animals before being buried, re-capped, or moved.
- To eliminate an attraction to predators of protected species, all food-related trash items—such as wrappers, cans, bottles, and food scraps—will be disposed in solid, closed containers (trash cans) and will be removed from the project footprint and vicinity at the end of each working day.
- No pets or firearms will be permitted within the construction area at any time.

1.4.4 Transportation System Management and Transportation Demand Management Alternatives

Transportation System Management (TSM) strategies increase the efficiency of existing facilities and are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Transportation Demand Management (TDM) focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. Mass transit alternatives are to be considered for all proposed major highway projects in urban areas with populations of over 200,000.

Transportation System Management, Transportation Demand Management, and mass transit alternatives were not analyzed because they were determined not to be relevant to the purpose of this project. The project is not a major highway project and would primarily involve widening or replacing the Manor Drive overcrossing (no additional travel lanes) and providing new or enhanced bicycle and pedestrian facilities on local streets. The proposed project would not restrict the consideration of separate options or projects for TSM, TDM, and/or mass transit in the project limits.

1.4.5 Project Funding, Schedule, and Cost

The current project phase is funded by SMCTA Measure W and City funds, and the detailed design will be funded by SMCTA Measure A and Measure W and City funds. City funds and federal funds from the 2024 Regional Improvement Program have been programmed for project construction, and the City is working with local, state, and federal agencies to identify additional funding sources for the ROW and construction phases. Construction could begin in 2029, depending on the availability of funding.

The current preliminary total cost estimate, including the support cost for the project, is $37.35 million for Build Alternative 1 and $42.15 million for Build Alternative 2.

1.5 Alternatives Considered but Eliminated from Further Discussion

The following alternatives were studied during the preliminary planning study phase and project initiation phase and were ultimately rejected and withdrawn from further study for the reasons noted below.

1.5.1 Ramp Changes at Paloma Avenue

During the Preliminary Planning Study phase, members of the public suggested modifying the existing northbound SR 1 on-ramp at Oceana Boulevard near Paloma Avenue to accommodate access from southbound Oceana Boulevard, as an alternative to the proposed northbound SR 1 on-ramp from Milagra Drive with Build Alternative 2.

The project team studied potential access modifications in the form of roundabouts in the Oceana Boulevard/Paloma Avenue area. Two roundabout locations were considered for access to northbound SR 1 from both southbound and northbound Oceana Boulevard. Option 1 was at the existing ramp, which is approximately 300 feet north of Paloma Avenue. Option 2 was at the intersection of Oceana Boulevard and Paloma Avenue.

Roundabouts require larger footprints than standard intersections. To accommodate the width needed for roundabouts, both options would have required permanent ROW acquisition from the Oceana High School property and the construction of retaining walls along the SR 1 side of the roundabout. Option 2 would have also required acquisition and potential removal of one or more commercial structures at the southeast corner of the Oceana Boulevard/Paloma Avenue intersection. Due to the permanent property impacts, which are avoided with the current build alternatives, the City chose to eliminate roundabouts from further consideration.

1.5.2 Roundabout Intersection

A roundabout alternative was considered during the Project Initiation Document (PID) phase. This alternative would have incorporated roundabouts in place of traffic signals at the Manor Drive overcrossing.

A roundabout would have impacted adjoining businesses and required extensive ROW acquisition from adjacent parcels. To accommodate the roundabout over SR 1, the proposed structure over SR 1 would have required a wider footprint, reducing vertical clearance over SR 1 to less than the standard clearance of 16.5 feet. To accommodate a wider bridge and maintain a minimum vertical clearance of 16.5 feet, that alternative would have required lowering the profile of SR 1.

A six-legged roundabout would have been required to connect all the exiting roadways leading to the roundabout. This configuration would not meet several design standards.

In general, a roundabout is ideally located where the centerlines of all approach legs pass through the center of the inscribed circle, allowing drivers to maintain low speeds at entry and exit points. The location of the roundabout with respect to the center alignment of Manor Drive would have been offset to the right.

The existing alignment of Palmetto Avenue and Oceana Boulevard in relation to Manor Drive would not have allowed for standard entry radii, making it difficult for drivers to control entry and exit speeds.

It was determined that a roundabout would not be feasible or practical to advance for further evaluation. A memorandum titled “Justification for the Elimination of a Roundabout Option from Further Study” was submitted to Caltrans Design on May 4, 2023, for review and concurrence. The purpose of the memorandum was to provide justification for not moving forward with further evaluation of a roundabout as an intersection control option. Caltrans Design Office concurred with the memorandum on May 10, 2023.

1.6 Permits and Approvals Needed

Table 1.6-1 lists the permits, approvals, and agreements that are anticipated to be required for the project. These approvals would be required for project activities within the jurisdictional areas of the California Coastal Commission, as administered by the City of Pacifica Local Coastal Program, and the San Francisco Bay Regional Water Quality Control Board.

Table 1.6-1. Permits and Approvals

Agency	Permit, Approval, or Agreement	Status
City of Pacifica Local Coastal Program	Coastal Development Permit	When NEPA/CEQA clearance is received, permit application will be submitted.
San Francisco Bay Regional Water Quality Control Board	Water Quality Certification or Waste Discharge Requirements (Clean Water Act Section 401)	A joint “Application for 401 Water Quality Certification” and/or “Report of Waste Discharge" may be needed; to be confirmed during the detailed design phase.
Federal Highway Administration	Concurrence with project’s conformity to Clean Air Act and other requirements	Air quality studies will be submitted for FHWA concurrence after public review of this IS/EA.

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

This chapter addresses the environmental impacts of the proposed project. The environmental resource discussions presented in this chapter are based on the technical studies cited at the beginning of each discussion. An evaluation of the proposed project consistent with CEQA checklist criteria is provided in Section 3.6. Avoidance, minimization, and/or mitigation measures are discussed in the following sections and summarized in Appendix A.

The CEQA baseline for all resource areas is 2023, when environmental studies commenced. The NEPA baseline for comparing environmental impacts is the No Build Alternative.

2.1 Resource Topics Dismissed From Analysis

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

2.1.1 Existing and Future Land Use

The project is located on public roadways, including Manor Drive, Oceana Boulevard, Palmetto Avenue, and Milagra Drive, which are entirely within the City of Pacifica, in San Mateo County. Existing land use types in the project vicinity include the SR 1 transportation corridor, retail commercial, public and semi-public (schools), mixed use neighborhood, single and multi-family residential, and auto services (City of Pacifica 2022a).

The City of Pacifica General Plan includes a Land Use Diagram, which is a graphic representation of planned land use classifications. Planned land use adjacent to the project site include retail commercial, mixed use, public uses, mixed use neighborhoods, and residential.

Future projects and developments proposed within a 1-mile radius of the project area are listed in Table 2.1-1 below. This information was obtained from the City, which maintains a list of current application projects, as well as the CEQANet Database and MTC and ABAG's Plan Bay Area.

In addition to planned developments for which applications have been filed, the City's most recent General Plan Housing Element (adopted in January 2024) identifies locations where properties would be rezoned to increase density or allow residential development on vacant parcels and parcels currently zoned for commercial or mixed uses. The purpose of these land use changes is to create capacity to meet the City's Regional Housing Needs Allocation (RHNA) target, as determined by the Association of Bay Area Governments and San Mateo County. The Housing Element identified residential sites with existing capacity, sites required to address the RHNA target, and surplus sites (buffer sites) to meet the RHNA in the event that housing projects are approved at a density less than the projections. Three sites were identified in the Housing Element as vacant within a 1-mile radius of the project and have the potential to be redeveloped and rezoned to residential and or mixed use to meet RHNA capacity. These sites are listed in Table 2.1-2.

Table 2.1-1. Development Activities Within 1 Mile

Name	Location	Proposed Uses	Status
310-33 Esplanade Drive Infrastructure Preservation Project	Along the west side of Esplanade Avenue, between Manor Drive on the south and West Beaumont Boulevard on the north in the City of Pacifica.	The purpose of the project is to protect the City's infrastructure for the life of the seawall, which is expected to be 30 years. The City is implementing a project to protect and maintain existing infrastructure along Esplanade Avenue, including the public street and some underground utilities, which are currently threatened by coastal bluff retreat.	Final Environmental Impact Report was completed and Notice of Determination filed on June 2024.

Name	Location	Proposed Uses	Status
Esplanade & Palmetto Bicycle & Pedestrian Improvement Project	Palmetto–from Westline south to Esplanade; Esplanade–from Palmetto south to Avalon; Avalon–from Esplanade east to Palmetto; Palmetto–from Avalon south to Paloma (0.1–0.2 mile from project area).	Resurface roads, install bicycle facilities, and improve pedestrian crossings at Manor & Esplanade and SR 1 on-ramp on Palmetto Avenue.	Project design was completed in June 2024, and all necessary permits have been secured (City of Pacifica 2025a). Construction is scheduled to occur from March through July 2025.
Priority Parks Project	Various locations within the City of Pacifica. Imperial Park is located within 1 mile of the project area.	Replace aging playground equipment at various City parks. Skyridge Park, Imperial Park, Marvilla Park, and Brighton Mini Park were selected for the FY 21-22 Priority Parks Project.	City receiving construction bids in 2025 and expects to commence construction once a qualified contractor is selected and complete improvements in 2026 (City of Pacifica n.d.-a).
751 Oceana Blvd–Proposed Hotel & Multi-Family Residential Development	751 Oceana Boulevard	Development of a 99-suite hotel and 76-unit multiple-family development with a clubhouse, pool, and gathering area amenities.	Active planning application. As of April 2025, application is incomplete.
Vista Mar Project	503-511 Monterey Road	Construction of four separate buildings, each with two attached townhomes, for a total of eight residential units.	The Initial Study with Mitigated Negative Declaration was adopted by City in 2020, but the project was rescinded.
Pacific View	Hickey Boulevard & Monterey Road	Construction of 37 residential units.	Finalizing enforceable agreement w/ Amah Mutsun Tribal Band of Mission San Juan Bautista per Assembly Bill 52.

Name	Location	Proposed Uses	Status
Senate Bill (SB) 330 Lorry Lane	TBD Lorry Lane	SB 330 application to construct 30 units.	180 days have passed since a SB 330 preliminary application was submitted, and a formal application has not been received. The preliminary application expired, and vesting rights were lost.
Mixed use–Palmetto Avenue	2107 Palmetto Avenue	Mixed-use development with seven residential units over commercial and parking garage.	Application on hold.
1567 Beach Boulevard	1567 Beach Boulevard	Development of five townhomes under one building, with a covered garage and driveway for each unit totaling 15 parking spaces on vacant lot.	Application under review
Construct Duplex	2105–2115 Beach Boulevard	Construct duplex of condominium units	Lot still vacant. Construction date unknown
The Bowl	4000 Palmetto Avenue	Construct a 20-unit multi-family residential development on a 4.35-acre vacant lot.	Incomplete Application: pending applicant resubmittal
New Apartments	4009 Palmetto Avenue	Construct four-unit apartment building on vacant lot.	Application incomplete
Motel	699 Oceana Boulevard	Projected to add 30 motel rooms	Status of project is unknown
Marriott and Hampton Inn Hotels	710 Oceana Boulevard	Projected to add 192 hotel rooms combined.	Status of project is unknown

Sources: City of Pacifica 2025a, b; California State Clearinghouse n.d.; MTC and ABAG 2021

Table 2.1-2. Potential Future RHNA Housing Development Sites within 1 Mile

Name	Project Development	General Plan Land Use/Existing Development Status
Pacific Manor Shopping Center, 440 Manor Place	Mixed-use residential development. Consists of two parcels that could accommodate 37 mixed-income residential units on one parcel and 53 mixed-income residential units on the other.	Commercial/Shopping strip, parking, and other retail
Public Works Corp Yard, 155 Milagra Drive	Potential for 39-unit residential development that would be 100% affordable.	Public Works/City Corporation Yard
Brentwood Shopping Center, Oceana/Manor	Potential for 97 residential units at lower income rates.	Commercial/24-hour fitness, other retail, and parking

Source: City of Pacifica 2025a

Neither of the build alternatives would convert existing land uses, conflict with existing land use designations, provide access to new parcels, or preclude any of the development listed in the tables above. No relocations or real property acquisitions would take place. The build alternatives would serve the existing urbanized area and would not involve the development of any undeveloped land. The project would reduce congestion in the area and would not preclude any specific land uses. Furthermore, the build alternatives are not anticipated to cause changes to the land uses of any properties that are outside of the study area but within the study area or its surroundings. There would be no effect. Thus, this topic is not considered further.

2.1.2 Wild and Scenic Rivers

There are no wild and scenic rivers within the project limits (National Wild and Scenic Rivers Systems n.d.). No direct or indirect effects to wild and scenic rivers could occur. Thus, this topic is not considered further.

2.1.3 Farmlands

There are no farmlands within the project limits (NRCS n.d.) and no direct or indirect effects to farmlands could occur. Thus, this topic is not considered further.

2.1.4 Timberlands

There are no timberlands within the project limits (USFS 2018), and no direct or indirect effects to timberlands could occur. Thus, this topic is not considered further.

2.1.5 Growth

The project would implement transportation improvements to address existing traffic circulation and operations the SR 1/Manor Drive overcrossing. Neither build alternative would remove obstacles to growth, facilitate or accelerate growth beyond planned or projected developments, or induce growth elsewhere in the region. As such, there would be no direct or indirect effects related to growth. Therefore, this topic is not considered further.

2.1.6 Community Character and Cohesion

The project would address existing circulation issues and would make improvements in response to existing and future traffic conditions. The project would not create additional land availability, change any existing community boundaries, or change land use patterns within the community. The project would support community access to local activity centers by providing wider sidewalks and bike lanes as well as traffic signals and safety lighting. The project is not expected to adversely affect community character and cohesion. As such, there would be no effects related to community character and cohesion. Therefore, this topic is not considered further.

2.1.7 Relocations and Real Property Acquisition

The project would be constructed within the existing Caltrans and City ROW. Temporary construction easements would be required for the proposed improvements. However, these easements would be restored upon completion of the project. Build alternatives would not require any property acquisitions, relocate any residences or businesses, result in the conversion of any parcels to a new land use, or otherwise interfere with the continued use of parcels for their existing purpose. As such, there would be no effects related to relocations and property acquisitions. Therefore, this topic is not considered further. Caltrans' Title VI/Non-Discrimination Policy Statement is provided in Appendix B.

2.1.8 Floodplains

The proposed project is not located within the 100-year base floodplain. Therefore, there would be no effects to the 100-year floodplain. A floodplain map for the project area is included in Section 3.6.10.

2.1.9 Wetlands and Other Waters

No wetlands, waters of the United States, or waters of the State occur in the project's biological study area (BSA). Two potentially jurisdictional culverted waters of the United States—Milagra Creek and an unnamed drainage channel in the northern portion of the BSA—flow under the BSA at approximately 20 feet below street level. A concrete-lined V-shaped ditch between northbound SR 1 and Oceana Boulevard is part of the City of Pacifica storm water system, lacks a defined bed and bank, and is not subject to federal or state jurisdiction (AECOM 2025a). The project would not affect wetlands, waters of

the United States, or waters of the State because none are present. No impacts to potentially jurisdictional culverted waters or the concrete-lined ditch are anticipated. Therefore, this topic is not considered further.

2.1.10 Plant Species

No special-status plants have the potential to occur in the BSA because of the lack of suitable habitat observed in the field, inappropriate elevation range, and/or large distance to known occurrences (AECOM 2025a). Since no habitat for special-status plant species is in the BSA, no indirect or direct effects would occur. Therefore, this topic is not considered further.

2.1.11 Threatened and Endangered Species

Occurrences of federally threatened California red-legged frog (*Rana draytonii*) have been recorded within 1 mile of the BSA, and designated critical habitat for the species is approximately 1.3 miles southeast of the BSA. No potential exists for the species to occur because the BSA lacks suitable aquatic and upland habitat and the BSA is not between two areas of suitable aquatic or upland habitat. The BSA is immediately adjacent to SR 1 and is between roads and urban development that act as barriers to California red-legged frog movement (AECOM 2025a).

Suitable habitat for the federally endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) exists approximately 1 mile south-southwest of the BSA at Laguna Salada within the Sharp Park Golf Course, and at Milagra Ridge approximately 0.4 mile northeast of the BSA. The BSA lacks suitable aquatic or upland habitat for the species because the BSA has primarily invasive and non-native vegetation along a heavily disturbed highway corridor, within a high-density urban environment. In addition, the BSA lacks burrows typically used for short-term refuge and overwintering for San Francisco garter snake, and lacks higher quality coastal scrub and grassland habitat consistent with typical upland habitat (AECOM 2025a).

Therefore, the project would have no effect on California red-legged frog, San Francisco garter snake, or critical habitat for California red-legged frog.

No threatened or endangered species or critical habitat are anticipated to have potential to occur in the project area. The project area is outside of National Oceanographic and Atmospheric Administration (NOAA) Fisheries jurisdiction; therefore, the project would not affect fish species.

2.2 Human Environment

This section evaluates project impacts on the human environment focusing on key topics such as consistency with applicable plans and programs, parks and recreational facilities, utilities and emergency services, transportation and pedestrian facilities, visual/aesthetics, and cultural resources. The section also identifies avoidance, minimization, and/or mitigation measures to reduce project impacts.

2.2.1 Consistency with State, Regional, and Local Plans and Programs

The following discussion is from the Community Impact Assessment (AECOM 2026) completed for the proposed project in January 2026.

2.2.1.1 Affected Environment

There are several community, regional, and transportation plans that include the project area. The following types of plans were considered and are discussed below:

- Transportation plans/programs
- Regional growth plans
- General plans and community plans
- Local coastal plans/programs
- Climate action plans
- Other plans

There are no Habitat Conservation Plans or Natural Community Conservation Plans that cover the study area.

Transportation Plans/Programs

This project is included in Plan Bay Area 2050+, the currently adopted regional transportation plan (RTP) for the nine-county San Francisco Bay Area (MTC and ABAG 2026; RTP ID 25-T06-063). The RTP lists projects of local and regional importance based on factors such as local support and need, ridership, and potential cost and funding. These factors provide direction on how anticipated federal, state, and local transportation funds would be spent in the Bay Area during the next 30 years.

The RTP includes funding to implement interchange improvements at Manor Drive. The Manor Drive project falls under the RTP goal and strategy of improving interchanges and addressing highway bottlenecks. The aim would be to rebuild interchanges and widen key highway bottlenecks to achieve short- to medium-term congestion relief.

The project is also in the 2025 Transportation Improvement Program (TIP), which was adopted by the MTC on September 25, 2024 (TIP ID SM-170004). The FHWA and Federal Transit Administration approved the 2025 TIP on December 16, 2024.

Transportation strategies in Plan Bay Area 2050+ that relate to the project include the following:

- **T6. Modernize freeways and interchanges**: Implement projects designed to improve the quality of existing freeway assets by rebuilding interchanges and implementing advanced technologies.

- **T9. Build a Complete Streets network**: Enhance streets, paths, and trails to promote walking, biking, and rolling through sidewalk improvements, car-free slow streets, and All Ages and Abilities Active Transportation Network.

Plan Bay Area also functions as a regional growth plan for the nine-county San Francisco Bay Area. Plan Bay Area designates priority development areas (PDAs), which are areas generally near existing job centers or frequent transit that are locally identified (i.e., identified by towns, cities or counties) for housing and job growth. The project area has not been designated as a PDA. However, there are two PDAs in the City within 5 miles of the project area (City of Pacifica 2025a). These include:

- **Sharp Park Specific Plan**: Approximately 1 mile south of the project area and within the study area, the current planning process will establish a blueprint for development and preservation on the blocks surrounding Palmetto Avenue and Beach Boulevard between Paloma Avenue and Clarendon Road, as well as adjacent areas of potential change east of SR 1. The Sharp Park Specific Plan area is included in the City's Housing Element. There is opportunity for mixed-use development, new housing, and higher-intensity development that can help the City meet its housing goals.

  At full buildout, projected in 2040, there would be 270 new housing units in the plan area, including multi-family and mixed-use housing developments in an approximately 15-acre area. The plan would also result in the creation of up to 17,460 square feet of non-residential development and the addition of 45 jobs (City of Pacifica 2022b).

- **Skyline Corridor**: The Skyline Corridor PDA area extends along SR 35 (also known as Skyline Boulevard) for approximately 2 miles from SR 1 to the north to Sharp Park Road to the south. The PDA is identified as a potential specific plan area in the City's Housing Element, with the opportunity to accommodate 162 low-income multi-family housing units. A comprehensive zoning update and rezoning program would be required to accommodate this housing (City of Pacifica 2025a).

San Mateo County Transportation Plan

The City and County Association of Governments (C/CAG) is the county's Congestion Management Agency and is responsible for the coordination, planning, and programming of transportation, land use, and air-quality-related programs and projects. The San Mateo Countywide Transportation Plan 2040 was adopted in February 2017. The project is identified in the plan as the Manor Drive Overcrossing Improvement and Milagra On-Ramp Project.

The following policies in the San Mateo County Transportation Plan relate to the project:

Land Use and Transportation Linkage Policies

- Strengthen the pedestrian, bicycle, and shuttle bus circulation links among land uses, particularly within Transit Oriented Development (TOD) areas.

Bicycling Environment Policies

- Continue to develop a safe, reliable, comprehensive, and convenient bikeway system competitive in door-to-door with the automobile for many short distance trips.

- Comply with the complete streets policy requirements of Caltrans and the MTC concerning safe and convenient access for bicyclists, and assist local implementing agencies in meeting their responsibilities under the policy (also applies to Pedestrian policies).

Roadway Systems Policies

- Construct or improve roadways that connect major inter-county highway facilities and transit stations.

General Plans and Community Plans

The following planning documents address the study area and its surrounding region.

San Mateo County General Plan

San Mateo County's General Plan policies were updated in January 2013. While the project is not included in the General Plan, certain policies mentioned in the plan such as Urban Roads Improvement, Bicycle Routes, and Pedestrian Paths pertain to and are consistent with the project (San Mateo County 2013). These policies include:

- 12.16 Urban Road Improvements: In urban areas, where improvements are needed due to safety concerns or congestion, support the construction of interchange and intersection improvements, additional traffic lanes, turning lanes,

redesign of parking, channelization, traffic control signals, or other improvements while enhancing the functionality of travel routes for all transportation users.

- 12.30 Integration with Regional Complete Streets Planning: Coordinate transportation and street projects with local and regional plans for bicycle, pedestrian, transit, and related multimodal plans designed to support Complete Streets.

- 12.31 Existing Street and Network Connectivity: Incorporate Complete Streets infrastructure into existing streets to improve the safety and convenience of users, accommodate all transportation users, and increase connectivity across jurisdictional boundaries and for existing and anticipated areas of development.

- 12.43 Bicycle Routes: Encourage the cities to develop local bikeway plans, obtain funding, and construct and maintain a system of local bikeways that is consistent with the County Bikeways Plan.

City of Pacifica General Plan

City of Pacifica General Plan 2040 (City of Pacifica 2022a). The Pacifica General Plan is a policy document mandated by State law to address issues related to physical development and conservation of resources. The Plan embodies the expressed goals of residents, business owners, and elected officials and establishes concrete and achievable actions within the planning period.

The following are some guiding (G) and implementing (I) policies mentioned in the General Plan that are relevant to the project:

- **CI-G-1 Comprehensive Circulation System:** Create a comprehensive, multi-modal transportation system with streets and highways, transit facilities, a continuous network of sidewalks, and bicycle routes.

- **CI-G-2 Serve All Users:** Plan, design, build, and maintain transportation improvements to support safe and convenient access for all users with priority for “complete streets” projects that facilitate walking, bicycling, and transit use wherever possible.

- **CI-I-9 Manor Drive Overcrossing Improvements:** Complete planned improvements to the Manor Drive overcrossing to facilitate traffic movement across SR 1 for all modes. Improvements should include widening of the overcrossing and possible signal control at the intersections of Manor Drive with Palmetto Avenue and Oceana Boulevard. Additional alternatives that achieve similar or greater congestion relief objectives should also be considered.

City of Pacifica Bike and Pedestrian Master Plan

The City of Pacifica Bicycle and Pedestrian Master Plan Update 2020 establishes a long-term vision for improving walking and bicycling in Pacifica through policy, program, and project recommendations (City of Pacifica 2020). There are no specific policies in this plan, which relies on General Plan 2040 policies related to bicycle and pedestrian facilities and circulation such as CI-G-2, CI-G-11, and CI-G-12, described above in the General Plan section. Manor Drive is listed as a priority project for Pedestrian and Sidewalk development.

Climate Action Plans

City of Pacifica Climate Action and Resilience Plan

The City of Pacifica's first Climate Action Plan was adopted in 2014 (City of Pacifica 2014). The plan provided policy direction and identified 15 greenhouse gas reduction measures across four main sources: energy, transportation, solid waste, and water. In 2023, the City Council established the Climate Action and Adaptation Plan Task Force to update the original plan and expand its scope to include climate adaptation measures as well as emissions reductions. The new Climate Action and Resilience Plan was adopted in July 2025 (City of Pacifica 2025c).

The following goal and action pertain to the proposed project:

Goal T1. Reduce vehicle miles traveled by 12 percent by 2030 compared to 2021 levels through increased public transit, walking, and biking.

Action T1.1. Work with Caltrans to plan major roadway projects, such as bike/pedestrian CA1 overcrossing prioritizing in high congestion areas (Rockaway, Reina Del Mar) and other major CA1 roadway projects that reduce congestion and provide bike/pedestrian safety (City of Pacifica 2025c).

Other Plans

State Scenic Highway Program

SR 1 within the project area is eligible for California State Scenic Highway designation, but it has not been officially designated (Caltrans 2025a).

The project limits also include two Classified Landscaped Freeway segments: PM R43.21 to R45.12 and PM R45.28 to R45.50 (Caltrans 2026a). Removal of vegetation that results in 200-foot gaps in planting could result in declassification and the allowance of outdoor advertising.

2.2.1.2 ENVIRONMENTAL CONSEQUENCES

Table 2.2-1 summarizes the consistency of the No Build Alternative, Build Alternative 1, and Build Alternative 2, with applicable plan objectives and policies.

Table 2.2-1. Consistency of Proposed Project with Applicable Plans and Policies

Plan	Policy	No Build Alternative	Build Alternative 1	Build Alternative 2
Plan Bay Area 2050+	**Policy T.6. Modernize freeways and interchanges:** Implement projects designed to improve the quality of existing freeway assets by rebuilding interchanges and implementing advanced technologies.	**No Change.** Under the No Build Alternative, no modifications would be made to the Manor Drive overcrossing or the existing northbound SR 1 off-ramp to Milagra Drive.	**Consistent.** Alternative 1 would widen or replace the Manor Drive overcrossing and improve the structural stability of this key transportation asset. Alternative 1 would also replace the existing all-way-stop-controlled intersections at Manor Drive/Palmetto Avenue and Manor Drive/Oceana Boulevard with traffic signals. Alternative 1 would not modify SR 1 or change operations.	**Consistent.** Alternative 2 would include the same elements as Alternative 1. Alternative 2 would also add an on-ramp to northbound SR 1 from Milagra Drive/Oceana Boulevard, which would accommodate some existing demand for the northbound SR 1 on-ramp at Monterey Road that otherwise must access the ramp via Manor Drive/Oceana Boulevard.
Plan Bay Area 2050+	**Policy T9. Build a Complete Streets Network:** Enhance streets, paths, and trails to promote walking, biking, and rolling through sidewalk improvements, car-free slow streets, and All Ages and Abilities Active Transportation Network.	**No Change.** Under the No Build Alternative, no modifications would be made to the Manor Drive overcrossing area. Bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards.	**Consistent.** Alternative 1 includes Complete Streets elements such as improving bike and pedestrian facilities. Alternative 1 would add Class II and Class IV bike lanes, and would restripe existing Class III bike lanes. Additionally, the project would improve pedestrian facilities such as constructing new ADA ramps for ease of access by persons with disabilities and enhanced visibility crosswalks.	**Consistent.** Same as Alternative 1.

Plan	Policy	No Build Alternative	Build Alternative 1	Build Alternative 2
San Mateo County Transportation Plan	**Strengthen the pedestrian, bicycle, and shuttle bus circulation links among land uses, particularly within TOD areas.**	**No Change**. Under the No Build Alternative, bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards.	**Consistent.** The project area is a TOD area, as it has bus lines and bike and pedestrian facilities centered around mixed-use, retail and residential development. Alternative 1 includes improvements to bike and pedestrian facilities, as discussed for the Plan Bay Area Policy T8 above. These facilities would improve bike and pedestrian access to additional facilities, including transit stops.	**Consistent.** Same as Alternative 1.
San Mateo County Transportation Plan	**Continue to develop a safe, reliable, comprehensive, and convenient bikeway system competitive in door-to-door with the automobile for many short distance trips.**	**No Change.** Under the No Build Alternative, bike lanes would not be improved to meet current safety standards.	**Consistent.** Alternative 1 includes improvements to bike facilities, as discussed for Plan Bay Area Policy T9 above.	**Consistent.** Same as Alternative 1.
San Mateo County Transportation Plan	**Comply with the complete streets policy requirements of Caltrans and the Metropolitan Transportation Commission concerning safe and convenient access for bicyclists and assist local implementing agencies in meeting their responsibilities under the policy.**	**No Change.** Under the No Build Alternative, bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards.	**Consistent**. Alternative 1 includes Complete Streets elements, as discussed for Plan Bay Area Policy T9 above.	**Consistent.** Same as Alternative 1.

Plan	Policy	No Build Alternative	Build Alternative 1	Build Alternative 2
San Mateo County Transportation Plan	**Construct or improve roadways that connect major inter-county highway facilities and transit stations.**	**No Change.** Under the No Build Alternative, there would be no improvements to the Manor Drive overcrossing or other facilities in the project area.	**Consistent.** Alternative 1 would improve the structural integrity of the Manor Drive overcrossing of SR 1. Manor Drive is one of only five east-west crossings of SR 1 in Pacifica, connecting Esplanade Avenue to SR 35 (Skyline Boulevard). SamTrans bus routes 10, 40, 42, and 112 that include Manor Drive and other streets in the project area connect with BART stations in Colma, Daly City, and San Bruno (Fehr & Peers 2025a).	**Consistent.** Same as Alternative 1. Additionally, Alternative 2 would provide a new connection to SR 1 by constructing a new northbound on-ramp from Milagra Drive and Oceana Boulevard.
San Mateo County General Plan	**12.16 Urban Roads Improvement:** In urban areas, where improvements are needed due to safety concerns or congestion, support the construction of interchange and intersection improvements, additional traffic lanes, turning lanes, redesign of parking, channelization, traffic control signals, or other improvements while enhancing the functionality of travel routes for all transportation users.	**No Change.** Under the No Build Alternative, no modifications would be made to the Manor Drive overcrossing. Congestion and street intersection traffic volumes would remain the same.	**Consistent.** Alternative 1 would install signals, replacing all-way stop signs at the various intersections, which would improve operating conditions.	**Consistent.** Same as Alternative 1.

Plan	Policy	No Build Alternative	Build Alternative 1	Build Alternative 2
San Mateo County General Plan	**12.30 Integration with Regional Complete Streets Planning:** Coordinate transportation and street projects with local and regional plans for bicycle, pedestrian, transit, and related multimodal plans designed to support Complete Streets.	**No Change.** Under the No Build Alternative, no modifications would be made to the Manor Drive overcrossing. Bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards.	**Consistent.** The project would incorporate bike lanes and sidewalks along the Manor Drive overcrossing.	**Consistent.** Same as Alternative 1. Additionally Alternative 2 would include bike lanes and ADA ramps in various locations including Oceana Boulevard.
San Mateo County General Plan	**12.31 Existing Street and Network Connectivity:** Incorporate Complete Streets infrastructure into existing streets to improve the safety and convenience of users, accommodate all transportation users, and increase connectivity across jurisdictional boundaries and for existing and anticipated areas of development.	**No Change.** Under the No Build Alternative, no modifications would be made to the Manor Drive overcrossing. Bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards.	**Consistent.** The project would incorporate bike lanes and sidewalks along the Manor Drive overcrossing.	**Consistent.** Same as Alternative 1. Additionally, Alternative 2 would include bike lanes and ADA ramps in various locations including Oceana Boulevard.
San Mateo County General Plan	**12.44 Bicycle Routes and Pedestrian Paths:** Encourage the cities to develop local bikeway plans, obtain funding, and construct and maintain a system of local bikeways that is consistent with the County Bikeways Plan. Encourage the provision of safe and adequate pedestrian paths in new development connecting to activity centers, schools, transit stops, and shopping centers.	**No Change.** Under the No Build Alternative, no modifications would be made to include enhanced bike lanes, sidewalks, and ADA ramps.	**Consistent.** The project would incorporate bike lanes and sidewalks along the Manor Drive overcrossing.	**Consistent.** Same as Alternative 1. Additionally, Alternative 2 would include bike lanes and ADA ramps in various locations including Oceana Boulevard.

Plan	Policy	No Build Alternative	Build Alternative 1	Build Alternative 2
City of Pacifica General Plan	**Policy CI-G-1: Comprehensive Circulation System.** Create a continuous network of sidewalks and bicycle routes.	**No Change.** Under the No Build Alternative, no modifications would be made to include enhanced bike lanes, sidewalks, and ADA ramps.	**Consistent.** The project would incorporate bike lanes and sidewalks along the Manor Drive overcrossing.	**Consistent.** Same as Alternative 1. Additionally, Alternative 2 would include bike lanes and ADA ramps in various locations including Oceana Boulevard.
City of Pacifica General Plan	**Policy CI-G-2: Serve All Users.** Plan, design, build, and maintain transportation improvements to support complete streets projects that facilitate walking, bicycling, and transit use wherever possible.	**No Change.** Under the No Build Alternative, no modifications would be made to include enhanced bike lanes, sidewalks, and ADA ramps.	**Consistent.** The project would incorporate bike lanes and sidewalks along the Manor Drive overcrossing.	**Consistent.** Same as Alternative 1. Additionally, Alternative 2 would include bike lanes and ADA ramps in various locations including Oceana Boulevard.
City of Pacifica General Plan	**Policy CI-I-2: Complete Streets Design Approach.** Include Complete Streets design principles in the planning of all circulation improvement projects, such as providing bicycle and pedestrian facilities and maintaining on-street parking.	**No Change.** Under the No Build Alternative, no modifications would be made to include enhanced bike lanes, sidewalks, and ADA ramps.	**Consistent.** The project would incorporate bike lanes and sidewalk improvements. While some of street parking would be converted to back-in angled parking, there would be no net loss of parking.	**Consistent.** Same as Alternative 1.
City of Pacifica General Plan	**Policy CI-I-9: Manor Drive Overcrossing Improvements.** Improvements should include widening of the overcrossing and possible signal control at the intersections of Manor Drive with Palmetto Avenue and Oceana Boulevard. Additional alternatives that achieve similar or greater congestion relief objectives should also be considered.	**No Change.** Under the No Build Alternative, no modifications would be made to the Manor Drive overcrossing. Bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards. The stop signs would not be replaced by signals and pedestrians crossing signals.	**Consistent.** The project would construct minimum 10-foot sidewalks, minimum 5-foot bicycle lanes, and ADA ramps. The project would install signals, replacing the all-way stop signs at the various intersections which could improve operating conditions.	**Consistent.** Same as Alternative 1.

Plan	Policy	No Build Alternative	Build Alternative 1	Build Alternative 2
City of Pacifica Bike and Pedestrian Master Plan	**Pedestrian Project Prioritization Manor Drive/Manor Plaza:** Install a pedestrian actuated flashing beacon for the crossing of Manor Drive, upgrading the existing beacon. Need for a Class II and Class IIIB bike lane along Manor Drive and a Class II and Class III bike lane along Oceana Boulevard, a Class II bike lane along Palmetto Avenue and a Class IIIB bike lane along Milagra Drive within the project's limit. The proposed Class II bike lane within Manor Drive overcrossing would be upgraded to a Class IV bike lane.	**No Change.** Under the No Build Alternative, no modifications would be made to include enhanced bike lanes, sidewalks, and ADA ramps.	**Consistent.** Alternative 1 would construct minimum 10-foot sidewalks, minimum 5-foot bicycle lanes, and ADA ramps. Alternative 1 would also add a Class II bicycle lane along Oceana Boulevard south of Milagra Drive to Avalon Drive while maintaining the existing lane configuration. Restriped Class III bike lanes and new ADA-compliant sidewalks with curb ramps and enhanced visibility crosswalks would also be provided along Milagra Drive from Edgemar Avenue to Oceana Boulevard.	**Consistent.** Same as Alternative 1. Additionally, Alternative 2 would include bike lanes and ADA ramps in various locations including Oceana Boulevard.

Plan	Policy	No Build Alternative	Build Alternative 1	Build Alternative 2
City of Pacifica Climate Action and Resilience Plan	**Goal T1.** Reduce vehicle miles traveled by 12 percent by 2030 compared to 2021 levels through increased public transit, walking, and biking.	**No Change.** Under the No Build Alternative, Bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards.	**Consistent.** The project would promote the use of walking and biking by improving and adding pedestrian and bicycle facilities, which could result in reduced vehicle miles traveled. Alternative 1 would construct minimum 10-foot sidewalks, minimum 5-foot bicycle lanes, and ADA ramps. Alternative 1 would add a Class II bicycle lane along Oceana Boulevard south of Milagra Drive to Avalon Drive while maintaining the existing lane configuration. Restriped Class III bike lanes and new ADA-compliant sidewalks with curb ramps and enhanced visibility crosswalks would also be provided along Milagra Drive from Edgemar Avenue to Oceana Boulevard.	**Consistent.** Same as Alternative 1. Additionally, Alternative 2 would include bike lanes and ADA ramps in various locations including Oceana Boulevard.
City of Pacifica Climate Action and Resilience Plan	**Action T1.1.** Work with Caltrans to plan major roadway projects, such as bike/pedestrian CA 1 overcrossing prioritizing in high congestion areas (Rockaway, Reina Del Mar) and other major CA1 roadway projects that reduce congestion and provide bike/pedestrian safety.	**No Change.** Under the No Build Alternative, no modifications would be made to the Manor Drive overcrossing. Bike lanes and sidewalks would not be enhanced to accommodate pedestrian and bicycle facilities that meet current standards.	**Consistent.** Alternative 1 would widen the Manor Drive overcrossing of SR 1, replace the existing stop signs with traffic and pedestrian signals, and construct new sidewalks and bicycle lanes.	**Consistent.** Same as Alternative 1.

Overall, the build alternatives would be consistent with applicable objectives and policies and would align with policies such as CI-G-2, CI-G-11, and CI-G-12 of the City of

Pacifica General Plan, which calls for improvements to streets that facilitate walking, bicycling, and transit use wherever possible.

The proposed project is located within the Coastal Zone and is subject to the Local Coastal Land Use Plan (LCLUP) requirements of the California Coastal Act, which is further discussed in Section 2.2.2.

2.2.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation is required.

2.2.2 Coastal Zone

The following discussion is from the Community Impact Assessment (AECOM 2026) completed for the proposed project in January 2026.

2.2.2.1 AFFECTED ENVIRONMENT

The project area is partially within the California Coastal Zone, which extends inland from the Pacific Ocean to approximately 1,000 yards from the mean high tide line of the sea. The Coastal Zone boundary extends the western edge of SR 1 and includes the project area to the west of SR 1. The California Coastal Commission (CCC) has delegated authority over this portion of the Coastal Zone to the City of Pacifica because the City has adopted a Local Coastal Program (LCP).

The City's LCP is composed of two components—a Local Coastal Land Use Plan (LCLUP; City of Pacifica 2025d) and an Implementation Program. The LCLUP specifies the kinds, locations, and intensities of land uses within the LCP area; applicable resource protection and development policies; and implementing actions. The Implementation Program consists of zoning ordinances, zoning district maps, and other strategies for implementing the LCLUP. The City has the authority to issue, deny, or amend Coastal Development Permits for developments based on the policies of its LCP.

The LCLUP reflects Coastal Act priorities as well as the planning themes laid out in the City's General Plan. LCLUPs are prepared by the local jurisdiction and submitted to the CCC for certification. The City's current LCLUP was certified by the CCC in March 1980. The City submitted a revised draft LCLUP for certification in March 2025, which includes key updates such as policies geared toward sea-level rise resiliency.

2.2.2.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

The No Build Alternative would not directly affect coastal resources or public access to coastal areas.

Build Alternatives

Although part of the study area is in the Coastal Zone, neither build alternative is expected to affect coastal resources due to the developed setting of the project area. The build alternatives would not affect any nearby beaches, convert any existing land uses, or intensify land uses. The build alternatives would result in no net loss of parking. In some areas, existing angled parking would be converted to back-in angled parking to maintain the existing number of on-street parking spaces within the project limits. The project would generally be consistent with coastal zone policies and would improve coastal access by improving bicycle and pedestrian facilities in the overcrossing area. However, it would result in moderate adverse visual impacts due to the removal of trees and vegetation to construct both build alternatives, as discussed in Table 2.2-2 (ER-G-15: Scenic and Visual Amenities of the Coastal Zone; also see Sections 2.2.6 and 3.6.1).

Table 2.2-2 summarizes key policies from pertinent coastal regulations and plans and discusses the potential impacts of the build alternatives on coastal resources.

Table 2.2-2. Coastal Zone Policies Impact Determination

Law/Act/Plan	Description	Build Alternative 1	Build Alternative 2
California Coastal Act of 1976	**30230.** Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.	No Environmentally Sensitive Habitat Areas (ESHAs), including wetlands, have been identified within the project area. Additionally, the project would have no effect on any federal- or state-listed marine species (Section 2.1.11).	As with Alternative 1, Alternative 2 would have no effect on EHSAs, as none have been identified in the project area. Alternative 2 would also have no effect on any federal- or state-listed special-status species. A SWPPP would be required for Alternative 2. The SWPPP would be prepared by a qualified stormwater pollution plan developer and approved by the Caltrans Resident Engineer prior to the start of construction. Alternative 2 would have a disturbed soil area greater than 1 acre, which would require stormwater treatment BMPs for

Law/Act/Plan	Description	Build Alternative 1	Build Alternative 2
			post-construction treatment areas. Alternative 2 would have the same potential to affect migratory birds as Alternative 1. The same construction BMPs and avoidance measures for Alternative 1 would apply to Alternative 2.
California Coastal Act of 1976	**30211.** Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	Alternative 1 proposes new pedestrian and bicycle facilities on Manor Drive and nearby city streets, which would increase alternative transportation access throughout the project area, which is adjacent to Esplanade Beach and Esplanade Beach Overlook Trail. The modified Manor Drive overcrossing would have 10-foot sidewalks and 7-foot Class IV bicycle lanes. On Manor Drive, the project would add Class II bikeways from Esplanade Avenue to Palmetto Avenue; Class IV bikeways on the Manor Drive overcrossing; and Class II bikeways from Oceana Boulevard to Edgemar Avenue. On Oceana Boulevard, the project would add Class II bikeways from Milagra Drive to Manor Drive. On Milagra Drive, the project would restripe existing Class III bike lanes from Oceana	Alternative 2 would include the same bicycle and pedestrian facilities as Alternative 1. Therefore, Alternative 2 would also increase alternative transportation access to the coastline. Alternative 2 would also maintain the existing amount of parking in the project area.

Law/Act/Plan	Description	Build Alternative 1	Build Alternative 2
		Boulevard to Edgemar Avenue. Alternative 1 does not propose to reduce the amount of parking in the project area. There would be no net loss of parking. The project would convert angled parking along Manor Drive between the U.S. Post Office and Mazzetti's Bakery to back-in angled parking. Parking along Oceana Boulevard would remain as parallel parking, while existing parking on Milagra Drive in the eastbound direction would also be converted to back-in angled parking.	
City of Pacifica LCLUP	**LD-G-7: Open Space Conservation and Habitat Protection**. Protect beaches, oceanfront bluffs, wetlands, riparian corridors, ESHA, ridgelines, hillside areas adjacent to existing open space, and areas that support critical wildlife habitat and special-status species.	As stated above, Alternative 1 would have no effect on ESHAs, including wetlands. It would also have no effect on federal- or state-listed special-status species. Additionally, Alternative 1 would not include any changes to Esplanade Beach or the Esplanade Beach Overlook Trail west of the project area.	As with Alternative 1, Alternative 2 would have no effect on ESHAs, special-status species, or nearby beaches.
City of Pacifica LCLUP	**LD-I-7: Oceanfront Land for Recreational Use.** Protect land adjacent to Sharp Park and Pacifica State Beaches for low-intensity recreational use. Allowable uses should include recreation outfitters, campgrounds, rustic	Alternative 1 would not affect Esplanade Beach or the Esplanade Beach Overlook Trail. Additionally, it would not convert any existing land uses in the project area, nor would it increase the intensity of land uses.	As with Alternative 1, Alternative 2 would not affect any nearby beaches, convert any existing land uses, or intensify land uses.

Law/Act/Plan	Description	Build Alternative 1	Build Alternative 2
	lodging, hikers' huts, or view restaurants.		
City of Pacifica LCLUP	**LD-I-9: Walkable and Transit-Oriented Development**. Facilitate higher-density, mixed-use development at specific locations along the coastline where an active, pedestrian environment is desired.	Alternative 1 would include new pedestrian and bicycle facilities along Manor Drive and nearby city streets, as described above for California Coastal Act Policy 30211. This would encourage active transportation usage throughout the project area.	Alternative 2 would include the same bicycle and pedestrian facilities as Alternative 1 and would therefore have the same active transportation benefits.
City of Pacifica LCLUP	**PR-I-1: Public Shoreline Access.** Continue to ensure that new development does not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	See the description of Alternative 1 with regard to California Coastal Act Policy 30211 above.	See the description of Alternative 2 with regard to California Coastal Act Policy 30211 above.
City of Pacifica LCLUP	**PR-G-12: Bicycle and Pedestrian Routes.** Establish trails, bike routes, and pedestrian amenities connecting neighborhoods to major shopping and public facility destinations, and fill in gaps in the existing network.	The project area is adjacent to multiple commercial land uses and public facilities, including the Manor Plaza shopping center, the Manor Drive Post Office, and multiple restaurants and businesses along Manor Drive and Oceana Boulevard. As stated above, the project would add new pedestrian and bicycle facilities within the project area. This would include new Class IV bike lanes	Alternative 2 would include the same pedestrian and bicycle facilities as Alternative 1 and would address the same active transportation needs within Pacifica. Alternative 2 would also include upgraded sidewalks along Oceana Boulevard between Avalon Drive and just south of Milagra Drive.

Law/Act/Plan	Description	Build Alternative 1	Build Alternative 2
		along the proposed Manor Drive overcrossing as well as new Class II bikeways along Oceana Boulevard. These components would fill gaps in the existing active transportation network within Pacifica.	
City of Pacifica LCLUP	**PR-G-14: Mobility for All Users.** Create a safe and attractive walking environment accessible for all users, particularly persons with disabilities, seniors, and younger residents and visitors.	As stated above, Alternative 1 would include new pedestrian and bicycle facilities within the project area. It would also construct new ADA ramps for ease of access by persons with disabilities, with enhanced visibility crosswalks, at key intersections within the project area.	Alternative 2 would also make ADA upgrades within the project area.
City of Pacifica LCLUP	**ER-G-5: Wildlife and Critical Habitat.** Conserve and protect indigenous threatened, endangered, and other special-status species by preserving critical habitat.	See the description of Alternative 1 with regard to California Coastal Act Policy 30230 above.	See the description of Alternative 2 with regard to California Coastal Act Policy 30230 above.
City of Pacifica LCLUP	**ER-G-15: Scenic and Visual Amenities of the Coastal Zone.** Protect the City's irreplaceable scenic and visual amenities in the Coastal Zone by protecting landforms, vegetation, special communities, and important viewsheds.	Alternative 1 is anticipated to alter the existing visual character and quality of the project area, as described further in Section 2.2.6. Alternative 1 would widen or replace the Manor Drive overcrossing from 62 feet to approximately 208 feet; construct new bicycle and pedestrian facilities on Manor Drive and adjacent city	Alternative 2 would include the same visual changes described under Alternative 1. However, the degree of visual change would be higher with Alternative 2, primarily due to the addition of a northbound on-ramp to SR 1 from Milagra Drive and Oceana Boulevard. The on-ramp would require widening and

Law/Act/Plan	Description	Build Alternative 1	Build Alternative 2
		streets; and add new traffic signals and overhead safety lighting to the intersections east and west of the overcrossing. Alternative 1 would require approximately 208 feet of vegetation removal in the SR 1 median. It would also require the removal of approximately 10 mature trees and a 5- to 10-foot-wide strip of vegetation within the footprint of the proposed concrete barrier topped by fencing along the west side of Oceana Boulevard. Alternative 1 was determined to result in a moderate-low adverse visual impact overall. Avoidance and minimization measures for visual effects are included in Sections 2.2.2.3 and 2.2.6.3. In addition, project features PF-VIS-1 through PF-VIS-5 (Section 1.4.3.10) would further reduce the potential for visual effects resulting from construction.	realigning SR 1 toward the inside median and removing approximately 700 feet of landscaped vegetation from the median. Alternative 2 was determined to result in a moderate adverse visual impact overall. The avoidance and minimization measures described in Sections 2.2.2.3 and 2.2.6.3 and project features PF-VIS-1 through PF-VIS-5 (Section 1.4.3.10) would also apply to Alternative 2.
City of Pacifica LCLUP	**ER-G-16: Views from Scenic Routes.** Ensure that viewsheds from Highway 1 and Sharp Park Road are preserved and enhanced. These views are an essential part of Pacifica's identity.	See the description of Alternative 1 with regard to City of Pacifica LCLUP Policy ER-G-15 above.	See the description of Alternative 2 with regard to City of Pacifica LCLUP Policy ER-G-15 above.

Law/Act/Plan	Description	Build Alternative 1	Build Alternative 2
City of Pacifica LCLUP	**CR-I-1: Coastal Vulnerability Zones.** Those areas of the City that are predicted to be vulnerable to coastal hazards have been mapped as Coastal Vulnerability Zones in Appendix B of the Draft LCLUP, where such mapping is based on the best available science about projected sea level rise, erosion, flooding, and other coastal hazards at the time of LCLUP adoption. It is likely that such areas would change over time, and Appendix B of the Draft LCLUP shall be regularly updated to guide the implementation of the LCP's coastal resiliency provisions. In any case, however, if best available science at the time an application is reviewed shows that proposed development located outside of such mapped area is also vulnerable to coastal hazards, then such application shall be reviewed as though such development was located in the Coastal Vulnerability Zones.	Based on the coastal vulnerability mapping included in the Draft LCLUP as Appendix B, the project area is outside of the wave run-up (5.7-foot sea level rise), storm flood area (5.7-foot sea level rise), and coastal erosion 2100 vulnerability zones. Regardless, Alternative 1 would not increase sea level rise vulnerability within the project area. The project location is approximately 60 feet above sea level and was determined not to be impacted by 50-year storm events (AECOM 2025b).	As with Alternative 1, Alternative 2 is outside of the coastal vulnerability zones identified in Appendix B of the Draft LCLUP. It would also not increase sea level rise vulnerability within the project area.

Notes: CR = Coastal Resilience; G: Guiding Policy; I: Implementing Policy; LD: Land Use and Development; PR: Public Access and Recreation.

2.2.2.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

AMM-VIS-1: Minimize Permanent Lighting Impacts. The proposed new safety lighting along Manor Drive at the intersections of Palmetto Avenue and Oceana Boulevard would be designed to limit light pollution and have minimum impact on the surrounding environment. All light fixtures would have light-emitting diodes (LEDs) configured at the minimum necessary number of bulbs, optimal mounting height, mast-arm length, and angle to restrict light to the roadways. Where applicable, shields on the fixtures to prevent light trespass to adjacent properties would be considered during the detailed design phase.

AMM-VIS-2: Architecturally Treat New or Widened Overcrossing and Supporting Structures. The proposed new or widened overcrossing and any supporting infrastructure (e.g., retaining walls, fencing, and guard rails) shall be architecturally treated to enhance the visual quality of the surrounding landscape. These treatments may include decorative fencing and color and texture for concrete elements. The design will be finalized during the detailed design phase and will be context sensitive.

2.2.3 Parks and Recreational Facilities

The following discussion is from the Community Impact Assessment (AECOM 2026) completed for the proposed project in January 2026.

2.2.3.1 AFFECTED ENVIRONMENT

The project area is close to multiple public parks and public recreation spaces. The nearest public recreation facilities are Esplanade Beach and the Esplanade Beach Overlook Trail, which are located west of SR 1 along the Pacific Ocean. Other parks and recreational spaces are described in Table 2.2-3.

Table 2.2-3. Parks and Recreation Areas in the Study Area

Name	Location (Relative to Project)	Description
Edgemar Park	On Fremont Avenue, approximately 0.18 mile from the project area and 0.30 mile northeast of the Manor Drive/Oceana Boulevard intersection.	Edgemar Park is on 1.2 acres of land owned and maintained by the City. It offers a large grass area with trails that loop around its perimeter. It also has a small play structure, swings, and a few benches.
Milagra Ridge	The entrance to Milagra Ridge is off of Sharp Park Road in Pacifica. It is approximately 0.25 mile from the project area and 0.50 mile southeast of the Manor Drive/Oceana Boulevard intersection.	Milagra Ridge is a 245-acre open space with public trails that is part of the Golden Gate National Recreation Area. It is maintained by the National Park Service.

Name	Location (Relative to Project)	Description
Lower Milagra Ridge	Southeast of the eastern end of Connemara Drive and immediately northwest of Milagra Ridge, 0.19 mile from project area and 0.44 mile from the Manor Drive/Oceana Boulevard intersection.	This is a 35.7-acre area that is privately owned and operated for public access under a conservation easement held by the Golden Gate National Recreation Area.
Coastal Trail	About 1 mile south of the project area and 1.3 miles from the Manor Drive/Oceana Boulevard intersection.	This is a City-maintained trail along the beach that extends from north to south. The City is proposing to construct a new segment of Coastal Trail along the former Ocean Shore Railroad Berm.

Sources: Google Maps 2025; City of Pacifica n.d.-b; CCED 2024; City of Pacifica 2025d.

The nearest wildlife refuge to the project is Don Edwards San Francisco Bay National Wildlife Refuge, over 9 miles southeast of the project area (USFWS n.d.).

Except for Connemara Mini-Park and Lower Milagra Ridge, all of aforementioned recreation facilities are operated by public agencies and thus are protected by the Park Preservation Act (California Public Resources Code Sections 5400-5409) and Section 4(f) of the Department of Transportation Act of 1966 (49 United States Code 303), which provides protection for publicly owned parks and recreational resources.

2.2.3.2 Environmental Consequences

No Build Alternative

The No Build Alternative would have no effect on parks and recreational facilities in the project area since that project would not be implemented and no changes would occur.

Build Alternatives

The project would not require the temporary or permanent use of any publicly or privately owned park or recreational facility. The build alternatives would support long-term public access to recreation facilities in the study area by constructing additional pedestrian and bicycle facilities.

Both build alternatives would require a temporary construction easement to construct a portion of sidewalk along the southwest quadrant of Palmetto Avenue and Manor Drive. Access through areas of project construction would be maintained as part of the TMP described in Section 1.4.3.10. One lane in each direction of the Manor Drive overcrossing would remain open during construction, as would the existing pedestrian overcrossing of SR 1 between Palmetto Avenue and Milagra Drive. One to two full nighttime closure(s) is anticipated for SR 1.

Construction staging would occur in the shoulders along SR 1. Given the limited area that would be occupied and the short-term duration, Build Alternatives 1 and 2 would not preclude or substantially impede the use of any parks or recreation facilities during construction. Closure, alteration, or other use of Esplanade Beach, Esplanade Beach Overlook Trail, and Lower Milagra Ridge is not expected. Edgemar Park, Milagra Ridge, and the Don Edwards San Francisco Bay National Wildlife Refuge are at a sufficient distance from the project area that no temporary or permanent impacts would occur.

Visitors to Esplanade Beach and the Esplanade Beach Overlook Trail within view or earshot of construction would be exposed to the periodic sights and sounds of construction equipment and structural work at the Manor Drive overcrossing, for both build alternatives. Visitors to Esplanade Beach and the Esplanade Beach Overlook Trail may also encounter construction equipment and personnel on roads leading to those facilities, particularly Manor Drive.

Build Alternative 2 would also include construction of a northbound on-ramp to SR 1 from Milagra Drive. With this alternative, visitors to Lower Milagra Ridge and Milagra Ridge could also encounter the sights and sounds of construction equipment and personnel, in the Milagra Drive/Oceana Boulevard intersection area, if visitors access those open spaces via Connemara Drive.

As described in Section 1.4.3.10, a TMP would be prepared for the project and would provide public, transit agency, and local jurisdiction notifications about temporary changes in circulation during project construction. Temporary noise and visual impacts would occur intermittently over the project construction period (approximately 16–24 months). Additional standard Caltrans measures to reduce construction noise and dust described in Section 1.4.3.10 would minimize construction-related impacts on beach and trail visitors.

Temporary construction activities would not result in adverse changes to the activities, features, or attributes of Esplanade Beach or the Esplanade Beach Overlook Trail. Given that the project area is already close to busy roadways and urban development, temporary construction is unlikely to affect users of these facilities.

The proposed action would not permanently use Esplanade Beach or the Esplanade Beach Overlook Trail, or adversely affect the activities and features that qualify them for protection under Section 4(f). Therefore, the project would not “use” those facilities as defined by Section 4(f).

Implementation of project features including the TMP and other standard measures for construction-related noise and dust would reduce the potential for short-term, temporary impacts to beach and trail visitors. Construction impacts would be temporary and short-

term, and access to parks and recreational facilities would be maintained. The project would result in long-term benefits to recreational access.

2.2.3.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation is required.

2.2.4 Utilities/Emergency Services

The following discussion is from the Community Impact Assessment (AECOM 2026) completed for the proposed project in January 2026.

2.2.4.1 AFFECTED ENVIRONMENT

This section summarizes the affected environment for utilities and emergency services from the Community Impact Assessment (AECOM 2026).

Utilities

Pacific Gas and Electric (PG&E) provides electricity and gas services in the project area. The North Coast County Water District (the District) provides potable water to the City of Pacifica. The District's water is from the Hetch Hetchy reservoir. The City of Pacifica provides sanitary sewer services to residents. The City of Pacifica's wastewater collection system is designed to convey water and waste from homes, businesses, schools, and other public and private buildings to the Calera Creek Water Recycling Plant, where it is then treated. Solid waste services are provided by Recology of the Coast, which provides trash, recycling, and composting collection services. AT&T provides telecommunication service to the project area.

Power, communications, gas, water, and sewer lines have been identified within the project area. Table 2.2-4 lists the utilities in the project area.

Table 2.2-4. Utilities in the Project Area

Utility Type	Location
Overhead joint utility poles with 12-kilovolt PG&E electrical distribution, cable, and telephone lines	• Along the north side of the Manor Drive overcrossing from northeast corner of Oceana Blvd/Manor Drive to 120 feet east of Esplanade Avenue/West Manor Drive • Along Oceana Boulevard from Monterey Road to Connemara Drive • Along the north side of Milagra Drive from Oceana Boulevard to Edgemar Avenue
Three 12-kilovolt PG&E overhead electrical distribution lines	• Crossing SR 1 approximately 165 feet, 754 feet, and 1,116 feet south of the Manor Drive overcrossing

Utility Type	Location
North Coast County Water District potable water line	• 6-inch pipe along Milagra Drive from Edgemar Avenue and along southbound Oceana Boulevard • 6-inch pipe along Oceana Blvd from Avalon Drive to Manor Drive, and 8-inch pipe from Manor Drive to Monterey Road • 8-inch pipe along Manor Drive from Esplanade Avenue to Palmetto Avenue, and a 6-inch pipe from Palmetto Avenue to Edgemar Avenue • 6-inch pipe along Palmetto Avenue from Manor Drive to SR 1 southbound on-ramp
PG&E underground gas distribution lines	• 6-inch pipe with 10-inch casing along Manor Drive and attached to the Manor Drive overcrossing • 4-inch pipe with 6-inch casing crossing SR 1 from the Oceana Boulevard/Milagra Drive intersection to 300 feet south of West Avalon Drive • 4-inch pipe along the east and west sides of Oceana Boulevard from 300 feet north of Manor Drive to Connemara Drive • 4-inch pipe along Manor Drive from Esplanade Avenue to Palmetto Avenue • 4-inch pipe along Manor Drive from Oceana Boulevard to Edgemar Avenue • 4-inch pipe along the west side of Palmetto Avenue from Walgreens to West Avalon Drive
City of Pacifica sanitary sewer line	Along center of Palmetto Avenue, along Milagra Drive and Oceana Boulevard from Avalon Drive to Milagra Drive, there is an 18-inch line crossing SR 1 from Oceana Boulevard/Milagra Drive to Palmetto Avenue, approximately 180 feet north of SR 1 southbound on-ramp

Emergency Services

The Pacifica Fire Department is located close to the project area, on the corner of Milagra Drive and Edgemar Avenue. An additional fire station is located approximately 2.5 miles south of the project area in the Linda Mar area. The City of Pacifica is also a contributing member of the North County Fire Authority, which provides both emergency response and non-emergency public safety services to three cities and a population of 185,000 people in its service area (Daly City n.d.).

The Pacifica Police Department is located outside of the study area but serves the entire City of Pacifica. The police station is located at 2075 Coast Highway, approximately 0.6 miles south of the project area. The Pacifica Police Department is made up of several divisions including Field Services, Investigations, Communications, and Records. According to the City's General Plan, the station is considered adequate to support a

sufficient level of service for future population growth in Pacifica. The Police Department currently staffs approximately one officer per 1,000 residents (City of Pacifica 2022a).

The City of Pacifica also has an Evacuation Operations Plan, which provides an overview of evacuation steps. Day-to-day emergency responses within the City of Pacifica are governed by the Incident Command System and the operational plans and protocols of the responding agencies. North County Fire Authority emergency response time average in Pacifica is 5 minutes and 52 seconds. Service standards for fire, police, and emergency response times are generally met or exceeded (City of Pacifica 2022a).

2.2.4.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

The No Build Alternative would not widen or replace the Manor Drive overcrossing or result in changes to local roadways. It would not require utility relocations or construction activities that could interfere with the provision of emergency services.

Build Alternatives

Utilities

Build Alternative 1 would require relocation of at least five overhead utility poles along the north side of Manor Drive, from Palmetto Avenue to Manor Plaza; and along the west side of Oceana Boulevard, from Avalon Drive to Manor Drive. Build Alternative 2 would also require relocation of the joint utility pole at the northwest corner of the Milagra Drive/Oceana Boulevard intersection. A utility encroachment policy variance from Caltrans is expected to be required to maintain the utilities in their current locations.

The replacement of the Manor Drive overcrossing would encroach on a 6-inch gas line and a 6-inch potable water line attached under the existing bridge. Permanent relocation of these facilities would be required under both build alternatives.

Utility coordination would be required with the area utility providers listed above in Section 2.2.4.1. Final verifications of utilities would be performed during the project's detailed design phase, and any needed relocations would be coordinated with the affected utility owner. No disruptions to electrical, gas, communications, or water services are anticipated.

Emergency Services

Emergency, fire protection, and law enforcement services would be maintained during project construction. As described in PF-TR-1 (Section 1.4.3.10), a Transportation Management Plan (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 SR 1 and Manor Drive would be maintained during peak travel periods. The TMP would include notifications to emergency service providers to minimize travel disruption during construction. The TMP would also provide for specific contingency actions that will be taken to minimize impacts on traffic when congestion or delay exceeds the original estimates due to unforeseen events such as work-zone accidents, higher-than-predicted traffic demand, or delayed lane closures.

2.2.4.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No other avoidance, minimization, and/or mitigation measures are required.

2.2.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.2.5.1 AFFECTED ENVIRONMENT

The information in this section is based on the Traffic Operations Analysis Report (Fehr & Peers 2025a). For the CEQA discussion of project-related traffic changes, please refer to Sections 3.3 and 3.6.17.

Transportation Setting

Roadway Network

As described in Section 1.1.2, the project area roadway network includes SR 1 and adjacent surface streets in the vicinity of the Manor Drive overcrossing. SR 1 is a north-south highway with two lanes in each direction in the project area. Manor Drive has one lane in each direction except at the overcrossing and just to the west, where it has two lanes in each direction. Manor Drive connects two major streets that are adjacent and parallel to SR 1: Palmetto Avenue to the west of SR 1 and Oceana Boulevard to the east of SR 1. Both streets have one lane in each direction. Milagra Drive extends east from Oceana Boulevard and has one lane in each direction. Northbound SR 1 provides access to Milagra Drive/Oceana Boulevard via a single-lane off-ramp. There is no access to SR 1 in the northbound direction from Milagra Drive, only an off-ramp with a bus stop and bus lane in the northbound direction that are no longer in use.

Other nearby east-west connectors with interchange ramps to SR 1 are Monterey Road, approximately 0.2 mile to the north of Manor Drive; and Paloma Drive, approximately 1.0 mile to the south.

Bicycle and Pedestrian Facilities

SR 1 is an access-controlled freeway in the project area with no bicycle or pedestrian facilities. No formal bicycle facilities are present on the existing Manor Drive overcrossing or adjacent streets. The closest designated bicycle facilities are along Esplanade Avenue, where there is a Class I bikeway along the beach just west of

Esplanade Avenue from the San Francisco RV Resort to approximately 280 feet south of Manor Drive. A Class I bikeway is a shared-use path, sometimes referred to as a multi-use path, that provides a completely separate ROW with minimal roadway crossings and is designated for the exclusive use of people riding bicycles and walking. Class II bike lanes are provided on Palmetto Avenue south of the San Francisco RV Resort. Class II bike lanes include a striped lane, pavement markings, and signage for one-way bike travel.

Pedestrian facilities in the study area include sidewalks, crosswalks, and pedestrian signals at signalized intersections. Manor Drive has a 5-foot-wide sidewalk on each side of the overcrossing. Streets in the project area have sidewalks on both sides of the road except for Palmetto Avenue and Oceana Avenue, which have one sidewalk provided on the side of the road opposite SR 1. The bus stop along the west side of Oceana Boulevard has a sidewalk, but the sidewalk needed to access the bus stop on the east side of Palmetto Avenue is missing.

There are several pedestrian crossing locations that are either missing or do not provide adequate ADA access, one of which is the intersection of Palmetto Avenue and Manor Drive.

Transit

SamTrans provides bus service throughout San Mateo County. In the study area, SamTrans bus routes include 10, 12, 40, 42, 49, 110, and 112, some which offer connections to Bay Area Rapid Transit (BART) and Caltrain stations. These bus routes serve Oceana Boulevard, Manor Drive, Milagra Drive, and Palmetto Avenue.

Traffic Study Area

The study area for traffic operations consisted of mainline segments of SR 1 and six local roadway intersections (shown in Figure 2.2-1). The traffic study area was developed in consultation with Caltrans and the City of Pacifica. The proposed project does not include any components that would affect traffic on southbound SR 1; therefore, the traffic study focused on the following segments of northbound SR 1:

- Paloma Avenue on-ramp gore (the gore is the point where a ramp connects to the freeway mainline) to Milagra Drive off-ramp
- Milagra Drive off-ramp gore to Monterey Road on-ramp
- Monterey Road on-ramp gore to SR 35 off-ramp



Figure 2.2-1 Traffic Study Area

The following local roadway intersections were analyzed:

1. Palmetto Avenue / Monterey Road
2. Palmetto Avenue / Manor Drive
3. Oceana Boulevard / Monterey Road
4. Oceana Boulevard / Manor Drive
5. Oceana Boulevard / Avalon Drive
6. Oceana Boulevard / Milagra Drive

The numbers listed above correspond to those shown in Figure 2.2-1.

Traffic Operations Analysis Methods

The traffic study analyzed the following scenarios:

- Existing conditions, which represent the year 2023, the year when the traffic study began;
- 2028, which represents the project's opening year, for the No Build Alternative, Build Alternative 1, and Build Alternative 2; and
- 2048, which represents the design year (20 years after the opening year), for the for the No Build Alternative, Build Alternative 1, and Build Alternative 2.

Freeway and intersection analyses for the project were conducted using procedures and methodologies consistent with the Highway Capacity Manual, 7th Edition (Transportation Research Board 2022). Traffic operations were analyzed using Vissim software. The operational analysis evaluated existing conditions based on data collected in October 2023.

The traffic forecasting for 2028 and 2048 volumes used the joint Santa Clara Valley Transportation Authority (VTA) and City/County Association of Governments of San Mateo County (C/CAG) travel demand model (VTA-C/CAG model). The traffic forecast included the following planned projects and developments in the study area:

- Motel at 699 Oceana Boulevard: Projected to add 30 motel rooms
- Marriott and Hampton Inn Hotels at 710 Oceana Boulevard: Projected to add 192 hotel rooms combined
- Hotel and Multi-Family Residential Development at 751 Oceana Boulevard: Projected to add 99 hotel rooms and 76 multi-family dwelling units
- Skyline Boulevard widening between I-280 and Sneath Lane
- HOV3+/Express Lanes on US 101 from the San Francisco/San Mateo County line to I-280/Alemany Boulevard interchange and on I-280 from the US 101 interchange to the Sixth Street off-ramp

The projected annual traffic growth rates on SR 1 within the study area are generally between 1% and 2%, and within 0.5% to 1% on ramps and local streets.

The actual opening year and design year for any project may fluctuate based on the availability of funding and other factors. As the projected annual traffic growth rates in the study area are 0.5% to 2%, year-to-year fluctuations in traffic volumes are expected to be minor. Therefore, a small shift (for example, 3 years or less) in the opening year and design year would not materially affect the outcomes presented in the traffic operations analysis.

Level of Service

For freeway operations, Level of Service (LOS) is a qualitative description of traffic flow based on speed, travel time, delay, and freedom to maneuver, with six levels ranging from LOS A to LOS F. LOS E represents “at-capacity” operations. When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F. LOS is not used as a metric for analyzing transportation impacts under CEQA but helps to illustrate existing and future operations and delay.

Intersection operations are also described in terms of LOS, but intersection LOS ratings are determined differently from freeway LOS ratings and depend on the type of control at a given intersection. For side-street stop-controlled intersections, the LOS rating is based on the delay for the worst approach measured in seconds per vehicle. At all-way stop-controlled and signalized intersections, the LOS rating is based on the weighted average control delay of all movements measured in seconds per vehicle.

The City’s policy is to maintain, if possible, LOS D for City streets (City of Pacifica 2022a).

The LOS criteria are summarized in Table 2.2-5 for both signalized and unsignalized intersections.

Table 2.2-5. Intersection LOS Criteria

LOS	Signalized Intersection Delay (seconds)	Unsignalized Intersections Delay (seconds)	Description
A	≤ 10.0	≤ 10.0	Little or no traffic delay
B	> 10.0 to 20.0	10.1 to 15.0	Minimal traffic delay
C	> 20.0 to 35.0	15.1 to 25.0	Average traffic delay
D	> 35.0 to 55.0	25.1 to 35.0	Long traffic delay
E	> 55.0 to 80.0	35.1 to 50.0	Very long traffic delay
F	> 80.0	> 50.0	Extreme traffic delay

Vehicle Hours of Delay

In addition to LOS, other system-wide performance measures can help to provide a better understanding of overall traffic operations. Vehicle hours of delay (VHD) is the total accumulated time lost by all vehicles on a roadway segment during the peak study period due to congestion in the roadway network. For this project, VHD was analyzed for the AM peak period (6:00 AM to 10:00 AM) and PM peak period (3:00 PM to 7:00 PM) for existing, opening year (2028), and design year (2048) conditions.

Existing Conditions

The AM and PM peak 1-hour periods under existing conditions are 8:00 AM to 9:00 AM and 3:00 PM to 4:00 PM.

Existing Freeway Operations

In the AM and PM peak hours, SR 1 operates in free-flow conditions, and all study segments have an LOS of B or better. LOS B on a freeway indicates that free-flow speeds are maintained, and the ability to maneuver with the traffic stream is only slightly restricted.

Existing Intersection Operations

All of the study intersection movements operate at LOS D or better except for the following:

- At Palmetto Avenue / Manor Drive (Intersection 2), the eastbound left/through lane operates at LOS E in the PM peak hour with a delay of 37.5 seconds, and the southbound left lane operates at LOS F in the PM peak hour with a delay of 50.8 seconds.

- At Oceana Boulevard / Manor Drive (Intersection 4), the westbound lane operates at LOS E in the PM peak hour with a delay of 36.3 seconds.

Existing VHD in the project area is 60 hours in AM peak hour and 100 hours in the PM peak hour.

2.2.5.2 ENVIRONMENTAL CONSEQUENCES

There are no planned changes to the roadway network in the study area under the No Build Alternative. No modifications would be made to the Manor Drive overcrossing, and no improvements would be made to bicycle and pedestrian facilities. Congestion and street intersection traffic volumes would remain the same, and roadway/intersection geometries would be the same as existing conditions.

As described in Section 1.4.2.1, Build Alternative 1 would signalize the Palmetto Avenue/Manor Drive and Oceana Boulevard/Manor Drive intersections; install Class II

bicycle lanes along both directions of Manor Drive between Esplanade Avenue and Edgemar Avenue and along both directions of Oceana Avenue between Milagra Drive and Manor Drive; and relocate the bus stops on the southeast corner of Oceana Boulevard at Manor Drive and on the southeast corner of Oceana Boulevard at Milagra Drive to a consolidated bus stop on the northeast corner of Oceana Boulevard at Milagra Drive.

As described in Section 1.4.2.2, Build Alternative 2 would include the elements described for Build Alternative 1 as well as construction of a new on-ramp to northbound SR 1 from Milagra Drive.

For the traffic analysis, it was assumed that 'right turns on red' would be disallowed from the southbound and westbound lanes at the intersection of Oceana Boulevard / Manor Drive (Intersection 4) in order to accommodate two new bike boxes[1] at the intersection. The bike boxes have been removed from the project, but were still considered in the traffic analysis. Therefore, the reported results for 2028 and 2048 for both build alternatives at the Oceana Boulevard / Manor Drive intersection are considered highly conservative, and the overall intersection operations would likely improve without the bike boxes.

Future (2028 and 2048) freeway and intersection operations and VHD in the study area are described below for the No Build and build alternatives.

Opening Year (2028)

In the opening year of 2028, the AM peak hour is anticipated to remain from 8:00 AM to 9:00 AM, and the PM peak hour is anticipated to be 4:00 PM to 5:00 PM (1 hour later than under existing conditions).

Year 2028 Freeway Conditions

In the opening year of 2028, SR 1 operations are projected to be similar under the No Build Alternative and Build Alternatives 1 and 2. In the AM and PM peak hours, all study segments of SR 1 would be LOS B or better except at the existing Milagra Drive off-ramp from northbound SR 1. The Milagra Drive off-ramp would operate at LOS C during the AM peak hour under the No Build Alternative, Build Alternative 1, and Build Alternative 2 scenarios due to the speed of vehicles exiting SR 1. LOS C on a freeway indicates that speeds are at or near free-flow speeds, freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.

[1] Bike boxes allows bike lane users to make a left turn into bike lanes within intersections.

Build Alternative 2 includes a new on-ramp at Milagra Drive, however the future volumes on SR 1 and total on-ramp volumes between the Monterey Road and Milagra Drive on-ramps remain the same as the No Build Alternative and Build Alternative 1.

Year 2028 Intersection Conditions

In 2028, most of the intersection movements in the study area would operate at LOS D or better in the AM and PM peak hours, except as summarized below. Detailed results and descriptions of the Year 2028 intersection analysis are provided in Appendix C.

No Build Alternative

With the No Build Alternative in 2028, the following intersection movements would operate at LOS E or F during the AM and/or PM peak hours:

- Palmetto Avenue / Monterey Road (Intersection 1): The southbound through movement is expected to operate at LOS E in the AM peak and LOS F in the PM peak.

- Palmetto Avenue / Manor Drive (Intersection 2): The eastbound left, eastbound through, northbound left/through, and southbound left movements would all operate at LOS F during the AM peak. In the PM peak, the southbound movements would operate at LOS F, and the eastbound movements would operate at LOS E.

- Oceana Boulevard / Manor Drive (Intersection 4): The westbound through and southbound left-turn movements would operate at LOS F in the AM peak and LOS E in the PM peak.

Build Alternatives

With the build alternatives in 2028, the following intersection movements would operate at LOS E or F during the AM and/or PM peak hours.

- Palmetto Avenue / Manor Drive (Intersection 2): In the AM peak, the northbound left/through lane would operate at LOS E with both build alternatives. In the PM peak, when the southbound movements would operate at LOS F under the No Build Alternative, the southbound left-turn lane would operate at LOS E under Build Alternative 1 and LOS D under Build Alternative 2.

  In the PM peak, the eastbound movements would operate at LOS F under Build Alternative 1 and LOS E under Build Alternative 2. The southbound left-turn lane would operate at LOS E and D under Build Alternatives 1 and 2, respectively.

The southbound through and right lane would operate at LOS D and C under Build Alternatives 1 and 2, respectively.

- Oceana Boulevard / Manor Drive (Intersection 4): In the PM peak, the westbound movements would operate at LOS F under Build Alternatives 1 and 2. While both build alternatives would operate at LOS F, Build Alternative 2 would have shorter queue lengths than Build Alternative 1, because the proposed northbound SR 1 on-ramp from Milagra Drive with Build Alternative 2 would allow some vehicles to bypass Oceana Boulevard / Manor Drive (Intersection 4).

Year 2028 Vehicle Hours of Delay

By the opening year (2028) under the No Build Alternative, VHD would be as follows:

- No Build Alternative: 90 Hours, AM peak period; 200 hours, PM peak period.
- Build Alternative 1: 120 hours, AM peak period; 220 hours, PM peak period.
- Build Alternative 2: 120 hours, AM peak period; 170 hours, PM peak period.

The replacement of the all-way-stop controls with signalized intersections at Palmetto Avenue / Manor Drive (Intersection 2) and Oceana Boulevard / Manor Drive (Intersection 4) would contribute to increased delays in the overall study network. However, PM peak delay would be reduced to 170 hours under Build Alternative 2, because the proposed SR 1 northbound on-ramp would reduce demand volumes at the new signalized intersections and thereby reduce overall delay.

Design Year (2048)

As with the opening year of 2028, the AM peak hour is anticipated to be from 8:00 AM to 9:00 AM, and the PM peak hour is anticipated to be 4:00 PM to 5:00 PM.

Year 2048 Freeway Conditions

In the design year of 2048, SR 1 is projected to have similar operations under the No Build Alternative and Build Alternatives 1 and 2. In the AM and PM peak hours, all study segments of SR 1 would operate at LOS B or better except at the existing Milagra Drive off-ramp from northbound SR 1. During the AM peak hour, the Milagra Drive off-ramp would operate at LOS C under the No Build, Build Alternative 1, and Build Alternative 2 scenarios due to the speed of vehicles exiting SR 1. As previously noted, LOS C on a freeway indicates that speeds are at or near free-flow speeds, freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.

Year 2048 Intersection Conditions

In 2048, most of the intersection movements in the study area would operate at LOS D or better in the AM and PM peak hours, except as summarized below. Detailed results and descriptions of the Year 2048 intersection analysis are provided in Appendix C.

No Build Alternative

- Palmetto Avenue / Monterey Road (Intersection 1): The southbound movement is expected to operate at LOS F in the AM peak. In the PM peak, the eastbound, northbound, and southbound movements would all operate at LOS F. By 2048, the queue spillback would extend onto the southbound SR 1 off-ramp.

- Palmetto Avenue / Manor Drive (Intersection 2): The eastbound movements, northbound left/through lane, and southbound left-turn lane would all operate at LOS F in the AM peak hour. In the PM peak hour, the eastbound and southbound movements would operate at LOS F, and the northbound movement would operate at LOS E.

- Oceana Boulevard / Manor Drive (Intersection 4): The westbound approach and southbound left/through movement would operate at LOS F during the AM peak hour. In the PM peak hour, the westbound movement would operate at LOS E.

Build Alternatives

- Palmetto Avenue / Manor Drive (Intersection 2): In the AM peak, the eastbound movements would operate at LOS E with both build alternatives. In the PM peak, the eastbound movements would operate at LOS F Build Alternative 1, and LOS E with Build Alternative 2. The northbound left/through lane would operate at LOS F in the AM peak with both build alternatives. It would operate at LOS F with Build Alternative 1 and LOS E with Build Alternative 2 in the PM peak.

- Oceana Boulevard / Manor Drive (Intersection 4): In the AM peak, the westbound approach and the southbound left/through movements would operate at LOS F under both build alternatives. In the PM peak, the westbound movements would operate at LOS F under Build Alternatives 1 and 2. As described at the beginning of Section 2.2.5.2, the bike boxes assumed in the analysis are no longer part of the project; therefore, the delay for those movements and the overall intersection would likely improve. Additionally, while both build alternatives would operate at LOS F, queue lengths would be the same except for the southbound left/through movement, where Build Alternative 2 would have a shorter queue length than Build Alternative 1.

Also at Oceana Boulevard / Manor Drive (Intersection 4), in the PM peak, the northbound left lane would operate at LOS E with both build alternatives.

Year 2048 Vehicle Hours of Delay

By the design year (2048), peak period VHD would be as follows:

- No Build Alternative: 140 hours, AM peak period; 370 hours, PM peak period.
- Build Alternative 1: 150 hours, AM peak period; 360 hours, PM peak period.
- Build Alternative 2: 130 hours, AM peak period; 300 hours, PM peak period.

In the AM peak period, Build Alternative 1 would slightly increase VHD from 140 hours with the No Build Alternative to 150 hours, due to the replacement of the all-way-stop controls with signalized intersections at Palmetto Avenue / Manor Drive (Intersection 2) and Oceana Boulevard / Manor Drive (Intersection 4). Build Alternative 2 would have lower VHD (130 hours) than the No Build Alternative and Alternative 1, because the proposed SR 1 northbound on-ramp would reduce demand volumes at the new signalized intersections.

In the PM peak period with the No Build Alternative, the vehicle demand would exceed the capacity of the all-way stop-controlled intersections, resulting in higher VHD (370 hours) than with Build Alternative 1 (360 hours) and Build Alternative 2 (300 hours). The replacement of the all-way-stop controls with signalized intersections with both build alternatives would reduce VHD compared to the No Build Alternative, and the proposed SR 1 northbound on-ramp with Build Alternative 2 would provide the greatest reduction in PM peak delays.

Summary of Analysis Findings

In many instances, the build alternatives would improve LOS, reduce queuing and delay, and enhance overall network efficiency compared to the No Build Alternative. There are intersection movements at Oceana Boulevard / Manor Drive (Intersection 4) where the analysis shows that the build alternatives would worsen 2028 and 2048 conditions compared with No Build due to the assumed bike boxes and restriction on right turns on red (no longer included in the project, as described at the beginning of Section 2.2.5.2) or due to prioritizing movements with larger volumes that experience major backups.

Build Alternative 2, which includes a new northbound on-ramp at Milagra Drive, outperforms the No Build and Build Alternative 1 scenarios in reducing vehicle hours of delay and improving traffic flow. By allowing travelers to enter northbound SR 1 from Milagra Drive, the on-ramp would help to redirect traffic from the Monterey Road on-ramp and reduce traffic along Oceana Boulevard north of Milagra Drive, without

increasing travel demand or volumes. According to the year 2048 model, approximately 400 vehicles in the AM peak four-hour period and 300 vehicles in the PM peak four-hour period would shift from the Monterey Road on-ramp to the Milagra Drive on-ramp.

The proposed bicycle and pedestrian facilities and transit stop relocations would support the City of Pacifica's goals for sustainable and equitable transportation access. The build alternatives would improve safety by adding signalization and geometric upgrades at key intersections to reduce driver confusion at existing multi-lane all-way stop-controlled intersections, which is in turn expected to reduce collision likelihood and improve safety for all users.

While Build Alternative 1 offers notable improvements over the No Build condition, it does not perform as well as Build Alternative 2 on local streets, primarily because it lacks the new Milagra Drive on-ramp that helps redistribute traffic away from Manor Drive.

Both build alternatives would provide comparable benefits in terms of safety enhancements and multimodal accessibility.

Construction Impacts

No Build Alternative
The No Build Alternative would not result in construction impacts.

Build Alternatives
Temporary closures and detours would be required for the construction of both build alternatives, which would result in temporary, short-term traffic impacts. As described in Section 1.4.3.1, partial closures would be required on local streets and SR 1. Temporary daytime and/or nighttime lane closures of SR 1 would be required for overcrossing construction, and one or more full nighttime closures of SR 1 are anticipated. During that time, it is anticipated that southbound traffic on SR 1 would be detoured to exit at Monterey Road, proceed south on Palmetto Avenue, and re-enter SR 1 south of West Avalon Drive near the San Franscisco RV Resort. It is anticipated that northbound traffic on SR 1 would be detoured to exit at Manor Drive / Monterey Road, proceed north on Oceana Boulevard, and re-enter SR 1 at Monterey Road. Detours would be further developed during detailed design.

Temporary closure of the Milagra Drive northbound off-ramp right shoulder would also be required to widen the shoulder. Temporary nighttime closures of one lane of SR 1 (along the inside median and outside shoulder) and temporary off-ramp closures would be needed for pavement overlay, striping, and installation of temporary barriers along construction areas.

One lane in each direction of the Manor Drive overcrossing would remain open throughout construction.

As described in PF-TR-1 (Section 1.4.3.10), 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 SR 1 and Manor Drive would be maintained during peak travel periods. The TMP would include notifications to local transit agencies, emergency service providers, local businesses, and recreation users to minimize travel disruption during construction. The TMP would also provide for specific contingency actions that will be taken to minimize impacts on traffic when congestion or delay exceeds the original estimates due to unforeseen events such as work-zone accidents, higher-than-predicted traffic demand, or delayed lane closures.

Traffic disruption during construction is therefore not anticipated to have substantial adverse effects.

2.2.5.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization or mitigation measures are required.

2.2.6 Visual/Aesthetics

The following discussion is based on the Visual Impact Assessment Memorandum (AECOM 2025c) completed for the proposed project in September 2025.

2.2.6.1 AFFECTED ENVIRONMENT

The immediate landscape surrounding SR 1 is characterized by suburban development, with a mixture of residential and commercial land uses. The areas just east and west of SR 1 are heavily urbanized, including many single- and multi-family residences, restaurants, and commercial businesses. Milagra Ridge lies to the east of the developed areas along SR 1, and the Pacific Ocean lies to the west. The project area contains pockets of landscaped vegetation including Monterey cypress (*Hesperocyparis macrocarpa*), mousehole (*Myoporum laetum*), Bald Island marlock (*Eucalyptus conferruminate*), karo (*Pittosporum crassifolium*), and bushes. Fog is pervasive in the area of visual effect (AVE), with a high frequency of foggy days during summer months. The visual character within the project viewshed has moderate diversity of density, texture, and color.

SR 1 within the project limits is an eligible State Scenic Highway and is a Classified Landscaped Freeway, beginning south of the Manor Drive overcrossing at PM 45.28,

and ending north of Monterey Road at PM 45.5. A State Scenic Highway is a public highway that traverses areas of natural scenic beauty and is identified in California Streets and Highways Code Sections 260–284. A Classified Landscaped Freeway is a section of freeway with ornamental vegetation planting that meets the criteria established by the California Code of Regulations, Outdoor Advertising Regulations, Title 4, Division 6.

Area of Visual Effect

To assess the potential for project effects on the visual environment, an AVE and key views were established. The AVE for the project includes the segment of SR 1 from PM R44.77 to R45.48, and the city streets adjacent to the Manor Drive overcrossing from which the proposed changes would be visible. This includes Manor Drive, Esplanade Avenue, Palmetto Avenue, Oceana Boulevard, Avalon Drive, Milagra Drive, and Edgemar Avenue.

Viewers

Neighbors (people with views to the transportation project) and travelers (people with views from the transportation project) have the potential to be affected by project-related changes. Neighbors include the owners and tenants of the many single- and multi-family homes within the AVE, as well as staff and customers of restaurants, other businesses, and services. Travelers include drivers and vehicle passengers on SR 1 and adjacent city streets, as well as cyclists and pedestrians that travel through the AVE. The AVE contains the largest grocery store and pharmacy in the Pacific Manor area, a post office, and coastal access via Esplanade Avenue, and therefore is a highly trafficked area.

Key Views

Key views are specific perspectives that are used to demonstrate project impacts at different locations, as it is not feasible to analyze all of the views in which the proposed project would be seen. For the purpose of this analysis, three key views were used to describe the potential for visual impacts. These key views are shown in Figure 2.2-2.

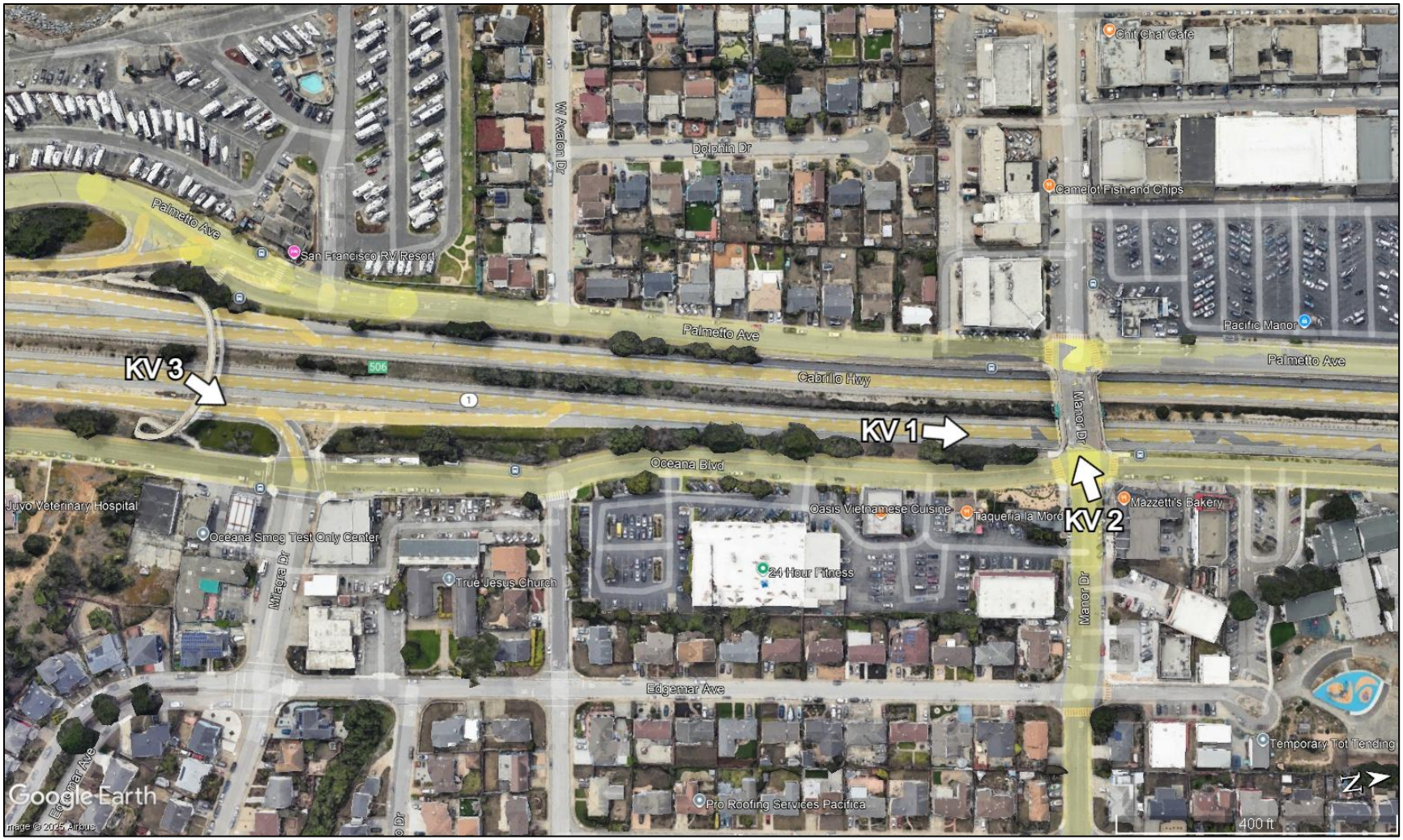

Figure 2.2-2. Key View Map

The project's potential to result in visual changes overall and at key view locations is discussed in Section 2.2.6.2.

2.2.6.2 ENVIRONMENTAL CONSEQUENCES

The following analysis describes the potential environmental consequences of the No Build Alternative and two Build Alternatives. Temporary construction impacts are also described below.

No Build

The No Build Alternative would not affect the visual character or quality of the project area as no changes would be made to the existing conditions.

Build Alternatives

Temporary Construction Impacts

During project construction, viewers would see materials, equipment, workers, and construction operations, including the construction of the new or widened Manor Drive overcrossing, watering and street sweeping to control dust, placement of temporary roadside barriers, construction signage, nighttime construction lighting, new pavement, and other new project features. Visual impacts of construction would be unavoidable but temporary. Motorists and active transportation users (e.g., pedestrians and bicyclists) would be exposed to construction activities while passing through the construction zone. Residents of adjacent homes, as well as customers and staff of nearby businesses and services, would be exposed to construction activities on a more continuous basis. Short-term impacts would include the loss of landscaped vegetation, which would be minimized or replanted wherever feasible (see PF-VIS-1 and PF-VIS-3). Long-term impacts would occur where insufficient right-of-way and/or sight distance requirements would not allow for planting landscaped trees that were removed during construction.

Long-Term Operational Impacts

Neither build alternative is anticipated to have a substantial adverse effect on a scenic vista, would not substantially damage scenic resources, and neither would create a new source of substantial light or glare. SR 1 within the project area is an eligible State Scenic Highway designation. However, no designated scenic resources within the AVE would be affected by the project, and the project itself would not adversely affect views within and from the AVE, as explained below. A discussion of potential project impacts on visual character and quality is provided below in relation to three key views. Each Key View includes one representative photograph, with the exception of Key View 2, which includes two representative photographs.

Key View 1 (Manor Drive Overcrossing, Highway Perspective)

Key View 1, shown in Figure 2.2-3, is the view from northbound SR 1, looking north toward the existing Manor Drive overcrossing. Visible features from this view include the overcrossing, retaining walls on either side of the highway, and landscaped vegetation in the median and above the highway.



Figure 2.2-3. Key View 1 (Manor Drive Overcrossing, Highway Perspective)

Build Alternative 1

Build Alternative 1 proposes to widen or replace the existing Manor Drive overcrossing. The existing height of 16 feet and 6 inches would be maintained, but the structure would need to be widened from 62 feet at the abutments to 208 feet in order to accommodate safe bus and truck movements, incorporate new bike lanes, and address geometric and traffic-related issues.

Build Alternative 1 would add new traffic signals at the intersections of Manor Drive/Palmetto Avenue and Manor Drive/Oceana Boulevard, and four new overhead safety lights along Manor Drive. It would result in the loss of approximately 210 feet of existing landscaped vegetation in the SR 1 median, in order to accommodate the proposed wider overcrossing. Additionally, it would require the removal of nine mature trees and a 5- to 10-foot-wide strip of vegetation in the elevated roadside east of SR 1 to

accommodate a new concrete barrier along Oceana Boulevard. Of the trees to be removed, there are five Monterey cypress, two mousehole, one Bald Island marlock, and one karo. The loss of vegetation and mature trees would be visible from Key View 1.

Build Alternative 1 would make the built features within this view more prominent overall. In the absence of architectural treatments (see *Avoidance, Minimization, and/or Mitigation Measures* below), the proposed changes at Key View 1 could result in built features that slightly diminish the appearance of the landscape. Additionally, the introduction of new traffic signals and safety lighting could result in a slight increase in nighttime light and glare. Build Alternative 1 would result in a moderately adverse impact to Key View 1 overall.

Build Alternative 2

Build Alternative 2 would include all of the proposed changes discussed for Build Alternative 1. It would also widen the inside shoulder of the highway (the shoulder closest to the median) and replace the existing median guardrail of SR 1 with a new concrete median barrier. The inside shoulder would be paved up to the proposed barrier. The new median barrier would be approximately 700 feet long and would extend from approximately 100 feet north of Avalon Drive to approximately 20 feet north of the Manor Drive overcrossing. This would result in the removal of approximately 720 feet of existing landscaped vegetation in the median. This loss of vegetation would extend further to the south and north than the area shown in Figure 2.2-3 above. Additionally, it would require the removal of one additional Monterey cypress and a patch of arroyo willow scrub within the footprint of the proposed northbound SR 1/Milagra Drive on-ramp, compared to Build Alternative 1. The loss of vegetation and mature trees would be visible from Key View 1.

Build Alternative 2 would make the built features within this view more prominent, for the same reasons discussed under Build Alternative 1. Build Alternative 2 would also remove more vegetation than Build Alternative 1. However, these differences would not be prominent enough to substantially alter the visual impact conclusion for this view. Build Alternative 2 would result in a moderately adverse impact to Key View 1 overall.

Key View 2 (Manor Drive Overcrossing, City Street Perspective)

Key View 2 is the view from the intersection of Manor Drive and Oceana Boulevard. Figures 2.2-4 and 2.2-5 are perspectives looking west toward the existing Manor Drive overcrossing, Palmetto Avenue, Esplanade Avenue, and the Pacific Ocean beyond. Two photographs were used for this perspective to demonstrate the effect of the pervasive fog within the AVE on its viewsheds. Figure 2.2-6 is a perspective looking southwest toward Oceana Boulevard.



Figure 2.2-4. Key View 2a (Manor Drive Overcrossing with Fog, City Street Perspective)



Figure 2.2-5. Key View 2b (Manor Drive Overcrossing, City Street Perspective)



Figure 2.2-6. Key View 2c (Manor Drive Overcrossing, City Street Perspective looking toward Oceana Boulevard)

Visible features in Figure 2.2-4 and 2.2-5 include the Manor Drive overcrossing and supporting infrastructure, overhead utilities and safety lights, and adjacent commercial businesses. The Pacific Ocean is also visible in the distant background of this view on clear days. Visible features in Figure 2.2-6 include a SamTrans bus stop, utility poles, a chain link fence, and stands of mature trees west of Oceana Boulevard.

Build Alternative 1

Build Alternative 1 proposes to widen the existing Manor Drive overcrossing from 62 feet to approximately 208 feet at the abutments. As stated in Section 1.3, the overcrossing would consist of one 12-foot dedicated left-turn lane and one 14-foot combined through and right-turn lane in each direction. The overcrossing would have 10-foot sidewalks, 7-foot Class IV bicycle lanes, and a wider turning radius at each corner of the overcrossing to accommodate bus and truck turning movements. Build Alternative 1 would also replace the existing all-way-stop-controlled intersections at the Manor Drive/Palmetto Avenue and Manor Drive/Oceana Boulevard with traffic signals and pedestrian signal heads, and would install four new overhead safety lights (two at each intersection). One existing light would also be replaced.

Additionally, Build Alternative 1 proposes to construct a new concrete barrier topped by chain-link fencing along the west side of Oceana Boulevard. This would replace the existing 7-foot-tall chain-link fence at this location. The barrier would be approximately 720 feet long, 3 to 4 feet high, and topped by chain-link fencing that would be 4 to 6 feet

high, for a combined maximum height of 9 feet. It would extend along Oceana Boulevard from Manor Drive to Avalon Drive. In order to accommodate the proposed barrier at this location, approximately nine mature trees and a 5- to 10-foot-wide strip of landscaped vegetation along the length of the barrier would need to be removed along the west side of Oceana Boulevard. These nine mature trees are located between Manor Drive and Avalon Drive.

The proposed changes would cause the overcrossing to appear wider, and would make it a more dominant feature within this view. The removal of landscaped vegetation, including nine mature trees, would result in the partial loss of memorable, natural features. The construction of a new concrete barrier in their place would alter the balance of built and landscaped features within this view.

The introduction of new traffic signals and overhead safety lighting could slightly increase nighttime light and glare. However, Key View 2 and the AVE at large are exposed to nighttime illumination from existing overhead lighting and vehicle headlights, and the proposed new lighting, which would not exceed the minimum illumination levels required for safety, would not result in a substantial difference from existing conditions.

Based on the discussion above, and the predicted viewer sensitivity for those who would experience Key View 2, Build Alternative 1 would result in a moderately adverse impact to Key View 2 overall.

Build Alternative 2

There would be no visible differences between Build Alternative 1 and Build Alternative 2 at Key View 2. All of the project changes discussed above for Alternative 1 would be included in Build Alternative 2, and the additional changes under Build Alternative 2, including the removal of one additional Monterey cypress tree and a patch of arroyo willow scrub (i.e., with regard to Milagra Drive) would not be visible from this view. Therefore, Build Alternative 2 would result in a moderately adverse impact to Key View 2 overall.

Key View 3 (Milagra Drive Off Ramp)

Key View 3 (Figure 2.2-7) is the view from the pedestrian overcrossing of SR 1 south of Milagra Drive, looking northeast toward the existing off-ramp from SR 1 to Milagra Drive and the city streets beyond. Visible features from this view include SR 1, the existing Milagra Drive off-ramp, Milagra Drive and Oceana Boulevard, and adjacent commercial businesses. The hillside in the distant background is lined with single-family homes.

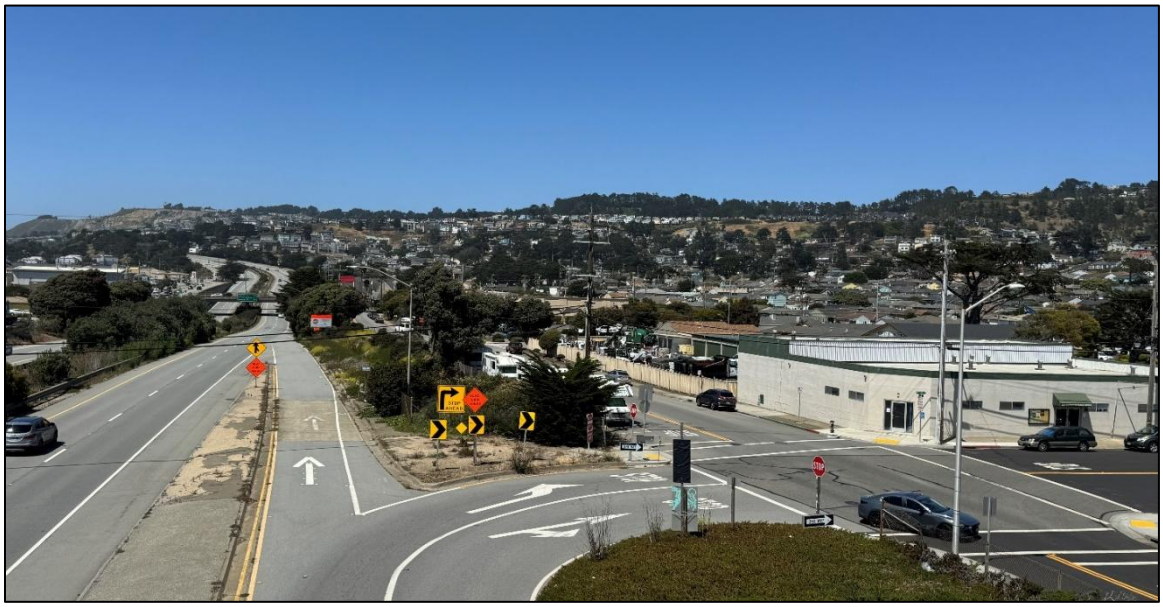

Figure 2.2-7. Key View 3 (Milagra Drive Off-Ramp)

Build Alternative 1

Build Alternative 1 proposes to add Class II bike lanes along Oceana Boulevard from Milagra Drive to Manor Drive. It would also replace existing parallel parking along Milagra Drive in the eastbound direction with back-in angled parking. Additionally, the new proposed concrete barrier west of Oceana Boulevard, and the subsequent removal of landscaped vegetation, would be somewhat visible from Key View 3.

The proposed changes would amount to new roadway striping, i.e., new green bike lanes along Oceana Boulevard and new parking stalls along Milagra Drive. These changes would not substantially impact the visual environment. Based on the minimal nature of the features proposed here, Build Alternative 1 would result in a slightly adverse impact to Key View 3 overall.

Build Alternative 2

Build Alternative 2 would include both of the changes discussed under Build Alternative 1 above. Additionally, it would include construction of a new hooked-shaped single-lane on-ramp to northbound SR 1 at Milagra Drive and Oceana Boulevard. The on-ramp would replace an existing bus pull-out ramp that is no longer in use. The existing bus pull-out ramp would be realigned and widened to provide standard lane and shoulder widths. A section of the existing raised median divider between the northbound shoulder and bus pull-out on-ramp would also be removed to accommodate the proposed on-ramp. The existing unpaved triangular raised median adjacent and the former bus stop

sidewalk pavement would be removed. The on-ramp would be at approximately the same elevation as the existing roadways of Milagra Drive and SR 1. The northbound traffic lanes would be shifted to the west to accommodate the proposed northbound on-ramp.

As stated in Section 1.3, approximately 1,330 feet of the inside shoulder of northbound SR 1 would be widened by up to 17 feet to accommodate the proposed on-ramp. The existing guardrail along the center median of SR 1 would be replaced with a concrete barrier within the proposed widening area, and much of the landscaped vegetation in the median would be removed.

Milagra Drive would be modified to include a left-turn lane and a combined through and right-turn lane in the westbound direction, along with enhanced visibility crosswalks and new ADA-compliant sidewalks with curb ramps. Build Alternative 2 would also upgrade the sidewalks along Oceana Boulevard between Avalon Drive and just south of Milagra Drive.

The proposed construction of a new on-ramp from Milagra Drive would make built features more prominent within this view. The removal of the triangular island and addition of the on-ramp pavement would make the roadway facility a more dominant feature. The removal of landscaped vegetation in the SR 1 median and construction of a concrete barrier in its place; as well as the removal of vegetation in the area between Oceana Boulevard and SR 1 and construction of a new concrete barrier in place of the existing chain-link fence would further intensify this effect.

The landscaped vegetation in this view, particularly in the SR 1 median, serves to complement the roadway. By removing this vegetation, and increasing the presence of the roadway by constructing a new on-ramp at Milagra Drive and widening into the SR 1 median, Build Alternative 2 would noticeably reduce the visual quality of this view.

Based on the discussion above, and the predicted viewer sensitivity for those who would experience Key View 2, Build Alternative 2 would result in a moderately adverse impact to Key View 3 overall.

Conclusions

Both build alternatives would widen or replace the Manor Drive overcrossing from 62 feet to approximately 208 feet; construct new bicycle and pedestrian facilities on Manor Drive and adjacent city streets; and add new traffic signals and overhead safety lighting to the intersections east and west of the overcrossing. Additionally, both build alternatives would require some degree of vegetation removal, depending on the alternative. Build Alternative 1 would require approximately 208 feet of vegetation removal in the SR 1 median, while Build Alternative 2 would require approximately 700

feet. Both build alternatives would require the removal of approximately nine mature trees and a 5- to 10-foot-wide strip of vegetation within the footprint of the proposed concrete barrier topped by fencing along the west side of Oceana Boulevard, north of Avalon Drive. Of the trees to be removed, there are five Monterey cypress, two mousehole, one Bald Island marlock, and one karo. Build Alternative 2 would also require the removal of one additional Monterey cypress and a patch of arroyo willow scrub within the footprint of the proposed northbound SR 1/Milagra Drive on-ramp.

Ultimately, the degree of the visual impact would depend on the alternative. Build Alternative 2 would have a higher overall visual impact due to the proposed construction of a new on-ramp to SR 1 at Milagra Drive. This action would not only modify the intersection of SR 1 and Milagra Drive, but would also require widening and realigning SR 1 into the inside median, necessitating the permanent removal of approximately 700 feet of landscaped vegetation.

The overall cohesion exhibited by the proposed features would depend heavily on the incorporation of project features (e.g., vegetation removal minimization and replanting) and avoidance and minimization measures (e.g., architectural treatment of new structures). Based on the assessment of visual impacts, and the incorporation of visual resource-specific project features (PF-VIS-1 through PF-VIS-7 in Section 1.4.3.10) and avoidance and minimization measures, Build Alternative 1 would result in a moderate-low adverse visual impact, and Build Alternative 2 would result in a moderate adverse impact overall.

2.2.6.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following environmental commitments can avoid or minimize negative visual effects and/or improve aesthetics:

AMM VIS-1: Minimize Permanent Lighting Impacts (described in Section 2.2.2.3)

AMM VIS-2: Architecturally Treat New or Widened Overcrossing and Supporting Structures (described in Section 2.2.2.3)

AMM VIS-3: Other Architectural Treatment. Where pedestrian guardrails are installed, whether at sidewalk access areas and/or bus stop(s) or maintenance access gates along Oceana Drive, the project shall incorporate materials, forms, and colors that harmonize with the existing environment as viewed from the project corridor and surrounding areas, reflecting the community's preferences.

2.2.7 Cultural Resources

The following discussion is from the Historic Property Survey Report (AECOM 2025d) completed for the proposed project in November 2025.

2.2.7.1 Affected Environment

The study area for cultural resources is the Area of Potential Effects (APE), which encompasses all areas that could be permanently affected by the project, and includes the entirety of known or reasonably anticipated boundaries of archaeological or built historic properties. The project's horizontal APE consists of the maximum project footprint of both build alternatives: within the Caltrans ROW of SR 1 from PM R44.77 to R45.48; Oceana Boulevard from Milagra Drive to approximately 200 feet north of Manor Drive; Palmetto Avenue from Bill Drake Way to approximately 175 feet south of Manor Drive; Manor Drive from Edgemar Avenue to Esplanade Avenue; and a portion of Milagra Drive from Oceana Boulevard to Edgemar Avenue.

The vertical APE represents the maximum subsurface vertical extent of project-related activities for the proposed undertaking. The vertical APE ranges from 2 feet below ground surface for sidewalk work and drainage facilities to 80 feet below ground surface for piles for the Manor Drive overcrossing bridge widening or replacement.

Records and Archival Review

Review of standard sources of historical information, including aerial photographs, topographic maps, Sanborn Fire Insurance maps, and available City Directory listings, reveals that the area within the APE was developed in the 1950s, with the current configuration of SR 1 at Manor Drive appearing prior to 1968. Several buildings along Oceana Boulevard at Manor Drive were also present in the late 1950s.

A records search was conducted at the California Historical Resources Information System's Northwest Information Center on May 17, 2023. The search identified no previously recorded precontact or historic-age archaeological sites or previously recorded historic-age built environment resources in the APE. One built environment resource, P-41-002394, the Pacific Manor Hardware Building (Ace Hardware, 451 Oceano Boulevard), is adjacent to the APE.

Native American Consultation

The California Native American Heritage Commission (NAHC) was contacted on August 1, 2024, to conduct a Sacred Lands File search. The NAHC responded on September 4, 2024, with negative results. The NAHC also provided a list of tribal individuals who may have information related to cultural resources in the project area:

- Edward Ketchum and Valentin Lopez of the Amah Mutsun Tribal Band

- Irene Zwierlein, Amah Mutsun Tribal Band of Mission San Juan Bautista
- Henry Munoz, Samuel Rodriguez, and Carla Munoz of the Costanoan Rumsen Carmel Tribe
- Ann Marie Sayers and Kanyon Sayers-Roods of the Indian Canyon Mutsun Band of Costanoan
- Richard Massiatt and Charlene Nijmeh of the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- Vincent Medina, Andrew Galvan, and Desiree Vigil of the Ohlone Indian Tribe
- Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band

On November 1, 2024, the City sent letters describing the project with a map showing the APE to the Native American individuals specified by the NAHC to initiate Tribal consultation as required under Section 106 of the National Historic Preservation Act and CEQA (California Public Resources Code [PRC] Section 21080.3.1 and Chapter 532 Statutes of 2014, also known as California Assembly Bill [AB] 52).

The Amah Mutsun Tribal Band of Mission San Juan Bautista, the Indian Canyon Mutsun Band of Costanoan, and the Costanoan Rumsen Carmel tribes responded to the City of Pacifica and Caltrans, requesting consultation. The Amah Mutsun and Indian Canyon Mutsun tribes requested Cultural Resources Sensitivity Training and archaeological and tribal monitoring. No other responses were received.

Consultation with Native American groups is ongoing.

Field Survey Results

A pedestrian survey of the project site was conducted on October 3, 2023, and no cultural resources were recorded within the project area.

2.2.7.2 Environmental Consequences

No Build Alternative

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

Build Alternatives

Neither of the build alternatives would have an effect on any built historic resources. A finding of No Historic Properties Affected has been determined for both build alternatives.

Neither build alternative would cause a substantial adverse change to a known historical or archaeological resource as defined by 14 California Code of Regulations (CCR) 15064.5(a). The following standard measures are included in Section 1.4.3.10.

PF-CUL-1, Inadvertent Discovery of Cultural Resources. If archaeological resources are discovered within or near construction limits, do not disturb the resources and immediately:

1. Stop all work within a 60-foot radius of the discovery
2. Secure the area
3. Notify the Engineer

Caltrans investigates the discovery. Do not move archaeological resources or take them from the job site. Do not resume work within the radius of discovery until authorized.

If ordered, furnish resources to assist in the investigation or recovery of archaeological resources. This work will require a contract change order for the construction contractor.

PF-CUL-2, Unanticipated Human Remains Discovery. If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the most likely descendent. At this time, the person who discovered the remains will contact the Caltrans Office of Cultural Resource Studies so that they may work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

Potential effects of the build alternatives on Tribal Cultural Resources are discussed in Section 3.6.18.

2.2.7.3 Avoidance, Minimization, and/or Mitigation Measures

The project includes PF-CUL-1 and PF-CUL-2 (above and in Section 1.4.3.10), which provide a protocol for cultural resource discoveries if encountered during construction. In addition, the following measure would be included to avoid or minimize impacts to cultural resources.

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

2.3 Physical Environment

2.3.1 Water Quality and Storm Water Runoff

The following discussion is based on the Location Hydraulic Study Memorandum (AECOM 2025b), which was completed in October 2025, and the Water Quality Assessment Report (AECOM 2025e), which was completed in November 2025.

2.3.1.1 Affected Environment

Surface Water

The Pacific Ocean lies west of the project area. Beneficial uses of the Pacific Ocean include commercial and sport fishing; industrial service supply; marine habitat; migration of aquatic organisms; navigation; rare, threatened, or endangered species; shellfish harvesting; fish spawning; wildlife habitat; water contact recreation; and non-contact water recreation.

Milagra Creek originates east of the project area in Milagra Ridge and flows downhill toward the project area to the intersection of Arroyo Drive and Edgemar Avenue, where the creek enters a 48-inch reinforced concrete pipe culvert. From there, Milagra Creek flows westward under the project area at approximately 20 feet below grade, and outfalls to the Pacific Ocean. Milagra Creek is in an underground culvert throughout the project footprint. There are no open-channel stream crossings within the project limits.

No water bodies or creeks in or near the project area have been identified as pollutant impaired. Elsewhere in Pacifica, San Pedro Creek is listed as impaired by coliform bacteria, and San Mateo Creek and Pacifica State Beach are listed as impaired by diazinon (an insecticide).

Soils

The majority of the project area consists of the Urban Land soil type, mainly along SR 1, the Manor Drive overcrossing, and nearby parallel roads. Urban Land-orthents cut and fill complex is mapped in a portion of Manor Drive to the east of SR 1 as well as west of Palmetto Avenue between West Avalon Drive and south of Manor Drive. Urban Land-orthents cut and fill complex has no erosion potential. The Sirdrak sand soil type, which

is mapped south of West Avalon Drive adjacent to and outside of the project area, has a low erosion potential.

Drainage

City of Pacifica utility mapping indicates that the existing MS4 system from the low point on SR 1 discharges into the Pacific Ocean via an outfall west of Milagra Drive near the San Francisco RV resort. The size of the outfall is approximately 90 inches in diameter. This outfall drains an area of 0.91 square miles. Per aerial imagery, this drainage area is composed of 70% open space and 30% impervious residential or developed areas (USGS n.d).

Groundwater

The project lies within the 700-acre San Pedro Valley Groundwater Basin (Groundwater Basin Number 2-36). Water quality, groundwater level, and groundwater storage data for the basin is minimal. Historical data from one well in the basin indicates a total dissolved solids average value of 140 milligrams/liter. The outflow of water from the aquifer occurs by evapotranspiration and seepage to streams, springs, and the ocean. The water table fluctuates seasonally.

Trash and Municipal Storm Sewer System

The section of SR 1 in the project area is in a moderate trash generation area, and it is anticipated that this project would implement trash control measures in these areas through coordination with Caltrans.

The City is a member of the San Mateo Countywide Water Pollution Prevention Program, which was established in 1990 to reduce the pollution carried by stormwater into local creeks, the San Francisco Bay, and the Pacific Ocean. The work within the City ROW is covered under the San Francisco Bay Municipal Regional Permit (MRP), Order No. R2-2022-0018.

2.3.1.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

No project improvements or construction would occur under the No Build Alternative. There would be no short-term or long-term impacts to water quality under the No Build Alternative.

Build Alternatives

Drainage Patterns

The total amount of new impervious surface would be 0.91 acre for Build Alternative 1 and 1.90 acres for Build Alternative 2. The project would be designed to manage stormwater runoff from new impervious surface. Drainage improvements may include new drainage inlets and roadside ditches. Specific drainage improvements would be

determined during the detailed design phase, however, the project would maintain existing drainage patterns.

Suspended Particulates (Turbidity)

Sediment-laden flows during construction due to disturbed soil have the potential to enter storm sewer facilities. The total amount of disturbed soil area would be 0.58 acre for Build Alternative 1 and 1.98 acres for Build Alternative 2. Stormwater impacts would be reduced through the proper implementation of permanent erosion control, design pollution prevention, and stormwater treatment measures. Impacts related to turbidity would be minor.

Erosion and Accretion Patterns

Excavation and earthmoving activities during project construction could result in erosion (the transport of sediment from its original location by water, wind, or gravity) and accretion (the accumulation of sediment by those same forces). Construction for both build alternatives would include erosion control BMPs. Upon project completion, erosion would be minimized using stabilization and vegetation establishment.

After construction, both build alternatives would result in negligible sedimentation because the project area and majority of surrounding areas are paved. Furthermore, the project drainage design would account for increased runoff from the increase in impervious area. The project would have low potential to change erosion and accretion patterns.

Aquifer Recharge/Groundwater

The project area is urbanized and paved. Construction and operation of the project would cause no changes in aquifer recharge or groundwater levels.

Trash Control

Both build alternatives would implement trash control measures to comply with California Water Code Section 13383. The specific trash control measures would be determined during the detailed design phase.

Short-Term Impacts to Water Quality

During project construction, both build alternatives could result in temporary impacts to water quality due to construction. The potential for impacts would be reduced or avoided through compliance with stormwater NPDES requirements in Caltrans ROW that are regulated by the Statewide Stormwater Permit Order 2022-0033-DWQ and in City of Pacifica ROW that are regulated by the San Francisco Bay MRP, Order No. R2-2022-0018. The Construction General Permit Order no. 2009-0009-DWQ applies to both jurisdictions. Finally, the implementation of PF-WQ-1 and PF-WQ-2 (Section 1.4.3.10) would reduce the potential for temporary construction-related water quality impacts.

Long-Term Impacts During Operation and Maintenance

As noted above, the total amount of new impervious surface would be 0.91 acre for Build Alternative 1 and 1.90 acres for Build Alternative 2. The added impervious area would have a minimal increase in stormwater pollution effects. Pollution and runoff sources are not expected to change. Post-construction BMPs would be implemented in accordance with the Caltrans and City NPDES permits.

Implementation of PF-WQ-1 and PF-WQ-2 (Section 1.4.3.10) would reduce the potential for impacts to water quality and stormwater runoff.

2.3.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No additional AMMs are required.

2.3.2 Geology/Soils/Seismic/Topography

The following discussion is based on the Structure Preliminary Geotechnical Report completed in October 2024 (AECOM 2024), the Phase I Environmental Site Assessment prepared in April 2023 (AECOM 2023), and the ISA Update Memo completed in September 2025 (AECOM 2025f).

2.3.2.1 AFFECTED ENVIRONMENT

The Manor Drive overcrossing is located on the San Francisco Peninsula on the northeastern side of the Santa Cruz Mountains.

The elevation of the project site is approximately 100 feet above mean sea level. The topography is relatively flat and falls to the west toward the Pacific Ocean and rises to the east.

SR 1 is depressed below the surrounding area, with the top of pavement grade below the Manor Drive overcrossing positioned at about Elevation 71.5 feet in both the northbound and southbound directions. Oceana Boulevard and Palmetto Street parallel SR 1 to the east and west, respectively, and are situated at about 91.5 and 93.5 feet above sea level, respectively, in the vicinity of the Manor Drive overcrossing.

Geology and Soils

The project area is in the Coast Ranges geomorphic province of California, which is characterized by northwest-southeast-trending valleys and ridges. These topographic features are controlled by folds and faults that resulted from the collision of the Farallon and North American plates and subsequent predominantly strike-slip faulting along the San Andreas Fault system.

Geologic mapping shows that the project area is underlain by Pleistocene-age marine terrace deposits, consisting of sand and gravel. Nearby deposits consist of Holocene- to Pleistocene-age dune sands, Holocene colluvium, and recent artificial fill. Older

(Cretaceous and Jurassic age) greenstone and sheared mélange bedrock are mapped below the surface deposits.

The United States Department of Agriculture Web Soil Survey tool indicates that the major soil type in the project area is Urban Land. The soils are classified as clayey and have a high water table and poorly drained soils with very slow infiltration rates (NRCS n.d.). Urban Land-orthents cut and fill complex is mapped in a portion of Manor Drive to the east of SR 1 as well as west of Palmetto Avenue between West Avalon Drive and south of Manor Drive. Sirdrak sand soil is mapped south of West Avalon Drive, adjacent to but outside of the project area.

Potential Geologic Hazards

Seismic Hazards. The project area is located just under one mile to the west of the San Andreas fault and approximately 4.5 miles to the east of the San Gregario fault. The San Andreas fault has ruptured in this vicinity two times in the past, once in 1838 and again in 1906. The San Gregorio fault shows evidence of activity in the last 750 years and may generate earthquakes with a moment magnitude of 7.4. The California Geological Survey Fault Activity Map of California (California Department of Conservation n.d.) does not indicate the presence of any faults crossing the project area. The project area is susceptible to strong earthquake-induced ground shaking, due to the vicinity to the San Andreas fault.

The project area is not in an Alquist-Priolo Fault Zone.

Erosion. The majority of the project area is paved. Soils mapping indicates the project area is mostly Urban Land and Urban Land-Orthents soils, which are not considered to pose a potential risk due to erosion.

Landslides. The project area is mapped as having low susceptibility to landslides. The project area is not within a CGS Earthquake-Induced Landslide Hazard Zone (USGS 2021). The MTC/ABAG Hazard Viewer Map shows the project area as flat land with no susceptibility to rainfall-induced landslides. The project is not located within the Landslide Zone as defined in the City's General Plan. Additionally, the project area is on relatively flat ground and is not subject to landsliding.

Liquefaction. Liquefaction occurs when a saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress, such as earthquake shaking or sudden change in stress condition, causing the soil to behave like a liquid. The soil type most susceptible to liquefaction is loose, cohesionless, granular soil below the water table and within about 50 feet of the ground surface. A portion of the project area generally to the west of SR 1 is mapped as a moderate liquefaction

susceptibility zone, while the rest of the project area is mapped as having low liquefaction susceptibility (CGS 2019).

Tsunami. According to the California Geologic Survey (CGS) mapping, the shoreline area to the west of Esplanade Avenue is within the tsunami hazard area. Areas on the landward side of the shoreline are outside of the tsunami hazard zone (CGS n.d.).

2.3.2.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

The No Build Alternative would be subject to the same geologic, soils, and seismic hazards as the build alternatives. Under the No Build Alternative, the Manor Drive overcrossing would not be widened or replaced, and the structural deficiencies described in Section 1.2.2.3 would not be addressed.

Build Alternatives

Seismic Hazards. The existing seismic and geologic hazards in the project area would be present under both build alternatives. The project would not exacerbate the potential for seismic shaking. Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. Project elements would be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions. Caltrans also requires additional geotechnical subsurface and design investigations to be performed during the detailed design phase. These standards and requirements would avoid the potential for adverse effects related to seismic activity.

Erosion. During project construction, BMPs would be implemented to reduce erosional impacts during construction activities, such as stabilization of graded areas with appropriate erosion control (PF-WQ-2, Section 1.4.3.10).

Landslides. The project area is mapped as having low susceptibility to landslides. The build alternatives would not increase the risk for rainfall-induced or seismically induced landslides.

Liquefaction. Liquefaction has the potential to occur in the project area. Caltrans' design and construction guidelines incorporate engineering standards that address liquefaction risk, and the project design would account for liquefaction.

Tsunami. No project construction is proposed in a tsunami hazard area. The build alternatives would not increase hazards due to tsunamis or expose additional people to tsunami risk. The potential for short-term, temporary construction impacts to tsunami-

related emergency evacuations would be avoided or minimized through implementation of the TMP (PF-TR-1; Section 1.4.3.10).

AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation measures are required.

2.3.3 Paleontology

The following discussion is based on the Paleontological Identification Report completed in December 2025 (AECOM 2025g).

2.3.3.1 AFFECTED ENVIRONMENT

The project area was assessed for its potential to contain paleontological resources (fossils) and geological formations known to contain fossils. The assessment included a desktop review of geological mapping and other literature, and a University of California Museum of Paleontology (UCMP) database search to identify fossils and fossiliferous geological formations that may occur in the project's Paleontological Study Area (PSA). As little unpaved ground surface is visible due to dense vegetation with ice plant mats and other ornamental and ruderal land cover, a windshield survey was not performed.

Geologic Formations

The geologic units mapped within the project area are shown in Figure 2.3-1 and summarized below.

- Qs: Sand dune and beach deposits (Holocene)—Predominantly loose, medium- to coarse-grained, well-sorted sand but also includes pebbles, cobbles, and silt. Thickness less than 6 meters in most places, but in other places may exceed 30 meters.

- Qyfo: Younger (outer) alluvial fan deposits (Holocene) —Unconsolidated fine sand, silt, and clayey silt.

- Qof: Coarse-grained older alluvial fan and stream terrace deposits (Pleistocene) —Poorly consolidated gravel, sand, and silt, coarser grained at heads of old fans and in narrow canyons.

- Qcl: Colluvium (Holocene)—Loose to firm, friable, unsorted sand, silt, clay, gravel, rock debris, and organic material in varying proportions

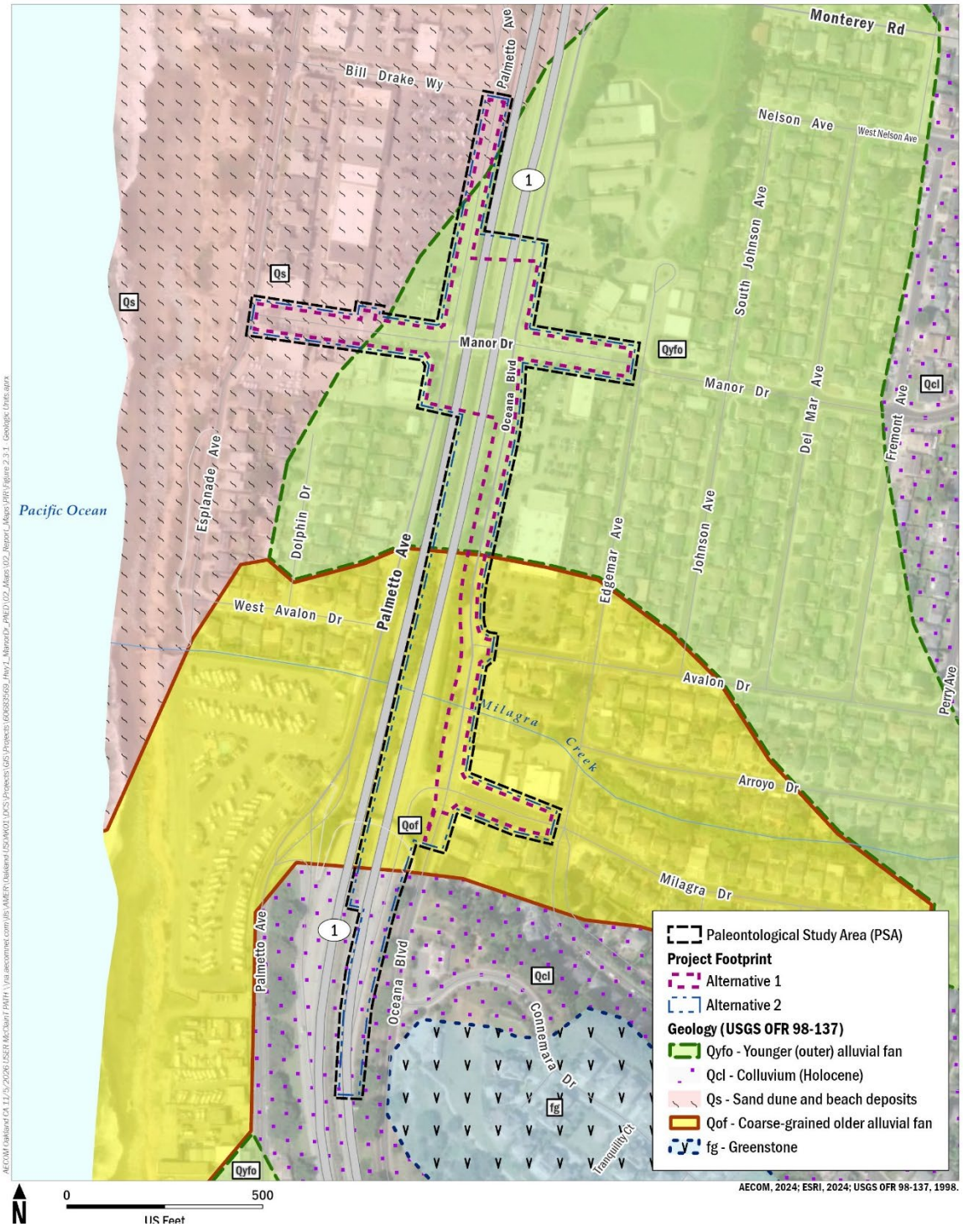

Figure 2.3-1. Geological Units in the Paleontological Study Area

The majority of the PSA consists of two geological units: younger (outer) alluvial fan deposits (Qyfo), in the area of deepest potential disturbance for the Manor Drive overcrossing; and coarse-grained older alluvial fan and stream terrace deposits (Qof), in

the vicinity of the proposed Build Alternative 2 on-ramp to northbound SR 1 from Milagra Avenue. Sand dune and beach deposits (Qs) are mapped in the western and northern extent of the PSA, where project work is anticipated to include pavement restriping and potential sign panel changes. Colluvium (Holocene, Qcl) is mapped in the southern extent of the PSA, where no construction is proposed for Build Alternative 1, and pavement restriping and concrete barrier installation is anticipated for Build Alternative 2.

Paleontological Resources

A records search of the project area was obtained from the UCMP for fossil localities in the project vicinity. The records search and desktop review indicated that no localities have been recorded in the PSA. The records search identified localities, both vertebrate and invertebrate, immediately to the north and north-northwest in Mussel Rock Park and the Fairmont neighborhood. The estimated locations within 1 mile of the project area and their geological units are listed in Table 2.3-1 below.

Table 2.3-1. Localities within 1 Mile of the Project Area

Epoch	Formation	Fossil Type	Approximate Location	Geological Unit	Approximate Distance to the Project Area
Pleistocene, Pliocene	Merced	Invertebrate (marine)	Near Westline Drive and Palmetto Avenue	Qcl	0.6 mile north
Pleistocene, Pliocene	Merced	Invertebrate (marine)	On US 1 near Fairmont field	Qcl	0.7 mile north-northwest
Pliocene	Merced	Invertebrate (marine)	Coral Ridge Drive and Farallon Avenue	QTm[1]	0.4 mile north-northwest
Pliocene	Merced	Invertebrate (marine)	Longview Drive, near Franklin D. Roosevelt school	QTm	0.8 mile north-northwest
Pliocene	Merced	Invertebrate (marine)	Coral Ridge Drive and Farallon Avenue	QTm[1]	0.5 mile north-northwest
Pleistocene	Quaternary alluvium[2]	Vertebrate (bison)	Mussel Rock parking lot near grassed median of Westline Dr	Qs	0.9 mile north

Notes:

1. The approximate locality latitudes and longitudes provided by UCMP, which generally correspond to Coral Ridge Drive and Farallon Avenue, are mapped as greenstone (fg) by Brabb, Graymer, and Jones (1998). However, the UCMP records for these localities identify a variance of up to 969 meters. Merced Formation (QTm) is present within as little as approximately 450 meters of Coral Ridge Drive and Farallon Avenue. Therefore, the precise localities are likely farther to the north or east of the PSA than shown here.
2. Per listing in UCMP database.

Acronyms: fg = Greenstone; Qcl = Colluvium (Holocene); Qs = Sand dune and beach deposits; QTm = Merced Formation

Of the fossil localities listed in Table 2.3-1, one occurred in sand dune and beach deposits (Qs), a geological unit that is present in the PSA. In 1936, a Cenozoic-era bison was reported in sandstone in an area then called Seven Mile Beach (Specimen 32881; University of California Museum of Paleontology 2014).

In addition, Columbian mammoth fossils have been discovered along the bluffs of Esplanade Avenue in 2011 (Half Moon Bay Review 2019; Patch 2011). The locations of those fossil finds have not been disclosed, but the approximately 0.7-mile-long Esplanade Avenue is mapped as sand dune and beach deposits (Qs).

Determining Paleontological Sensitivity

Caltrans uses a three-part scale to characterize paleontological sensitivity, consisting of no potential, low potential, and high potential (Caltrans 2025b). The scale generally correlates with the likelihood for a geologic unit to contain significant vertebrate, invertebrate, or plant fossils. Occurrences of fossil resources are closely tied to the geologic units (e.g., formations or members) that contain them. The probability of finding significant fossils in an area can be broadly predicted from previous records of fossils recovered from the geologic units in and/or adjacent to the area. As a practical matter, no consideration is generally afforded to paleontological sites for which scientific importance cannot be demonstrated.

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

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.

2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.

3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.

4. The fossils demonstrate unusual or spectacular circumstances in the history of life.

5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In general, younger units (i.e., Holocene) are considered to have low sensitivity for paleontological resources and older units (i.e., Pleistocene) tend to be more sensitive for paleontological resources.

2.3.3.2 ENVIRONMENTAL CONSEQUENCES

Direct impacts to paleontological resources could occur during project construction involving earthmoving activities such as grading, excavation, and boring. Direct impacts are the destruction of the fossil remains and the geographic, geologic, phylogenetic, and taphonomic information associated with them. The primary area of ground disturbance for both build alternatives is in the vicinity of the Manor Drive overcrossing. Construction activities would be in Holocene soils (Qyfo) that are considered to have low sensitivity for paleontological resources. In addition, the deepest ground disturbance would be from installation of 3.5-foot-diameter CIDH piles to a depth of 80 feet below ground surface (bgs) for the Manor Drive overcrossing bridge. Fossils encountered and brought through the CIDH auger flights, if present, would lack stratigraphic context and thus would not be scientifically significant.

For Build Alternative 2, the area of the proposed on-ramp to northbound SR 1 at Milagra Drive is in an area mapped as Qof, a Pleistocene unit that is typically considered sensitive for paleontological resources. The 3 to 5 feet bgs depth of disturbance from lane widening and reconstruction to accommodate the proposed northbound on-ramp, shoulder sign installation, shoulder widening, and median barrier modification would not exceed that of the original construction of the highway and former bus pull-out ramp. Therefore, ground disturbance for the proposed northbound SR 1 on-ramp with Build Alternative 2 is not expected encounter paleontologically sensitive Pleistocene alluvial fan and stream terrace deposits.

The western and northern extent of the PSA is mapped as sand dune and beach deposits (Qs). There is a 1936 record of a vertebrate fossil (bison) in the same geological unit within a mile of the PSA. For both build alternatives, project work is anticipated to include pavement restriping (3 to 5 feet bgs) and potential sign panel changes (no subsurface disturbance). Due to the disturbance related to the original construction of SR 1 and the adjacent neighborhoods since 1936, it is not anticipated that significant paleontological resources would be encountered during project construction in sand dune and beach deposits.

The southern extent of the PSA is mapped as colluvium (Holocene, Qcl). There are two records of marine invertebrate fossils in the same geological unit within a mile of the PSA. No construction is proposed in colluvium for Build Alternative 1. Build Alternative 2 is anticipated to require pavement restriping and concrete barrier installation (3 to 5 feet bgs), which would not exceed the depth of disturbance of the original construction of SR 1. As such, significant paleontological resources are not expected to be encountered during project construction in colluvium.

No adverse effects on paleontological resources are expected. In addition, the project includes PF-GEO-1 (Section 1.4.3.10), which provides for stopping work and performing further investigation if paleontological resources are encountered during project construction.

The design and maximum disturbance depth of project components would be refined during the detailed design phase. If maximum disturbance depths increase, the potential to encounter paleontological resources would be reevaluated.

2.3.3.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation is required.

2.3.4 Hazardous Waste/Materials

The following discussion is based on the Phase I Initial Site Assessment (ISA) completed in May 2023 (AECOM 2023) and the Phase I ISA Update Memo completed in December 2025 (AECOM 2025f). The 2023 ISA included a review of regulatory agency records listed in the Environmental Data Resources, Inc. (EDR) Radius Search, the State Water Resources Control Board's online database GeoTracker, and the Department of Toxic Substances Control's online database EnviroStor; the physical and topographic setting of the project area; historical land uses; coordination with local regulatory agencies; and a site reconnaissance. In 2025, an updated regulatory agency database search was performed to assess updates to the 2023 report.

2.3.4.1 AFFECTED ENVIRONMENT

Potential Hazardous Materials Sites

The database search results were reviewed for information about potential hazardous substances, wastes, or petroleum products have been improperly handled, stored, or disposed of in the project area and adjacent properties. Six properties were identified with potential recognized environmental concerns (RECs) or historic recognized environmental concerns (HRECs) in or within 1/8th mile of the project area:

1. *Manor Shell Service (95 Aura Vista)* – Active and historical auto repair and gas station, located on Palmetto Avenue near Monterey Road. Volatile organic compound (VOC) contamination has been documented at this facility. While the case is closed, there is potential for residual constituents to volatize during soil excavation.

2. *H&V Investment Co Inc. (541 Oceana Boulevard)* – Historical dry cleaner, located at the southeast corner of Manor Drive and Oceana Boulevard.

3. *Kent Cleaners (119 Manor Drive)* – Active and historical dry cleaner, located on Manor Drive near Oceana Boulevard.

4. *JS Auto Service Station (also known as Eddies Union 76; 498 Palmetto Avenue, closed case)* - Active and historical auto service and gas station, located on the northwest corner of Palmetto Avenue and Manor Drive. VOC contamination has been documented at this facility. While the case is closed, there is potential for residual constituents to volatize during soil excavation.

5. *Pacifica Auto Service and Gas Station (100 Milagra Drive, closed case)* – Active and historical auto service and gas station, located on the southeast corner of Milagra Drive and Oceana Boulevard. VOC contamination has been documented at this facility. While the case is closed, there is potential for residual constituents to volatize during soil excavation.

6. *Pacifica Corp Yard (675 Oceana Boulevard*) - Historical automotive sales and current maintenance yard for the City of Pacifica. Violations were documented related to handling and disposing of hazardous materials that included petroleum-based products and solvents. The facility has been in compliance with regulatory orders since 2017.

In addition, one general REC was identified in connection with the project area. The project area and vicinity has contained commercial and residential land uses since the mid-1950s with few industrial facilities. The commercial activities in this area included automotive repair, gas stations, fire station, automotive body shops, dry cleaners, and City of Pacifica public works yard and maintenance shop. The former presence of these activities with documented on-site impacts from past and present operations in the project area, combined with the lack of information on cleanup activities or spills at the nearby facilities, is considered a REC. Finally, as the SR 1 corridor was constructed before the phase-out of lead in gasoline, project construction activities that disturb exposed shallow soils could encounter aerially deposited lead (ADL) contamination.

Hazardous Building Materials

The existing roadway, bridge, and retaining wall structures located within the project area may contain hazardous building materials.

Lead-based Paint and Asbestos-Containing Materials

Lead and asbestos are state-recognized carcinogens, and lead is a reproductive toxicant. Asbestos-containing materials may be present in structures constructed prior to 1981. Any bridge, wall, commercial building, or industrial building, regardless of construction date, could have surfaces that have been coated with lead-based paint.

Aerially Deposited Lead

Aerially deposited lead from the historical use of leaded gasoline exists along roadways throughout California. Soils with elevated concentrations of lead are likely present within the project limits as a result of aerially deposited lead.

Yellow Traffic Striping and Pavement Markers

Prior to 1997, Caltrans used lead-based paint for yellow traffic stripe and pavement markings along roadways. The residue that may be produced from the yellow thermoplastic and yellow paint during road improvement activities may contain lead.

Asphalt and Portland-Cement Concrete

Grindings of asphalt concrete and Portland-cement concrete have a relatively high pH and may contain metals and petroleum hydrocarbons that can impact stormwater runoff and threaten surface water bodies.

Naturally Occurring Asbestos

California Department of Conservation mapping shows no areas of naturally occurring asbestos in the vicinity of the project site.

Radon

According to USEPA, San Mateo County is in Radon Zone 2, indicating that the average predicted indoor screening level for radon is greater than 2.0 picoCuries per liter (pCi/L), and less than 4.0 pCi/L of air. USEPA's Recommended Action Level for radon in residential dwellings is 4.0 pCi/L. USEPA has not designated a Recommended Action Level for radon in commercial or industrial buildings. The EDR Radius Map Report identified 68 radon tests conducted in San Mateo County postal code 94044, and none of the laboratory results from the tests were above 4.0 pCi/L.

2.3.4.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

The No Build Alternative would not affect potential hazardous material sites in the project area, as the project would not be built and no changes would occur.

Build Alternatives

Project construction would involve the temporary transport, use and disposal of hazardous materials such as fuels, paints, asphalt, lubricants and other demolition materials. These materials could pose a threat to human health or the environment if not properly managed. Standardized measures, as required by state and federal regulations, would be implemented during project construction. Hazardous materials must be transported in accordance with RCRA and USDOT regulations and disposed of in accordance with state and City regulations. Workers who handle hazardous materials are required to adhere to Cal/OSHA health and safety requirements.

In accordance with the SWRCB, a SWPPP must be prepared and implemented during construction for coverage under the Construction General Permit. The SWPPP requires implementation of BMPs for hazardous materials storage and soil stockpiles, inspections, maintenance, training of employees, and containment of releases to prevent runoff into existing stormwater collection systems or waterways (see Section 1.4.3.10).

Demolition or modification of structures during construction of the project could pose a risk of releasing lead particles and asbestos fibers into the environment, if present. As noted above, soils with elevated concentrations of lead are also likely present in the project limits. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, Aerially Deposited Lead Agreement (Agreement) between Caltrans and the California Department of Toxic Substances Control. This Agreement allows such soils to be safely reused within the project limits as long as all requirements of the Agreement are met.

Modification of the roadways with yellow traffic stripe and pavement markings during construction of the project could pose a risk of releasing lead particles into the environment, if present. Generation of asphalt concrete and Portland-cement concrete grindings during project construction could pose a risk of releasing metals and petroleum hydrocarbons into the environment.

In relation to the six sites identified as RECs, the 2023 ISA determined that the risk of encountering contamination from these properties during project construction in soil and/or groundwater, or of purchasing properties with continued contamination, was medium to high. The results of this assessment indicate the potential for petroleum hydrocarbons, chlorinated hydrocarbons, metals and residual amounts of aerially deposited lead to be present in surface soil and/or shallow groundwater.

Because the project area is in Zone 2, radon is not considered to be a significant concern. No additional radon evaluation has been conducted.

During the detailed design phase, PF-HAZ-2 (Section 1.4.3.10) would be implemented, which requires performing a preliminary site investigation for potential hazardous materials concerns related to soil, groundwater, and building materials. The investigation findings would be used to evaluate soil, groundwater, and construction/demolition debris handling practices; construction worker health and safety concerns; and soil, groundwater, and debris 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. Implementation of PF-HAZ-1 and PF-HAZ-2

(Section 1.4.3.10) and adherence to applicable regulatory requirements would reduce the potential for adverse effects related to hazardous materials.

Following construction, maintenance work would be required periodically over the life of the project and may require the use of hazardous materials. However, with adherence to federal and state regulations regarding the use of hazardous materials, no long-term impacts would occur.

2.3.4.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation is required.

2.3.5 Air Quality

2.3.5.1 AFFECTED ENVIRONMENT

The analysis summarized in this section is from the Air Quality Report completed in November 2025 (Baseline Environmental Consulting 2025a).

The project area is in the Peninsula climatological subregion of the San Francisco Bay Area Air Basin (SFBAAB). Air quality regulation in SFBAAB is administered by the Bay Area Air District (BAAD). The following discussion provides an overview of the environmental setting with regard to air quality in the SFBAAB.

Climate, Meteorology, and Topography

The Bay Area has a Mediterranean climate characterized by wet winters and dry summers. During the summer, a high-pressure cell centered over the northeastern Pacific Ocean results in stable meteorological conditions and a steady northwesterly wind flow that keep storms from affecting the California coast. During the winter, the Pacific high-pressure cell weakens, resulting in increased precipitation and the occurrence of storms. The highest air pollutant concentrations in the Bay Area generally occur during inversions, when a surface layer of cooler air becomes trapped beneath a layer of warmer air. An inversion reduces the amount of vertical mixing and dilution of air pollutants in the cooler air near the surface.

The Peninsula climatological subregion of the SFBAAB extends from northwest of San Jose to the Golden Gate. The Santa Cruz Mountains run up the center of the Peninsula, with elevations exceeding 2,000 feet at the southern end, decreasing to 500 feet in South San Francisco. Coastal towns experience a high incidence of cool, foggy weather in the summer. During the summer months, the mean maximum summer temperatures are in the mid-60s degrees Fahrenheit (°F) in coastal areas. During the winter months, average temperatures are in the low 40s °F on the coast. The annual average rainfall near the project area ranged from about 6 to 29 inches between 2020 and 2024. Rain typically occurs during the winter months.

Regional Air Quality Conformity

The BAAD monitors pollutants of concern and air quality conditions throughout the SFBAAB. The state and federal attainment statuses for all regulated pollutants in the SFBAAB are summarized in Table 2.3-2. The SFBAAB is currently designated a marginal nonattainment area for the 2008 and 2015 federal 8-hour ozone standard, moderate nonattainment for the 2006 federal 24-hour standard for particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers ($PM_{2.5}$), and nonattainment for the State ozone, particulate matter with aerodynamic diameter equal to or less than 10 micrometers (PM_{10}), and $PM_{2.5}$ standards. The SFBAAB is classified as attainment or unclassifiable for the remaining NAAQS and CAAQS. Unclassifiable generally indicates that there is a lack of representative data to classify an air basin.

Table 2.3-2. State and Federal Attainment Status in the San Francisco Bay Area Air Basin

Pollutant	State Attainment Status	Federal Attainment Status
Ozone (O_3)	Nonattainment	Nonattainment (Marginal)
Respirable Particulate Matter (PM_{10})	Nonattainment	Unclassifiable
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment (Moderate)
Carbon Monoxide (CO)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassifiable
Lead (Pb)	Attainment	Unclassifiable/Attainment
Visibility-Reducing Particles	Unclassified	N/A
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Vinyl Chloride	Unclassified	N/A

Table 2.3-3 provides an overview of air pollutants, their principal health and atmospheric effects, and typical sources.

Table 2.3-3. State and Federal Attainment Status in the San Francisco Bay Area Air Basin

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O_3)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO_x) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Carbon Monoxide (CO)	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Respirable Particulate Matter (PM_{10})	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic & other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic &other aerosol and solid compounds are part of $PM_{2.5}$	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO_x, sulfur oxides (SO_x), ammonia, and ROG.
Nitrogen Dioxide (NO_2)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the "NO_x" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
Sulfur Dioxide (SO_2)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Lead (Pb)	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Sulfates	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.
Hydrogen Sulfide (H_2S)	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Visibility Reducing Particles (VRP)	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other “Class I” areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes

Local Ambient Air Quality

The BAAD operates a network of air monitoring stations throughout the SFBAAB to monitor air pollutants such as ozone, PM_{10}, and $PM_{2.5}$. The nearest air monitoring station where ozone, $PM_{2.5}$ levels, and PM_{10} levels are consistently measured is the San Francisco-Arkansas Street station at 10 Arkansas Street in San Francisco, approximately 9.7 miles northeast of the project area. This station is considered representative of conditions in the project vicinity because it experiences similar meteorological conditions.

Table 2.3-4 presents the most recent ambient air quality data recorded at the station from 2019 through 2023 for the criteria air pollutants that are in nonattainment. California and national standards of 8-hour ozone were exceeded once in the 5-year period, in 2019. The California standards for 1-hour ozone was not exceeded in any of the 5 years. The California standards for 24-hour PM_{10} and annual arithmetic mean PM_{10} were exceeded in 2020. The national standard for 24-hour PM_{10} was not exceeded in any of

the 5 years. The national standards for 24-hour $PM_{2.5}$ and annual arithmetic mean $PM_{2.5}$ were exceeded in 2020. The California standard for annual arithmetic mean $PM_{2.5}$ was not exceeded in any of the 5 years.

Table 2.3-4. Air Quality Concentrations for the Past 5 Years Measured at the San Francisco-Arkansas Street Air Monitoring Station

Pollutant	Standard	2019	2020	2021	2022	2023
Ozone	Max 1-hr concentration	0.091	0.088	0.074	0.070	0.057
Ozone	No. days exceeded: CAAQS (0.09 ppm)	0	0	0	0	0
Ozone	Max 8-hr concentration	0.074	0.056	0.055	0.061	0.047
Ozone	Exceeded CAAQS? (0.070 ppm)	1	0	0	0	0
Ozone	Exceeded NAAQS? (0.070 ppm)	1	0	0	0	0
PM_{10}	Max 24-hr concentration	42.1	105.0	33.0	36.0	44.9
PM_{10}	No. days exceeded: CAAQS (50 µg/m3)	0	23	0	*	*
PM_{10}	No. days exceeded: CAAQS (150 µg/m3)	0	0	0	0	*
PM_{10}	Max annual concentration	14.8	23.3	16.1	7.7	7.4
PM_{10}	Exceeded CAAQS? (20 µg/m3)	No	Yes	No	No	No
$PM_{2.5}$	Max 24-hr concentration	25.4	147.3	22.4	29.0	16.7
$PM_{2.5}$	No. days exceeded: NAAQS (35 µg/m3)	0	8	0	0	*

Pollutant	Standard	2019	2020	2021	2022	2023
$PM_{2.5}$	Max annual concentration	7.7	10.5	7.2	6.8	*
$PM_{2.5}$	Exceeded CAAQS? (12 µg/m3)	No	No	No	No	*
$PM_{2.5}$	Exceeded NAAQS? (9.0 µg/m3)	No	Yes	No	No	*

Notes: CAAQS = California ambient air quality standards; µg/m3 = micrograms per cubic meter; NAAQS = National ambient air quality standards; ppm = parts per million; * = there was insufficient data available to determine the value.
State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. When the measured state and national concentrations varied due to different sample methods, the highest concentration was reported in the summary table.

Mobile Source Air Toxics

In addition to the criteria air pollutants for which standards exist, USEPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources. Mobile source air toxics (MSATs) are a subset of the air toxics defined by the Clean Air Act. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuel or as secondary combustion products. Metal air toxics also result from engine wear or impurities in oil or gasoline.

The SR 1 corridor, Manor Drive, Gateway Boulevard, and other local arterials such as Oceana Boulevard, Palmetto Avenue, Esplanade Avenue, Milagra Drive, Edgemar Avenue, and Monterey Road, are the primary sources of MSATs in the project vicinity due to vehicle use.

Sensitive Receptors

Under the Federal Clean Air Act (FCAA), ambient air quality must meet the standards for criteria air pollutants in all locations generally accessible to the public; however, some land uses are considered more sensitive to air pollution than others. Sensitive receptors are defined as facilities that house or attract children, the elderly, people with illnesses, people participating in outdoor sports, or others who are especially sensitive to the effects of air pollutants. Sensitive receptors include schools, parks, hospitals, and convalescent homes. Residential areas are also considered sensitive receptors because residents may include children, the elderly, and the infirm, and residents are often in their homes for extended periods of time.

On the basis of research showing that the zone of greatest concern near roadways is within 500 feet (or 150 meters), sensitive receptors within 500 feet (or 150 meters) of the project area are listed in Table 2.3-5.

Table 2.3-5. Sensitive Receptors Located within 500 feet of the Project

Receptor	Description	Minimum Distance Between Receptor and Project (feet)
Happy Hall at Ocean Shore	Preschool	400
Pacifica Nursing & Rehab Center	Nursing Home	370
Single-family residences west and east of SR 1	Residences	135

Note: The project's air quality analysis originally included Ocean Shore School as a sensitive receptor. In January 2025, the Pacifica School District voted to close the school. No information is available about future use of the school property. The description of long-term and short-term air quality impacts from the build alternatives would apply to future land uses at the Ocean Shore School property.

2.3.5.2 ENVIRONMENTAL CONSEQUENCES

The No Build Alternative would make no physical or operational changes to the project area that would affect air quality. The following discussion applies to the build alternatives.

Regional Conformity

The proposed project is listed in the 2026 financially constrained Regional Transportation Plan, Plan Bay Area 2050+ (MTC and ABAG 2026; RTP ID No. 25-T06-063), which was found to conform by MTC on March 25, 2026. FHWA and the Federal Transit Administration have not yet made a regional conformity determination finding on Plan Bay Area 2050+, but the project is also listed in the amended Plan Bay Area 2050, which was found to conform on March 27, 2025. The project is also included in MTC's financially constrained 2025 Transportation Improvement Program (TIP; MTC 2024; TIP ID No. SM-170004), which was adopted by MTC on September 25, 2024. The 2025 TIP was determined to conform by FHWA and the Federal Transit Administration on December 16, 2024. The design concept and scope of the proposed project is consistent with the project description in the 2021 Regional Transportation Plan, the 2025 Transportation Improvement Program, and the "open to traffic" assumptions of the MTC's regional emissions analysis.

Project-Level Conformity

The project is located in a federal nonattainment area for ozone and $PM_{2.5}$ and, therefore, a project-level conformity analysis of operational emissions was completed as part of the Air Quality Report.

Particulate Matter Hot-Spot Analysis

A quantitative particulate matter hot-spot analysis is required for a transportation project that is in a federal nonattainment or maintenance area for $PM_{2.5}$ and is determined to be a Project of Air Quality Concern (POAQC) as defined in 40 CFR Part 93. The SFBAAB is currently designated as a federal nonattainment area for $PM_{2.5}$. A $PM_{2.5}$ hot-spot analysis is only required for projects found to meet the definition of a POAQC by the MTC's Bay Area Air Quality Conformity Task Force. The project was found not to be a POAQC by the Bay Area Air Quality Conformity Task Force on September 26, 2025.

A detailed $PM_{2.5}$ hot-spot analysis is not required. The project would not be expected to cause or contribute to, or worsen, any violations of the federal air quality standards for $PM_{2.5}$.

After public circulation of this IS/EA, the project's air quality studies will be submitted to FHWA for a project-level conformity determination.

Ozone Emission Analysis

The SFBAAB is currently designated as a federal nonattainment area for ozone. Because ozone impacts are regional in nature, projects that are included in an RTP and TIP have already undergone regional conformity analysis and do not require further analysis for a project-level conformity determination. The project is included in a conforming RTP and TIP. Therefore, emissions of ozone precursors from project-related traffic are not anticipated to cause, contribute to, or worsen, any violations of the federal air quality standards for ozone. This project would not interfere with the control measures described in the BAAD's 2017 Clean Air Plan. Furthermore, the project would provide transportation benefits that reduce pollutant emissions, including ozone precursors, by improving traffic operations and efficiency.

Additional Environmental Analysis

Operational Criteria Air Pollutant Emissions

Project operations would generate emissions of criteria air pollutants and precursors that could potentially affect regional air quality. According to BAAD, the primary criteria air pollutant emissions of concern during project operation would be ROG, NO_x, PM_{10}, and $PM_{2.5}$ from the exhaust of on-road vehicles. A quantitative analysis of daily emissions was performed for ROG, NO_x, and exhaust PM_{10} and $PM_{2.5}$ using the Caltrans CT-EMFAC2021 model. Criteria air pollutant emissions from project operations were estimated for existing conditions (2023) and the No Build and Build Alternative 2 during the opening year (2028), design year (2048), and RTP horizon year (2050). Criteria air pollutant emissions from Build Alternative 1 are expected to be the same as the No Build Alternative for each analysis period.

The results of this analysis are presented in Table 2.3-6.

Table 2.3-6. Operational Criteria Air Pollutant Emissions (Pounds per Day)

Pollutant	2023 Existing	2028 No Build & Build Alternative 1	2028 Build Alternative 2	2048 No Build & Build Alternative 1	2048 Build Alternative 2	2050 No Build & Build Alternative 1	2050 Build Alternative 2
ROG	28.73	23.78	23.77	26.14	26.08	26.80	26.74
NO_x	57.06	35.44	35.43	24.83	24.78	25.19	25.13
PM_{10} Exhaust	1.01	0.80	0.80	0.46	0.46	0.46	0.46
$PM_{2.5}$ Exhaust	0.94	0.74	0.74	0.43	0.43	0.43	0.43

As shown in Table 2.3-6, the estimated daily ROG, NO_x, and exhaust PM_{10} and $PM_{2.5}$ emissions for Build Alternative 2 during the opening year (2028), design year (2048), and horizon year (2050) scenarios would be approximately equal to or lower than the emissions for the No Build Alternative and Build Alternative 1, which is primarily attributed to a slight reduction in study area VMT with Build Alternative 2. Emissions for the No Build Alternative and both build alternatives would also be lower in the opening year (2028), design year (2048), and horizon year (2050) compared to the existing year (2023) because federal and state vehicle emissions standards are expected to reduce pollutant emissions over time. Therefore, emissions of criteria air pollutants from project-related traffic are not anticipated to cause, contribute to, or worsen, any air quality violations.

Mobile Source Air Toxics Analysis

The project would not add substantial new roadway capacity or create a facility that is likely to substantially increase emissions. According to FHWA guidance, the project has a low potential for MSAT effects. Therefore, FHWA guidance recommends a qualitative analysis to forecast and compare local-specific emission trends of the priority MSAT for each alternative.

To be conservative, a quantitative analysis of daily emissions was performed for the nine priority MSATs using the Caltrans CT-EMFAC2021 model. MSAT emissions from project operations were estimated for existing conditions (2023) and the No Build and Build Alternative 2 during the opening year (2028), design year (2048), and RTP horizon year (2050) MSAT emissions from Build Alternative 1 are expected to be the same as the No Build Alternative. The results of this analysis are presented in Table 2.3-7 below.

Table 2.3-7. Operational MSAT Emissions (Grams per Day)

Pollutant	2023 Existing	2028 No Build & Build Alternative 1	2028 Build Alternative 2	2048 No Build & Build Alternative 1	2048 Build Alternative 2	2050 No Build & Build Alternative 1	2050 Build Alternative 2
1,3-Butadiene	20.4	15.6	15.6	14.1	14.1	14.3	14.3
Acetaldehyde	74.8	55.9	55.8	44.0	43.9	44.5	44.4
Acrolein	1.9	1.7	1.7	1.7	1.7	1.7	1.7
Benzene	347.7	268.0	267.8	267.6	267.0	273.8	273.2
Diesel Particulate Matter	82.4	59.3	59.3	36.4	36.3	36.0	36.0
Ethylbenzene	149.3	120.7	120.7	128.9	128.7	132.1	131.8
Formaldehyde	176.6	132.2	132.1	106.6	106.3	107.9	107.6
Naphthalene	19.1	13.4	13.4	11.0	11.0	11.3	11.2
Polycyclic Organic Matter	5.1	3.8	3.8	2.8	2.8	2.8	2.8

As shown in Table 2.3-7, the estimated daily MSAT emissions for Build Alternative 2 during the opening year (2028), design year (2048), and horizon year (2050) scenarios would be approximately equal to or lower than the emissions for the No Build Alternative and Build Alternative 1, which is primarily attributed to the reduction in study area VMT under the Build Alternative. Emissions for the No Build Alternative and both build alternatives would also be lower in the opening year (2028), design year (2048), and horizon year (2050) compared to the existing year (2023), because federal and state vehicle emissions standards are expected to reduce pollutant emissions over time.

Construction Impacts

Construction Project-Level Conformity

Because construction for both build alternatives is expected to last less than 5 years, temporary emissions of CO, PM_{10}, and $PM_{2.5}$ are not expected to cause, contribute to, or worsen any federal air quality violations and an evaluation of these emissions is not required for a project-level conformity determination, in accordance with 40 CFR 93.123(c)(5).

Construction Criteria Air Pollutants

Project construction activities would generate emissions of criteria air pollutants and precursors that could potentially affect regional air quality. According to the BAAD, the primary pollutant emissions of concern during project construction would be ROG, 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 activities, and fugitive ROG emissions would result from paving during construction.

The proposed project would involve standard construction techniques and require large-scale construction equipment and labor-intensive activities. Project construction is anticipated to begin in late 2028 and take approximately 16 to 24 months to complete. For the construction air quality analysis, a shorter and more intensive construction period of approximately 13 months (275 workdays) was assumed based on project-specific information to provide the most conservative analysis of average daily emissions.

Construction emissions for the most intensive build alternative, Build Alternative 2, were quantified using the Caltrans Construction Emissions Tool (CAL-CET) version 1.0.3. Since additional construction and more emissions would be associated with Build Alternative 2, Build Alternative 1 emissions were not quantified.

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

The results of this analysis are presented in Table 2.3-8 below.

Table 2.3-8. Construction Criteria Air Pollutant Emissions (Average Pounds per Day)

Emissions Scenario	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust PM_{10}	Fugitive Dust $PM_{2.5}$
Build Alternative 2	1.6	12.1	0.9	0.9	13.6	1.4
BAAD CEQA Thresholds[1]	54	54	82	54	BMP	BMP

Notes: BMP = best management practices
BAAD's thresholds have not been adopted by Caltrans and are only shown for informational purposes.

As shown in Table 2.3-8, the project's average daily emissions would be below BAAD's recommended thresholds for ROG, NO_x, and exhaust PM_{10} and $PM_{2.5}$. Since the average daily emissions of criteria pollutants and precursors from equipment and vehicle

exhaust would be below the recommended thresholds, construction of the proposed project would not be expected to cause or contribute to, or worsen, any state air quality violations.

Caltrans' Special Provisions and Standard Specifications include requirements to minimize or eliminate dust during construction. 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 1.4.3.10).

Asbestos and Lead

Asbestos and lead have the potential to be encountered during construction. The project is not expected to disturb any rock formations that contain naturally-occurring asbestos, as no such formations are mapped in the project area. However, structure demolition during project construction could potentially expose asbestos-containing materials and lead-based paint. The potential for short-term, temporary impacts from asbestos-containing materials and lead-based paint encountered during construction would be reduced through the implementation of PF-AQ-1 (required contractor compliance with federal, state, and local regulations and policies during construction), PF-HAZ-1 (contractor requirements for hazardous materials management), and PF-HAZ-2 (preliminary site investigation for hazardous materials and development of special provisions), as detailed in Section 1.4.3.10.

2.3.5.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

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

2.3.6 Noise

Neither of the build alternatives would substantially change the horizontal or vertical alignment of SR 1 or increase traffic capacity. Therefore, the project is not a Type I project for purposes of 23 CFR 772.7, and a traffic noise study under 23 CFR 772 is not required. The CEQA noise evaluation is provided in Section 3.6.13.

With both build alternatives, the construction contractor will be required to adhere to construction noise control measures for equipment and operating hours to reduce temporary noise impacts during construction (PF-NOI-1, Section 1.4.3.10).

2.3.7 Energy

The information in this section is based on the Energy Analysis Technical Memorandum completed in October 2025 (Baseline Environmental Consulting 2025b).

2.3.7.1 AFFECTED ENVIRONMENT

The project is in a relatively urbanized environment in the City of Pacifica. The project area contains a number of roadways including SR 1, Manor Drive, Oceana Boulevard, Palmetto Avenue, and Milagra Drive. Existing land uses in the project vicinity include the SR 1 transportation corridor, commercial retail, public and semi-public schools, mixed-use neighborhoods, single and multi-family residential, and auto services. Trucks represent a maximum of 2% of the traffic volume in the study area, which primarily transport goods to serve the local population.

In the context of transportation, energy usage is broken down into two categories: direct, and indirect. Direct energy involves all energy consumed by vehicle propulsion (e.g., automobiles, trains, airplanes) during a project's operational phase. Indirect energy is all the remaining energy needed to construct, operate, and maintain the roadway and to manufacture and maintain the vehicles using the roadway.

2.3.7.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

The No Build Alternative would not involve any construction activities or long-term operational changes in energy use since the project would not be implemented. Therefore, there would be no increase in construction or operational energy consumption under the No Build Alternative.

Build Alternatives

Indirect energy includes fuel consumed during construction and operation of project elements. The following sections analyze each of these types of indirect energy.

Construction

During project construction, energy would be used in the form of gasoline, diesel, and electricity from construction vehicles and equipment. The energy used would depend on the construction equipment activity for each phase. Construction activities would include demolition, site preparation, grading and excavation, trenching and foundation work, and paving.

Build Alternative 2 would require more intensive construction activity than Build Alternative 1. Therefore, to be conservative, an analysis of the project's energy consumption during construction was performed for Build Alternative 2. While construction activities are anticipated to require approximately 16 to 24 months to complete for both build alternatives, a shorter and more intensive construction period of approximately 13 months (1.1 years) was analyzed to provide a conservative analysis of annual energy consumption. For this analysis, it was also conservatively assumed that the total energy consumption during construction would occur within the same year.

Construction-related energy use was modeled using the Caltrans Construction Emissions Tool (CAL-CET) with project-specific information for construction equipment use, construction phase duration, and truck trips related to hauling and delivery. The modeling results indicated that project construction would use approximately 14,174 gallons of diesel, 2,022 gallons of gasoline, and 2,750 kilowatt-hours of electricity. In total, project construction would use approximately 2,200 million British Thermal Units (Btu) of energy.

Since construction activities are short-term, the increase of consumption within the project area would also be short-term and would not result in a permanent increase in annual energy consumption in the region. Project construction is anticipated to take approximately 16 to 24 months to complete, which would result in an even smaller rate of annual energy consumption. In addition, energy consumption required for project construction is anticipated to be partially offset by long-term operational reductions in energy consumption achieved by improved traffic circulation and enhanced pedestrian and bicycle access. Therefore, energy consumption during construction would result in minor effects on indirect energy usage.

Operation

Operation of the build alternatives would not result in changes to traffic volumes, vehicle mix or other factors that could increase energy consumption compared to the No Build Alternative. Both build alternatives are anticipated to result in reduced energy consumption by improving traffic circulation on and adjacent to the Manor Drive overcrossing and providing enhanced pedestrian and bicycle access across the overcrossing, which would promote active transportation usage.

For Build Alternative 2, the proposed new on-ramp at Milagra Drive and Oceana Boulevard would reduce the traffic congestion along Oceana Boulevard and in the Manor Drive overcrossing area, which would further improve local traffic circulation. The annual average daily traffic volumes and daily vehicle miles traveled within the project study area for Build Alternative 2 are expected to be lower than the No Build Alternative, further reducing direct energy consumption. Build Alternative 1 does not include the proposed on-ramp, so there would be no changes related to direct energy consumption.

While the project would include approximately eight new overhead lights for safety lighting along Manor Drive at the intersections of Oceana Boulevard and Palmetto Avenue and along Oceana Boulevard, the lighting would be LED (energy efficient) and subject to AMM-VIS-1 (Section 2.2.2.3). As such, the project would not cause an increase in long-term operational direct energy consumption from that of the No Build Alternative.

For the reasons discussed above, the build alternatives would not result in a permanent increase in direct annual energy consumption in the region. The build alternatives would not cause an increase in long-term operational direct energy consumption compared the No Build Alternative.

2.3.7.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation is required.

2.4 Biological Environment

This section is based on the Natural Environment Study (Minimal Impacts) completed in August 2025 (AECOM 2025h).

2.4.1 Natural Communities

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

2.4.1.1 AFFECTED ENVIRONMENT

A biological study area (BSA) was established to evaluate the effects of the proposed project on natural communities and other biological resources. The BSA encompasses the project footprint plus a 50-foot buffer. The project footprint is defined as all work areas, staging areas, and access routes to support the roadway improvements. The buffer is included to account for potential indirect and direct effects on special-status species that may have a potential to occur in the BSA. Direct impacts are the impacts caused by a project that occur at the same time and place, while indirect impacts are those that are reasonably foreseeable but occur at a different time or place.

The BSA is heavily urbanized and includes a portion of SR 1, a north-south traversing four-lane divided freeway, landscaped medians and shoulders, extensive paved surfaces, and commercial and residential land uses. SR 1 bisects the BSA and is bordered by Palmetto Drive to the west and Oceana Boulevard to the east. The BSA also includes portions of Manor Drive and Milagra Drive.

The BSA was surveyed in April 2024 and evaluated for potential direct and indirect effects to natural resources from the proposed project.

Vegetation Communities

The land cover in the BSA is primarily developed and urbanized. Vegetation communities in the BSA consist of developed, non-native/ornamental, ruderal (disturbed areas composed of weedy, non-native plant species), and willow scrub. The vegetation along the shoulders and the median is predominantly ornamental trees, shrubs, and ruderal. No sensitive natural communities or riparian habitat occur in the BSA.

No wetlands of the United States occur in the BSA, and Milagra Creek, a culverted other water of the U.S./State, flows below the BSA. Vegetation communities, invasive plant species, and trees mapped in the project area are discussed further below.

Developed

The developed land cover type lacks native vegetation and is dominated by urban development and hardscapes. Developed areas in the BSA include the paved Manor Drive, Oceana Boulevard, SR 1, and Milagra Drive, as well as concrete walkways and driveways. This land cover type is the predominant cover type in the BSA.

Non-Native/Ornamental

Non-native, ornamental landscapes are in the BSA along the road shoulders and medians of SR 1, paved sidewalks, and various commercial businesses. Non-native trees such as Monterey cypress (*Cupressus macrocarpa*), New Zealand Christmas tree (*Metrosideros excelsa*), and mousehole tree (*Myoporum laetum*) were observed along the sloped shoulder between SR 1 and Oceana Boulevard. Several large mats of ice plant (*Carpobrotus edulis*) have also become established along the shoulder north and south of the Milagra Drive off-ramp.

Ruderal

Ruderal areas are highly disturbed and have sparse to moderate vegetative cover. These areas include graveled pullouts, shoulders, and parking areas, and weedy roadside vegetation. Such habitats typically are dominated by nonnative annual grasses and forbs, such as bull thistle (*Cirsium vulgare*). This land cover type does not include completely unvegetated areas. Ruderal areas are present throughout the BSA.

Willow Scrub

A small patch of arroyo willow (*Salix lasiolepis*) scrub was observed near the sidewalk north of the Milagra Drive off-ramp, and was surrounded by ruderal vegetation and non-native landscaped trees and shrubs. This patch of willows is not associated with stream habitat or any other observable aquatic resource. As such, it is not considered riparian habitat and does not represent a sensitive natural community.

Invasive Plants

Nearly all plant species in the BSA are not native to California. Several plant species in the BSA are listed as invasive by the Cal-IPC. Two observed plant species are defined by Cal-IPC to be highly or moderately invasive: ice plant and wild mustard (*Hirschfeldia incana*). The majority of the trees in the BSA are planted Monterey cypress, which although native to California, is considered invasive outside its natural groves on the Monterey Peninsula.

Habitat Connectivity and Wildlife Use

The BSA is unlikely to provide habitat for most vertebrate wildlife species because it primarily consists of hardscape or ruderal cover. Urban development and SR 1 are major barriers to dispersal for many wildlife species in the area. Common wildlife species that may use the landscaped ornamental and ruderal vegetation in the BSA include relatively disturbance-tolerant species, such as the California scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), European starling (*Sturnus vulgaris*), brown-headed cowbird (*Molothrus ater*), racoons (*Procyon lotor*), and skunks (*Mephitis mephitis*).

Two 48-inch culverts convey drainage from east to west under the BSA at a depth of approximately 20 feet below grade. At the north end of the BSA, an unnamed drainage channel that runs between Monterey Road and Nelson Avenue is culverted into a 48-inch reinforced-concrete pipe approximately 350 feet east of the BSA. At the southern end of the BSA, Milagra Creek, an unlined, earthen intermittent stream is culverted into a 48-inch reinforced concrete pipe approximately 300 feet east of the BSA. Both culverts are approximately a quarter of a mile long and discharge into the Pacific Ocean. Both culverted drainages are ephemeral in nature and do not convey flows in the dry season.

The potential exists for the culverts to be used by wildlife as a corridor; however, due to their length and discharge point into the Pacific Ocean, they are unlikely to be used by wildlife as a crossing because they lack a clear line of sight and terminate in unsuitable habitat. Further, limitations exist for smaller species (e.g., California red-legged frog [CRLF; *Rana draytonii*] or San Francisco garter snake [SFGS; *Thamnophis sirtalis tetrataenia*]) because of the length of the culverts. Therefore, these culverts are not anticipated to provide habitat connectivity for amphibians. There are locations within and immediately adjacent to the BSA that would allow for wildlife to cross from one side of SR 1 to the other. These include the pedestrian crossing over SR 1 that is south of the intersection of Milagra Drive and Oceana Boulevard and the Manor Drive overcrossing itself. Overall habitat quality in the BSA appears to be low because of extensive paved surfaces, the high degree of urbanization, limited native vegetation, and numerous dispersal barriers, such as SR 1 and the adjacent roadways.

Trees

A tree survey of the BSA was completed in April 2024. A total of 78 trees were found in the BSA, all of which are considered ornamental, but not necessarily defined as non-native by Cal-IPC. The tree community is predominantly composed of planted Monterey cypresses, New Zealand Christmas trees, and mousehole trees, and Australian blackwood (*Acacia melanoxylon*). The only native tree found to be present in the BSA is one willow (*Salix* sp.).

Monterey cypresses, which, although native to California, are considered invasive outside of their natural groves on the Monterey Peninsula (Cal-IPC 2024). Under the City of Pacifica tree ordinance (Title 4, Chapter 12, Tree Protection of the City's Municipal Code), eucalyptus and any species of tree designated as an invasive species by the California Invasive Plant Council (Cal-IPC) are not protected, except for groves of trees deemed as protected by the Director of Public Works. Other protected trees include trees on public or private property with a diameter at breast height (DBH) of 12 inches or greater, any heritage trees designated by the Director of Public Works, and any groves of trees. The City requires a permit for removal, significant pruning, or encroachment on any trees with a designation of protected or heritage.

The City tree ordinance defines heritage trees as any one of the following:

1. Any trees of the species *Quercus agrifolia* (coast live oak), *Quercus lobata* (valley oak), *Aesculus californica* (California buckeye), *Pinus radiata* (Monterey pine), or *Sequoia sempervirens* (redwood), which have a DBH of 12 inches or greater.
2. Any trees that are of the species *Heteromeles arbutifolia* (toyon) which have a DBH of 4 inches or more.
3. Trees that are designated by the Director of Public Works as a tree of historic value, specimen tree of any species, any tree of substantial size of its species, one of the largest and oldest trees in Pacifica, or a tree with significant habitat value.

No trees within the BSA appear to be heritage trees.

2.4.1.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

The No Build Alternative would not require the removal of any vegetation or trees and would not alter the existing natural communities present in or around the project footprint.

Build Alternatives

No natural communities of concern such as riparian habitat occur in the BSA. The build alternatives would have no impacts on any natural communities of concern.

Neither of the build alternatives would affect wildlife corridors or movement because of the extensive paved surfaces, high degree of urbanization, limited native vegetation, and numerous dispersal barriers presented by SR 1 and the adjacent roadways in the project area.

It is anticipated that Build Alternative 1 would require the removal of nine trees: one Bald Island marlock (*Eucalyptus conferruminata*), one karo (*Pittosporum crassifolium*), five Monterey cypresses, and two mousehole trees. Build Alternative 2 would require removal of those listed for Build Alternative 1 plus an additional Monterey cypress. All of the tree removals are anticipated to be in Caltrans ROW. Replacement planting would take place as described in Section 1.4.3.9, and the project includes PF-VIS-1 and PF-VIS-2 (Section 1.4.3.10) to reduce the potential for impacts related to tree removal. No conflict with the City tree ordinance is anticipated.

2.4.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, or mitigation measures are required.

2.4.2 Animal Species

The discussion in this section is summarized from the Natural Environment Study (Minimal Impacts) completed in August 2025 (AECOM 2025h).

2.4.2.1 AFFECTED ENVIRONMENT

Two special-status wildlife species have a moderate or greater potential to occur in the BSA, based on the literature review (USFWS Information for Planning and Consultation [IPaC] [USFWS 2025] and California Natural Diversity Database RareFind 5 occurrence records [CDFW 2025]), a review of current and historical aerial photographs, and the April 2024 field survey. Table 2.4-1 provides a summary of the listing status, general habitat description, and survey results. Additional information about survey results is provided after Table 2.4-1.

Table 2.4-1. Special-Status Animal Species

Common Name	Scientific Name	Status	General Habitat Description	Survey Results
western bumble bee	*Bombus occidentalis*	State candidate endangered	Found primarily in the coastal and Sierra Nevada ranges. Bee nests can be found in abandoned small mammal burrows and other underground cavities, often on north-facing slopes bordered by trees. As generalist foragers, western bumble bees overwinter and are found most often in meadows and grasslands with an abundance of flowering plants.	Moderate potential to forage; low potential to nest or overwinter. No suitable overwintering habitat, such as small mammal burrows and open grassland habitats, is in the BSA. A variety of floral resources are present for foraging. Four historical CNDDB records are within 5 miles of the BSA, the closest being observed in Pacifica in 1968.
Townsend's big-eared bat	*Corynorhinus townsendii*	State species of special concern	Distributed across California. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings of caves, mines, buildings, tunnels, or other human-made structures (e.g., bridges) as well as rock crevices and hollow trees. Roosting sites are limited. Extremely sensitive to human disturbance.	Low potential to forage or roost; moderate potential to fly over. The non-native and ornamental trees in the BSA lack cavities suitable for roosting. This species is known to be very sensitive to human disturbance, and because of the high degree of urbanization and noise from the highway, the potential for this species to roost or forage in the BSA is very low. One CNDDB occurrence was recorded within 5 miles of the BSA, in 2011.

Western Bumble Bee

The western bumble bee, having once been one of the most abundant bee species in the Northwest Americas, now has experienced a noticeable decline in population by around 40.32%. Therefore, the species is currently a State candidate for listing as endangered. The decline of the species commonly is attributed to the rise of *Nosema* (a parasite), invasive European honeybees (*Apis mellifera*), and habitat loss. These bees exhibit primitively eusocial behavior, forming colonies led by a queen and comprised of female workers, and later reproductive members. Their flight periods span from early February to late November in California, with peaks in June and September for queens and August for workers. Reproductive individuals emerge in late summer or fall and

mate before winter. Overwintering sites are often underground, but specifics are poorly understood. Western bumble bees forage on a variety of plants, such as *Ceanothus, Centaurea, Chrysothamnus, Cirsium, Geranium, Grindelia, Lupinus, Melilotus, Monardella, Rubus, Solidago, Trifolium,* and others. Their habitats include open grasslands, urban areas, chaparral, and meadows. They also serve as hosts for cuckoo bees, like *Bombus suckleyi.*

No western bumble bees were observed in the BSA during the reconnaissance survey; however, no focused surveys have been conducted for western bumble bees in the project area. Four historical CNDDB records are within 5 miles of the BSA, the closest being observed in Pacifica in 1968.

The reconnaissance-level survey indicated that the BSA does not provide suitable nesting or overwintering habitat for western bumble bee because of the lack of small mammal burrows and the BSA being along a heavily disturbed SR 1 corridor. The BSA is highly urbanized, and vegetation in the BSA is disturbed and maintained. The BSA also lacks the species' preferred overwintering habitats, such as chaparral or open grassland. The ruderal margins of the highway corridor provide a variety of floral resources that could support suitable foraging habitat. Because of the lack of suitable overwintering and nesting habitat, this species is expected to have only a moderate potential to forage in the BSA.

Townsend's Big-Eared Bat

Townsend's big-eared bat became a State-listed species of special concern (SSC) and a species of greatest conservation need (SGCN) after CDFW censuses in the 1980s, 1991, and 2019. Maternal colonies are particularly sensitive to human disturbance, and declines in population have been attributed to mine closures, renewed mining, timber harvest, cave commercialization, and recreational exploration. Because these bats roost in open cave-like areas from an elevation of zero to 3,000 meters, they may find urban areas suitable for stop-over resting sites and occasionally maternal roosting sites or winter hibernation sites, despite being very sensitive to human disturbance.

No Townsend's big-eared bats were observed in the BSA during the reconnaissance survey; however, no focused surveys have been conducted for bats in the project area. Preferred roosting sites for this species (e.g., caves, bridges, abandoned buildings, large hollow trees, or large trees with cavities) generally are absent in the BSA. Although non-native trees such as Monterey cypress are within the SR 1 corridor and along the road shoulders, these trees lack large cavities suitable for roosting habitat. In addition, Townsend's big-eared bats are known to be very sensitive to human disturbance, and because of the high degree of urbanization and noise from the highway, the likelihood for this species to roost or forage in the BSA is very low. This species is expected only to fly over the BSA occasionally. One CNDDB occurrence was recorded 4.5 miles

northeast of BSA, where one adult bat was observed roosting in an abandoned horse barn.

2.4.2.2 ENVIRONMENTAL CONSEQUENCES

No Build Alternative

The No Build Alternative would not affect special-status animals in the BSA.

Build Alternatives

Western Bumble Bee

Vegetation removal and ground-disturbing activities associated with both build alternatives, including construction of road improvements, could remove ruderal habitat that bees may use as temporary foraging. Impacts on this species are expected to be negligible. PF-BIO-1 through PF-BIO-6, which include biological protection measures, training, and surveys, would be implemented (see Section 1.4.3.10). Measure AMM-BIO-1 would be incorporated to further avoid or minimize the potential for impacts to western bumble bee (see Section 2.4.2.3).

Townsend's Big-Eared Bat

Although the BSA lacks trees with suitable roosting habitat and the species is known to be sensitive to human disturbance, a very low potential exists for Townsend's big-eared bats to use trees in the project footprint for day or night roosting. Vegetation and tree removal associated with both build alternatives could result in direct and indirect impacts in the event that bats are roosting in the cavities and foliage of the trees. Direct impacts could include bat injury or mortality and/or roost destruction if bats were roosting in the trees. Bats could be trapped and/or crushed if the trees and surrounding vegetation are removed. Indirect impacts on bats may include roost disturbance and abandonment resulting from increased noise, vibration, and project activities.

In the event that a maternity roost occurs in or adjacent to the BSA, disturbances from temporary construction-related visual, noise, vibration, and light impacts could impact or cause roost abandonment. Potential project-related impacts on Townsend's big-eared bats would be negligible because habitat in the BSA is marginal, and existing disturbance levels along the roadway are relatively high. The potential for impacts would be reduced through implementation of PF-BIO-1 through PF-BIO-6 in Section 1.4.3.10. Measure AMM-BIO-2 (Section 2.4.2.3) would be incorporated to further avoid or minimize the potential for impacts to Townsend's big-eared bat.

2.4.2.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Western Bumble Bee

AMM-BIO-1: Preconstruction Surveys for Western Bumble Bee. A minimum of two preconstruction surveys will be conducted within 30 days during appropriate activity

periods (i.e., March through September), before the start of ground-disturbing activities, to identify bumble bee activity. The preconstruction surveys will occur when temperatures are above 60°F and not during wet conditions (e.g., foggy, raining, or drizzling). The survey will be conducted at least 2 hours after sunrise and 3 hours before sunset, and will occur at least 1 hour after rain subsides. Preferably, the survey should be conducted during sunny days with low wind speeds (less than 8 mph), but surveying during partially cloudy days or overcast conditions will be permissible if the surveyors still can see their own shadows.

Townsend's Big-Eared Bat
AMM-BIO-2: Preconstruction Surveys for Special-Status Bats.

Phase 1. Before the start of construction, an approved biologist will conduct bat assessment surveys to determine the presence/absence of bat species in the BSA. If the bat species are observed, Phase 2 will be implemented.

Phase 2. If project activities occur during the bat maternity roosting season (April 1 to August 31), the following measures will be implemented to minimize the impact on bat species during construction:

A qualified biologist will perform exit counts and acoustic surveys in the BSA at night, to determine the presence/absence of bats during the maternal roost season. These surveys will occur well in advance of active construction if possible, to allow time for mitigation planning.

If the presence of bats is found from the surveys, then construction activities at structures housing bats will be coordinated with a qualified biologist and CDFW will be consulted.

If direct impacts on roosting habitat is anticipated, humane evictions will be performed under the supervision of a biologist before the start of any work activities, following the end of the maternal roosting season (August 31). This action will be in coordination with and under the guidance of CDFW. Before exclusion events, alternative bat roosting structures will be installed in the BSA to mitigate for evictions.

Preconstruction Survey for Maternity Roosts. A qualified biologist will conduct preconstruction surveys for bats within 50 feet of all proposed staging areas or bridges. If any maternity roosts of special-status bats are discovered, roost sites will be identified as Environmentally Sensitive Areas (ESAs) and appropriate buffers and work windows will be applied during construction. To avoid impacts on bats during work over creek crossings in the BSA, exclusion devices may be installed before construction in consultation with CDFW.

Chapter 3 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).

3.1 Determining Significance Under CEQA

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

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

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if

feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. See Caltrans' Standard Environmental Reference (SER), Volume 1, Chapter 36, Environmental Impact Reports, for more information. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA.

The following sections of Chapter 3 discuss the effects of this project and CEQA significance.

3.2 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 GHG emissions reduction and climate change research and policy. Research published by the Intergovernmental Panel on Climate Change and other scientists over recent decades has shown an accelerated rate of climatological changes over the past 150 years, attributed to GHG emissions generated from the production and use of fossil fuels.

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

3.2.1 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.

3.2.2 Environmental Setting

The proposed project is located in the City of Pacifica and is included in the MTC's current RTP, Plan Bay Area 2050+. The RTP contains regional strategies for reducing GHG emissions from transportation sources.

According to the City of Pacifica's Climate Action and Resilience Plan, the City emitted an estimated 119,242 metric tons of carbon dioxide equivalent (CO_2e) in 2021 from the

energy, transportation, solid waste, water, and wastewater sectors, of which the majority (48%) was from on-road transportation (City of Pacifica 2025d).

3.2.3 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.

National GHG Inventory

The annual GHG inventory submitted by the USEPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total national GHG emissions from all sectors in 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 [USEPA 2024a].) While total GHG emissions in 2022 were 17% below 2005 levels, they increased by 1% over 2021 levels. Of these, 80% were CO_2, 11% were CH_4, and 6% were N_2O; the balance consisted of fluorinated gases. From 1990 to 2022, CO_2 emissions decreased by only 2% (USEPA 2024a).

The transportation sector's share of total GHG emissions remained at 28% in 2022 and continues to be the largest contributing sector (Figure 3.2-1). Transportation activities accounted for 37% of U.S. CO_2 emissions from fossil fuel combustion in 2022. This is a decrease of 0.5% from 2021 (USEPA 2024a, 2024b).

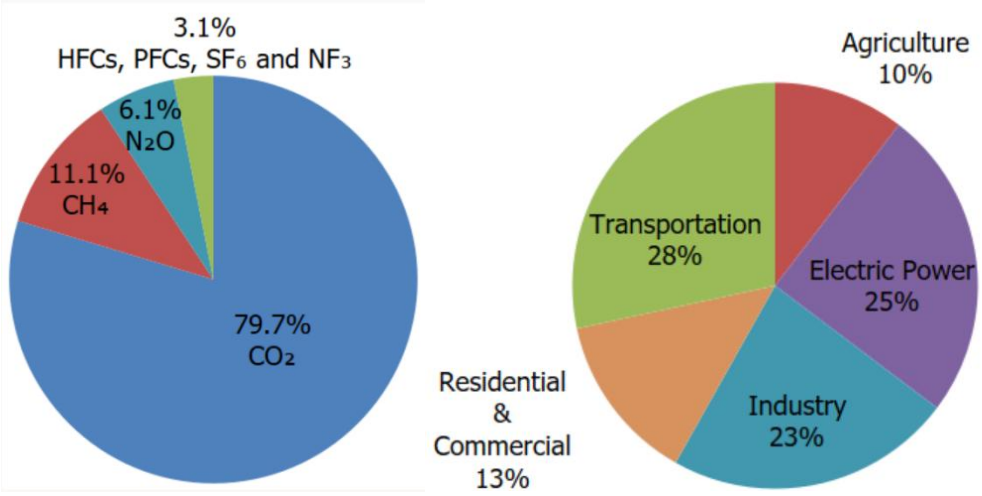

Figure 3.2-1. U.S. 2022 Greenhouse Gas Emissions

(Source: USEPA 2024b)

STATE GHG INVENTORY

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year (Figure 3.2-2). It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. Overall statewide GHG emissions declined from 2000 to 2021 despite growth in population and state economic output (Figure 3.2-3). Transportation emissions remain the largest contributor to GHG emissions in the state (Figure 3.2-2) (CARB 2023).

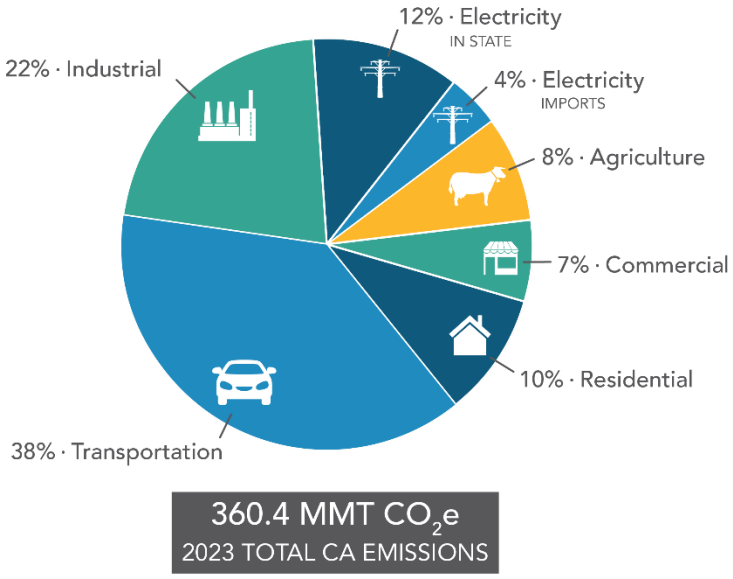

Figure 3.2-2. California 2023 Greenhouse Gas Emissions by Economic Sector

(Source: CARB 2023)

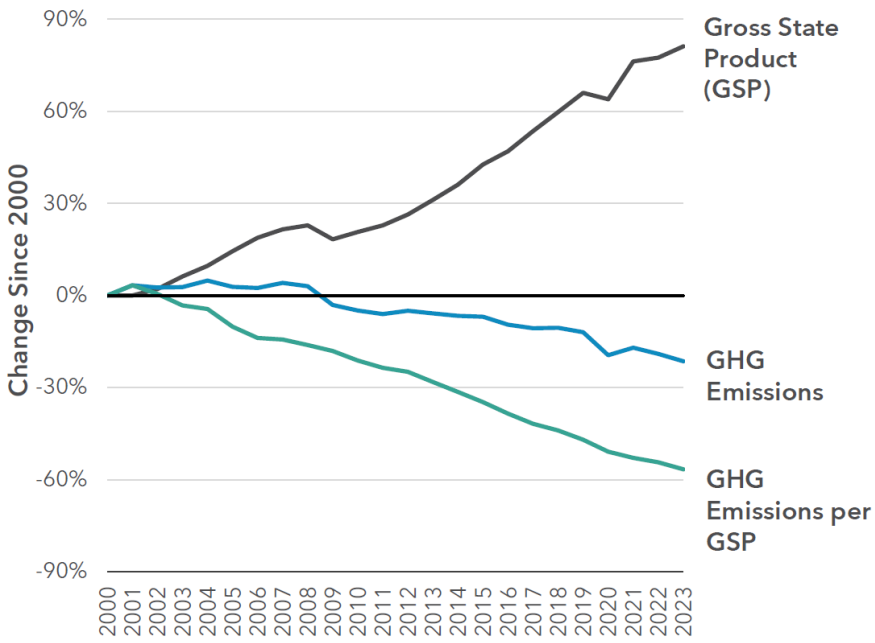

Figure 3.2-3. Change in California GDP, Population, and GHG Emissions Since 2000

(Source: CARB 2025)

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. CARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and Senate Bill (SB) 32. The *2022 Scoping Plan for Achieving Carbon Neutrality,* adopted September 2022, assesses progress toward the statutory 2030 reduction goal and defines a path to reduce human-caused emissions to 85% below 1990 levels and achieve carbon neutrality no later than 2045, in accordance with AB 1279 (CARB 2022a).

3.2.4 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 MTC region in which the proposed project is located. Plan Bay Area 2050+ is estimated to achieve a 21% per capita reduction of greenhouse gas emissions by 2035, exceeding the 19% target set by CARB (MTC and ABAG 2026).

3.2.5 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation and use of the State Highway System (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, and various hydrofluorocarbons. CO_2 emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of methane and nitrous oxide. Additionally, the transportation sector emits a minor amount of hydrofluorocarbon emissions, which are related to refrigeration and air conditioning systems used in vehicles.

GHGs vary in their ability to trap heat in the atmosphere, a characteristic known as global warming potential. CO_2 is the most significant GHG due to its abundance and impact, and thus, the amounts of other gases are expressed relative to CO_2 using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned as a value of 1, and the global warming potential of other gases is assigned as multiples of CO_2. Both operational and construction emissions associated with the proposed project are analyzed in the sections below and emission values, if required, are expressed in CO_2e to provide a standardized measure of their impact.

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

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

OPERATIONAL EMISSIONS

The purpose of the proposed project is to improve traffic circulation, operations, and pedestrian and bicycle facilities on and adjacent to the Manor Drive overcrossing; and to

enhance the overcrossing's safety and structural stability. Neither Build Alternative 1 nor Build Alternative 2 would increase the vehicle capacity of project area roadways. This type of project generally causes minimal or no increase in operational GHG emissions.

To be conservative, a quantitative analysis of operational CO_2 emissions was performed using the Caltrans CT-EMFAC2021 model. CO_2 emissions from project operations were estimated for existing conditions (2023) and the No Build and Build Alternative 2 during the opening year (2028), design year (2048), and RTP horizon year (2050). CO_2 emissions from Build Alternative 1 are expected to be the same as the No Build Alternative for each analysis period. The modeling considered annual average daily traffic (AADT) and VMT for the traffic study area. The results of the analysis are presented in Table 3.2-1 below.

Table 3.2-1. Operational CO_2 Emissions (Metric Tons per Year)

Parameter	2023 Existing	2028 No Build & Build Alternative 1	2028 Build Alternative 2	2048 No Build & Build Alternative 1	2048 Build Alternative 2	2050 No Build & Build Alternative 1	2050 Build Alternative 2
AADT	1,084,845	1,153,560	1,153,067	1,428,421	1,425,956	1,456,990	1,454,475
Daily VMT	348,070	368,902	368,705	452,230	451,249	461,275	460,274
CO_2	**36,070**	**34,270**	**34,250**	**36,130**	**36,050**	**36,760**	**36,680**

Source: Baseline Environmental Consulting 2025a

As shown in Table 3.2-1, the estimated annual CO_2 emissions for Build Alternative 2 during the opening year (2028), design year (2048), and horizon year (2050) scenarios would be lower than the emissions for the No Build Alternative and Build Alternative 1, which is primarily attributed to the reduction in study area VMT under Build Alternative 2. The estimated CO_2 emissions for the No Build Alternative and both build alternatives would be lower in the opening year (2028) compared to the existing year (2023) because federal and state fuel economy standards are expected to reduce GHG emissions over time. However, the estimated CO_2 emissions for the No Build Alternative and both build alternatives would be similar or higher in the design year (2048) and horizon year (2050) compared to the existing year (2023) because AADT is expected to increase over time, independent of the proposed project.

CONSTRUCTION EMISSIONS

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by

implementing better traffic management during construction phases. 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.

Construction emissions were estimated using CAL-CET version 1.0.3. During construction, Build Alternative 1 would generate approximately 164 metric tons of CO_2e, and Build Alternative 2 would generate approximately 186 metric tons of CO_2e. The project would implement measures to reduce construction emissions, such as maintenance of construction equipment and vehicles, and limiting construction vehicle idling time. 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 1.4.3.10).

CEQA Conclusion

While construction of both build alternatives would result in GHG emissions during construction, neither build alternative would increase operational GHG emissions compared to the No Build Alternative. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction GHG reduction measures, the impact would be less than significant.

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

3.2.6 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. Additionally, Caltrans has enacted policies and initiatives to reduce GHG emissions in transportation to reach the state's climate goals. For a full list of statewide and Caltrans GHG reduction strategies, refer to SER, Chapter 16, Climate Change.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in

AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40% 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% 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 2025).

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 2024b).

Caltrans Policy Directives and Other Initiatives

Caltrans Director’s Policy 30 (DP-30) Climate Change (June 22, 2012) established a policy to ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. Other Director’s policies promote energy efficiency, conservation, and climate change, and commit Caltrans to sustainability practices in all planning, maintenance, and operations. Caltrans Greenhouse Gas Emissions and

Mitigation Report (Caltrans 2020) provides a comprehensive overview of Caltrans' emissions and current Caltrans procedures and activities that track and reduce GHG emissions. It identifies additional opportunities for further reducing GHG emissions from Department-controlled emission sources, in support of Caltrans and State goals.

PROJECT-LEVEL GHG REDUCTION STRATEGIES

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

1. PF-AQ-1 through PF-AQ-4 (Section 1.4.3.10): Caltrans Standard Specifications require contractors to comply with all laws applicable to the project and to certify they are aware of and would comply with all CARB emission reduction regulations. PF-AQ-3 and PF-AQ-4 require the construction contract to maintain vehicles and equipment, use solar-powered traffic control lights if feasible, and minimizing idling of construction vehicles and equipment.
2. PF-TR-1 (Section 1.4.3.10): A TMP will be prepared during the project design phase to minimize traffic disruptions from project construction. Minimizing traffic delays during construction will help reduce GHG emissions from idling vehicles.

3.2.7 Adaptation

While reducing GHG emissions is crucial in combating climate change, it is only one part of the solution. Caltrans must proactively plan for the impact of climate change on California's transportation infrastructure. This involves modifying and protecting facilities to reduce potential damage and build resilience against future climate-related challenges.

Caltrans has conducted District Climate Change Vulnerability Assessments to identify segments of the State Highway System that are vulnerable to climate change impacts, such as sea level rise, increased temperatures, and extreme weather events. These assessments help prioritize areas for adaptation efforts and inform the development of strategies to enhance the resilience of critical infrastructure.

Additionally, Caltrans periodically prepares a Sustainability Roadmap, which outlines the agency's strategic plans and progress reports aimed at achieving state sustainability goals. The roadmap is a two-year progress report on several important milestones achieved by Caltrans while implementing Executive Orders B-16-12, B-18-12, and the adaptation planning process of Executive Orders B-30-15, N-19-19, and N-82-20.

Refer to SER, Chapter 16, Climate Change for additional information regarding federal, state, and Caltrans adaptation efforts.

3.2.7.1 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 would 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 would 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 would triple to 370 by 2100, and 3,750 miles would 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 2023).

PROJECT ADAPTATION ANALYSIS

Sea Level Rise

Regulatory and Regional Planning Context

The proposed project is adjacent to the Pacific Coast shoreline, is within the San Mateo County Local Coastal Program area of authority of the California Coastal Zone, and is within the federal Coastal Zone as defined by the Coastal Zone Management Act (CZMA).

Analysis

According to San Mateo County's Sea Level Rise Vulnerability Assessment (San Mateo County 2018), all beaches within the City are vulnerable to sea level rise under the scenarios assessed, i.e., baseline scenario (1% annual chance storm), mid-level (1% storm + 3.3 feet of SLR), and high-end (1% storm + 6.6 feet of SLR). In addition, the assessment shows that the City would have 38 acres of land inundated in the baseline scenario, 162 acres inundated in the mid-level scenario, and 297 acres inundated in the high-end scenario. However, none of these areas overlap the project footprint.

To assess potential flood risks from sea level rise within the project area, Caltrans draws from the guidance provided in 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).

Coastal Flood Hazards

Two scenarios were considered for this analysis, an intermediate-high sea level rise scenario for a short-term 25-year period (Year 2050) that is consistent with the RTP horizon year, 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 scenarios for San Francisco at year 2050 presents a sea level increase of approximately 1 foot and the estimate at year 2100 is 4.8 feet (OPC 2024). 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.

King tides are extreme high tides that happen several times a year due to the alignment of the gravitational pull between sun, moon, and Earth. King tides are the highest high tides of the year—one to two feet higher than average high tides, which is a good approximation of how high everyday tides are expected to be over the next few decades

due to human-caused sea level rise (CCC 2019). The CCC launched the King Tides Project, encouraging the public to take photos during predicted king-tide events. The image below is a photo captured at the Pacifica Municipal Pier, about 1.12 miles south of the project area, in 2024.



Photo source: CCC 2024

Storm events can also add to sea-level rise. While sea level rise causes gradual flooding over time, king tides and storms cause temporary increases in water levels. The assessment below considered a worst-case scenario by adding 24 inches of king tide.

Flood Risk Conditions

Data from the Our Coast Our Future (OCOF) Hazard Map tool (https://ourcoastourfuture.org/hazard-map) was used to illustrate existing conditions and both the short-term and long-term scenarios considered here. Table 3.2-2 summarizes the potential tidal datum elevations in the years 2050 and 2100 Interim-High scenarios.

Table 3.2-2. Tidal Elevations for Current and Assumed Sea Level Rise Scenarios

Tidal Datum	Current Elevation (feet)	2050 Scenario +1-foot SLR (feet)	2100 Scenario +4.8 feet SLR (feet)
Mean higher high water + assumed 2 feet king tide	7.90	8.90	12.70
Mean higher high water	5.90	6.90	10.70
Mean high water	5.29	6.29	10.09
Mean sea level	3.24	4.24	8.04
Mean lower low water	0.06	1.06	4.86

Notes:
Elevations are shown in NAVD88
Sea level rise scenarios are for intermediate high conditions are sourced from the OPC 2024 guidance
Current tidal datum elevations are sourced from NOAA Station ID No. 9414290 in San Francisco, CA
SLR = sea level rise

Based on the OCOF tool, it was determined that the project area is not subject to sea level rise inundation at current tidal elevations and is not in an area that would be subject to inundation under the estimated potential sea level rise scenarios. In addition, based on topography of the project site, the elevation is approximately 100 feet above mean sea level (USGS 2018). The topography is relatively flat and falls to the west toward the Pacific Ocean and rises to the east. Oceana Boulevard and Palmetto Street parallel SR 1 to the east and west, respectively, and are situated at about Elevation 91.5 and 93.5 feet, respectively, in the vicinity of the Manor Drive overcrossing. The lowest elevation of development within the project footprint is 70.21 feet.

As seen in Table 3.2-2, the worst-case scenario would amount to 12.7 feet of inundation for the 2100 scenario. Given that the elevation of the project footprint is substantially higher, no inundation impacts from sea level rise are expected.

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 Pacific Ocean shoreline that would temporarily impact the coastal recreational areas, such as the Coastal Trail and Esplanade Beach Overlook. However, the scenario with a king tide event could result in long-term damage or loss of coastal recreational areas adjacent to the project.

Implementation of the proposed project is neither expected to exacerbate or reduce flood risks during king tide events. The proposed project over the near term (Year 2050) or long term (Year 2100) is not anticipated to be at risk from sea level rise.

Precipitation and Flooding

The proposed project is located in a Federal Emergency Management Agency (FEMA) floodplain Zone X, an area of minimal flood hazard (AECOM 2025b). According to Caltrans Climate Change Vulnerability Assessment, precipitation is expected to increase by a range of 5.0 to 9.9% in 2055 and 2085 (Caltrans 2019). Build Alternative 1 would increase impervious surface by 0.91 acre and Build Alternative 2 would increase impervious surface by 1.90 acre. The added impervious area from the build alternatives would contribute less than 1% area to the effective watershed, based on the most conservative assumptions (AECOM 2025b). Neither Build Alternative 1 nor Build Alternative 2 would exacerbate future precipitation or flooding.

3.3 Senate Bill 743/Induced Demand Analysis

Build Alternative 1 would widen the Manor Drive overcrossing of SR 1 between Palmetto Avenue and Oceana Boulevard without adding new through lanes, replace the existing stop signs with traffic and pedestrian signals, and construct new sidewalks and bicycle lanes. Build Alternative 1 would not increase traffic volumes compared to the No Build Alternative. All elements of Build Alternative 1 are identified in the Caltrans Transportation Analysis under CEQA (Caltrans 2025c) as project types not likely to lead to a measurable and substantial increase in VMT.

Build Alternative 2 would consist of all elements of Build Alternative 1, plus a new on-ramp connection to northbound SR 1 at Milagra Drive/Oceana Boulevard. A qualitative analysis was conducted for Build Alternative 2 (Fehr & Peers 2025b). Build Alternative 2 would provide a more direct route for local drivers traveling toward northbound SR 1 than under existing conditions. The next northbound on-ramp is at Monterey Road, approximately 0.5 mile to the north. Construction of the new on-ramp would potentially allow more efficient vehicle routing as well as provide opportunities for walking, bicycling, and transit trips. The qualitative analysis determined that Build Alternative 2 is not likely to lead to a measurable and substantial increase in vehicle travel.

3.4 Wildfire

3.4.1 Affected Environment

The California Department of Forestry and Fire Protection (CAL FIRE) has designated Fire Hazard Severity Zones (FHSZs) throughout the state based on factors such as fuel, slope, and weather to indicate varying degrees of fire hazard. CAL FIRE also designates land as either a Federal, State, or Local Responsibility Area based on population density, land use, and land ownership. The project is located outside of the State Responsibility Area and is within a Local Responsibility Area. The project site is not located within a very high fire hazard severity zone.

3.4.2 Environmental Consequences

The proposed project is not located within or adjacent to any CAL FIRE state responsibility areas, nor is it within a local responsibility area classified as a very high fire hazard severity zone (CAL FIRE 2025). The closest classified local responsibility area is the area surrounding Milagra Ridge, which is classified as a moderate fire hazard severity zone.

The proposed project would be constructed of non-flammable materials and would not include any new utilities or structures that would exacerbate fire hazard. The project would require the relocation of utilities as described in Sections 1.4.3.7 and 2.2.4.2. Both build alternatives would place the existing PG&E overhead transmission line east of Oceana Boulevard underground along Oceana Boulevard from Avalon Drive to Manor Drive. Given that the project would not increase travel lanes, the project would not increase vehicle or human presence at the project site post-construction. One purpose of the project is to enhance the structural stability of the Manor Drive overcrossing; therefore it would not compromise the overcrossing's resistance to seismic events, including those that could occur as a result of post-fire instability. PF-WF-1 (Section 1.4.3.10) would further reduce risks associated with wildfire through best management practices.

3.4.3 Avoidance, Minimization, and/or Mitigation Measures

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

3.5 Cumulative Impacts

3.5.1 Regulatory Setting

Under CEQA (Guidelines Section 15355), "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

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

potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts.

3.5.2 Resources Considered for Cumulative Impact Analysis

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

Cumulative projects being considered for the cumulative analysis include those described in Table 2.1-1 in Section 2.1.1 as well as the following Caltrans projects that may occur within the limits of the SR 1/Manor Drive Overcrossing Improvement Project:

- EA 0Q440, installation of stormwater BMPs for stormwater mitigation, various locations in San Mateo County from SR 1 PM 44 to 48. The project is in detailed design.

- EA 1Y960, installation of broadband conduit and fiber optics as part of the Broadband Middle Mile Network, various locations in San Mateo County including SR 1 from PM 29.034 to R46.716. The project is in the Project Approval and Environmental Document phase.

The cumulative impacts analysis follows the Caltrans six-step process established in the May 2025 interim guidance on cumulative impact analysis under CEQA (Caltrans 2025d), 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 project would have no effect on agriculture and forestry resources, land use and planning, mineral resources, population and housing, public services, recreation, or wildfire. In addition, the proposed project would have less-than-significant effects on aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise (specifically traffic and construction noise), transportation, Tribal Cultural Resources, and utilities and service systems.

The project includes measures to avoid or minimize the potential for impacts on aesthetics, biological resources, cultural 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 related to construction vibration (Item b in Section 3.6.13) that would require mitigation and is therefore included in the cumulative analysis.

As described in Section 3.6.13, estimated construction vibration levels have the potential to exceed standard Caltrans-identified limits at a total of eight properties. Two residential structures were estimated to potentially experience construction vibration above the recommended 0.3 in/sec PPV threshold. Six commercial/industrial structures were estimated to potentially experience vibration above the recommended 0.5 in/sec PPV threshold. Caltrans' vibration limits do not represent thresholds at which damage is certain to occur, because vibration impacts depend on a number of factors, including the proximity of the existing structures to the construction location, soil conditions, the soundness of the structures, and the construction methods used. However, due to the close spacing of anticipated project construction activities to adjacent development, it is conservatively assumed that construction vibration impacts have the potential to be significant if no vibration management measures are taken. Therefore, MM-NOI-2 was included to reduce the potential for vibration impacts to occur as a result of project construction.

The vibration analysis identified potential vibration impacts to residential and commercial/industrial structures from construction equipment within 9 to 18 feet, depending on equipment type (Section 3.6.13). Therefore, the resource study area is conservatively assumed to be within 18 feet of the anticipated construction area for the

SR 1/Manor Drive Overcrossing Improvement Project. Structures could be subject to cumulative vibration impacts if concurrent construction and vibration activities were to occur within close proximity of construction for other projects. As stated in Section 1.4.5, construction of the SR 1/Manor Drive project could begin in 2029, depending on the availability of funding.

All but two of the projects listed in Table 2.1-1 (Section 2.1.1) would be farther than 18 feet from the anticipated SR 1/Manor Drive Overcrossing Improvement Project construction area. The proposed motel/hotel projects at 699 Oceana Boulevard and 710 Oceana Boulevard would be in proximity to the proposed northbound SR 1 on-ramp from Milagra Drive that is included in Build Alternative 2. However, the status of the applications is unknown, and there is no indication that construction of one or both of the motel/hotel projects would take place concurrently with that for the SR 1/Manor Drive Overcrossing Improvement Project. The other future projects would be required to evaluate the potential to result in cumulatively considerable construction vibration impacts or other effects, and the local agency coordination required under PF-TR-1 (Section 1.4.3.10) would help to avoid cumulatively considerable construction vibration impacts, as described further below.

As described in Section 2.1.1, the City's most recent General Plan Housing Element identified three sites within 1 mile of the proposed project (the Pacific Manor Shopping Center, 440 Manor Place; the Public Works Corp Yard, 155 Milagra Drive; and Brentwood Shopping Center, Oceana/Manor) that have the potential to be redeveloped and rezoned to residential and or mixed use to meet RHNA capacity. No development proposals have been submitted for any of these locations. There is no indication that redevelopment of these properties would take place concurrently with that for the SR 1/Manor Drive Overcrossing Improvement Project.

Two Caltrans projects proposed along SR 1 have the potential to involve work within the project limits of the SR 1/Manor Drive Overcrossing Improvement Project. EA 0Q440, which is in detailed design, would involve the installation of stormwater BMPs for at various locations in San Mateo County from SR 1 PM 44 to 48. EA 1Y960, which is in the Project Approval and Environmental Document phase, would install broadband conduit and fiber optics at various locations in San Mateo County including SR 1 from PM 29.034 to R46.716. There is no indication that construction of one or both of the roadway projects would take place concurrently with, or in the same area, as that for the SR 1/Manor Drive Overcrossing Improvement Project.

The other future projects would be required to evaluate the potential to result in cumulatively considerable construction vibration impacts or other effects. Moreover, the proposed project would include PF-TR-1 (Section 1.4.3.10), which would require coordination with local jurisdictions and agencies as part of preparation of the TMP. With

the implementation of MM-NOI-2, the contribution of the proposed project on cumulative impacts to construction vibration would be minimized to less than significant. The proposed project would not result in a cumulatively considerable impact.

3.6 CEQA Environmental Checklist

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

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as the Best Management Practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below. See Chapters 1 and 2 for a detailed discussion of these project features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.6.1 Aesthetics

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

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	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?	Less Than Significant Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less Than Significant Impact

a) No Impact

The project area is located along SR 1, which is designated as a scenic route in the City of Pacifica General Plan (City of Pacifica 2022a). SR 1 within the project limits is also listed as eligible for State Scenic Highway status, but it is not an Officially Designated State Scenic Highway (Caltrans 2025a). Additionally, views to the west of the project area are designated as a Coastal View Corridor within the General Plan.

SR 1 within the project limits is below the grade of the adjacent city streets, and therefore does not afford views of the ocean. Project construction may temporarily obscure views of the ocean from local streets such as Manor Drive and Oceana Boulevard. However, any view obstruction from construction activities would be temporary and would not permanently alter existing views.

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 and are typical of any infrastructure project.

b) Less Than Significant Impact

SR 1 within the project limits is listed as eligible for designation as a State Scenic Highway. In addition, the project area overlaps with two Classified Landscaped Freeway segments: PM R43.21 to R45.12 and PM R45.28 to R45.50.

The project would result in the removal of vegetation in the median of SR 1, as well as the removal of trees in the vegetated strip between northbound SR 1 and Oceana Boulevard. An estimated 9 trees would be removed under Build Alternative 1, while 10 trees would be removed under Build Alternative 2. The trees that would be removed are considered ornamental and non-native to the project area. Additionally, PF-VIS-1 through PF-VIS-3 (Section 1.4.3.10), which would require vegetation preservation, replanting, and reestablishment, have been included in the project design. This impact would be less than significant.

c) Less Than Significant Impact

As described in Section 2.2.6, both build alternatives would affect the character and quality of the existing visual environment. The degree of the visual impact would depend on the chosen alternative. While Build Alternative 1 would affect visual character and quality, Build Alternative 2 would have a higher overall visual impact due to the proposed construction of a new on-ramp to SR 1 at Milagra Drive. This action would not only modify the intersection of SR 1 and Milagra Drive, but would also require widening and realigning SR 1 into the inside median, necessitating the permanent removal of approximately 700 feet of landscaped vegetation. Based on the assessment of visual impacts, and the incorporation of visual resource-specific project features (PF-VIS-1 through PF-VIS-7; Section 1.4.3.10) and avoidance and minimization measures such as architectural treatment for new structures (AMM-VIS-2 and AMM-VIS-3 in Section 1.4.3.10), neither build alternative would rise to the level of a significant visual impact.

d) Less Than Significant Impact

Nighttime construction activities could temporarily add new sources of light and glare for motorists, bicyclists, and pedestrians, as well as employees and customers of local businesses. This would be an unavoidable but temporary impact related to light and glare. The project includes PF-VIS-7 (Section 1.4.3.10) to reduce the potential for temporary impacts from construction lighting.

Both build alternatives would introduce new permanent sources of light and glare in the form of new overhead safety lighting. As stated in Section 1.4.3.6, the project would add overhead safety lighting along Manor Drive at the intersections of Oceana Boulevard and Palmetto Avenue, as well as along Oceana Boulevard. Eight new lights are currently proposed: four along Manor Drive and four along Oceana Boulevard. Additionally, one existing light along Manor Drive would be replaced, and four existing lights along Oceana Boulevard would be replaced. Therefore, there would be a net increase in lighting in the project area, i.e., new sources of nighttime light and glare. However, the project area is already illuminated at night, through a combination of stationary sources such as existing overhead safety lighting and recessed lighting on nearby buildings, as

well as mobile sources such as vehicle headlights. Additionally, the proposed new safety lights would be optimized to prevent light pollution and trespass toward neighbors (AMM-VIS-1; Section 2.2.2.3). Therefore, the impact would be less than significant.

3.6.2 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) <u>No Impact</u>

The project area consists of urban land. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within or near 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 (NRCS n.d.; USFS 2018). 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 non-agricultural use or forest land to non-forest use. Therefore, the project would have no impact on agriculture and forest resources.

3.6.3 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?	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant Impact

a) No Impact

The project is included in the current RTP, Plan Bay Area 2050+ (MTC and ABAG 2026; RTP ID No. 25-T06-063). The project is also included in the MTC's financially constrained 2025 TIP (MTC 2024; TIP ID No. SM-170004). The project's design concept, scope, and open-to-traffic date assumptions are generally consistent with the RTP and TIP. The project would not interfere with the timely implementation of the transportation plans. The project does not conflict or interfere with the control measures set forth in the BAAD 2017 Clean Air Plan.

b) Less than Significant Impact

Neither build alternative would increase emissions of criteria air pollutants or MSATs relative to existing conditions or exceed the BAAD's recommended thresholds for construction emissions, as discussed in Section 2.3.5.2.

c) No Impact

Four sensitive receptors were identified within 500 feet of the project area. However, neither build alternative would increase emissions of criteria air pollutants or MSAT over existing conditions, or exceed the BAAD's recommended thresholds for construction

emissions (Section 2.3.5.2). Therefore, the build alternatives would not expose sensitive receptors to substantial pollutant concentrations. The project would include standard measures to minimize construction-related air quality effects (PF-AQ-1 through PF-AQ-4; Section 1. 4.3.10). There would be no impact.

d) Less than Significant Impact

Both build alternatives could result in short-term, temporary odors and dust from construction equipment and construction operations. The project would include standard measures to minimize construction-related air quality effects, including best practices for fugitive dust emissions and vehicle idling (PF-AQ-1 through PF-AQ-4; Section 1. 4.3.10). The project would not increase long-term odors that are not already present in the project area.

3.6.4 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?	No 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?	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than Significant Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact

a) Less than Significant Impact

No candidate, sensitive, or special-status species plant or animal species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service have the potential to occur in the BSA (Sections 2.1.10 and 2.1.11). The project area is outside of NOAA Fisheries jurisdiction; therefore, the project would not affect fish species.

Two state-listed species have a moderate potential to occur in the BSA: western bumble bee (state candidate endangered) and Townsend's big-eared bat (state species of special concern). Potential impacts are less than significant and would be reduced through implementation of PF-BIO-1 through PF-BIO-6 in Section 1.4.3.10 and Measures AMM-BIO-1 and AMM-BIO-2 in Section 2.4.2.3.

b) No Impact

No sensitive natural communities or riparian habitat occur in the BSA (Section 2.4.1.1). No impacts would occur.

c) No Impact

No wetlands, waters of the United States, or waters of the State occur in the BSA. Two potentially jurisdictional culverted waters of the United States—Milagra Creek and an unnamed drainage channel in the northern portion of the BSA—flow under the BSA at approximately 20 feet below street level. A concrete-lined V-shaped ditch between northbound SR 1 and Oceana Boulevard is part of the City of Pacifica storm water system, lacks a defined bed and bank, and is not subject to federal or state jurisdiction (AECOM 2025a). The project would not affect wetlands, waters of the United States, or waters of the State because none are present. No impacts to potentially jurisdictional culverted waters or the concrete-lined ditch are anticipated.

d) No Impact

As described in Section 2.4.1.1, the BSA is unlikely to provide habitat for most vertebrate wildlife species because it primarily consists of hardscape or ruderal cover. Urban development and SR 1 are major barriers to dispersal for many wildlife species in the area. Culverts in the BSA are approximately a quarter of a mile long and discharge into the Pacific Ocean. The potential exists for the culverts to be used by wildlife as a corridor; however, due to the culverts' length (particularly for smaller species) and discharge point into the Pacific Ocean, they are unlikely to be used by wildlife as a crossing because they lack a clear line of sight and terminate in unsuitable habitat. Overall habitat quality in the BSA appears to be low because of extensive paved surfaces, the high degree of urbanization, limited native vegetation, and numerous dispersal barriers such as SR 1 and the adjacent roadways.

Build Alternatives 1 and 2 would widen or replace the Manor Drive overcrossing and add or enhance pedestrian and bicycle facilities. Build Alternative 2 would also include a new on-ramp to northbound SR 1 from Milagra Drive and shoulder widening along northbound SR 1 and the existing Milagra Drive off-ramp. New impervious surface from the project would be 0.91 acre with Build Alternative 1 and 1.90 acres with Build Alternative 2. Although both build alternatives would introduce additional pavement, the project is not expected to interfere with wildlife movement or impede the use of native wildlife nursery sites due to the urban setting, limited native vegetation, and numerous dispersal barriers in the BSA. No impacts are anticipated.

e) Less than Significant Impact

Both build alternatives would be consistent with local policies and ordinances protecting biological resources, including in the City of Pacifica LCLUP (Section 2.2.2.2). No Environmentally Sensitive Habitat Areas (ESHAs), including wetlands, have been identified within the project area.

The City of Pacifica tree ordinance is described in Section 2.4.1.1. Potential tree removals for Build Alternative 1 and Build Alternative 2 are anticipated to be in Caltrans ROW and would be replaced as described in Section 1.4.3.9. The project includes PF-VIS-1 and PF-VIS-2 (Section 1.4.3.10) to reduce the potential for impacts related to tree removal. No conflict with the City tree ordinance is anticipated. The impact would be less than significant.

f) No Impact

No Habitat Conservation Plans or Natural Community Conservation Plans cover the project area (Section 2.2.2.1).

3.6.5 Cultural Resources

Would the Project:

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

a) No Impact

No historical resources as defined in 14 CCR 15064.5 were identified in the project's APE through the records search or the pedestrian survey. Caltrans typically considers properties that are 45 years of age or older for their potential for historical significance (Caltrans 2026b). Several buildings of 45 years of age or older are adjacent to the project area; however, project construction and operation would have no impact on these properties. No impacts would occur.

b) Less Than Significant Impact

The records search results and pedestrian survey did not result in identification of archaeological resources in the APE as defined in 14 CCR 15064.5. However, a possibility exists that archaeological features could be encountered during project construction. The implementation of AMM-CUL-1, described in Section 2.2.7.3, would minimize the potential for impacts to previously undiscovered resources by requiring cultural resources awareness training for the construction crews. Additionally, the project includes PF-CUL-1 and PF-CUL-2 (Section 1.4.3.10), which provide a protocol for cultural resource discoveries if encountered during construction. Potential impacts would be less than significant.

c) Less Than Significant Impact

There is no indication or evidence that the project area has been used for human burials in the recent or distant past. Therefore, human remains are unlikely to be encountered. Project construction would involve trenching, excavation, and potentially other earthmoving activities. Human remains are unlikely to be encountered. In the unlikely event that human remains are discovered during subsurface activities, the project includes PF-CUL-1 and PF-CUL-2 (Section 1.4.3.10), which provide a protocol for

cultural resource discoveries if encountered during construction. Potential impacts would be less than significant.

3.6.6 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

a) Less Than Significant Impact

The project is not anticipated to result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. Energy usage during construction and operation of the build alternatives is described in Section 2.3.7.2 and summarized below.

During project construction, energy would be used in the form of gasoline, diesel, and electricity from construction vehicles and equipment. Project construction was estimated to use approximately 14,174 gallons of diesel, 2,022 gallons of gasoline, and 2,750 kilowatt-hours of electricity. In total, project construction would use approximately 2,200 million British Thermal Units (Btu) of energy. Since construction activities are short-term, the increase of consumption within the project area would also be short-term and would not result in a permanent increase in annual energy consumption in the region.

Operation of the build alternatives would not result in changes to traffic volumes, vehicle mix or other factors that could increase energy consumption. As discussed in Section 2.3.7.2, both build alternatives are anticipated to reduce energy consumption by improving traffic circulation and providing enhanced pedestrian and bicycle access across the overcrossing, which could promote active transportation usage. Additionally, under Build Alternative 2, the proposed new on-ramp at Milagra Drive and Oceana Boulevard would reduce the traffic congestion along Oceana Boulevard, which would further improve local traffic circulation.

For the reasons listed above, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. The project would have a less-than-significant potential to result in a wasteful, inefficient, or unnecessary consumption of energy.

b) No Impact

The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency since the energy would not be used in inefficient or wasteful manner or result in sustained increased energy use. Following construction, operational impacts related to vehicle use would be similar to existing conditions. Since the build alternatives would promote the use of walking and biking by improving and adding pedestrian and bicycle facilities, the project is consistent with the City of Pacifica Climate Action and Resilience Plan. Therefore, there would be no impact.

3.6.7 Geology and Soils

Would the Project:

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

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

The project area is seismically active but is not in an Alquist-Priolo Earthquake Fault Zone. As discussed in Section 2.3.2, the project area is susceptible to strong earthquake-induced ground shaking. The project would not exacerbate the potential for seismic shaking. Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. Project elements would be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions. Caltrans also requires additional geotechnical subsurface and design investigations to be performed during the detailed design phase. These standards and requirements would avoid the potential for substantial adverse effects related to seismic activity, including the risk of loss, injury, or death.

A portion of the project area generally to the west side of SR 1 is mapped as a moderate liquefaction susceptibility zone, while the rest of the project area is mapped as having low liquefaction susceptibility. Caltrans' design and construction guidelines incorporate engineering standards that address liquefaction risk, and the project design would account for liquefaction.

The project area is mapped as having low susceptibility to landslides, as described in Section 2.3.2. The build alternatives would not increase the risk for rainfall-induced or seismically induced landslides.

Since the project would not indirectly or directly exacerbate seismic hazards in the project area, there would be no impact.

b) No Impact

During construction of the project, earthmoving activities such as grading, excavation, and trenching have the potential to result in soil erosion and loss of topsoil as a result of erosional forces of water and wind. However, the majority of the project area is paved and mapped as Urban Land soil and Urban Land-Orthents, which are not considered to pose a potential risk due to erosion. During construction, erosion control BMPs would be implemented (PF-WQ-2, Section 1.4.3.10). These BMPs would minimize any erosion that could occur. Therefore, there would be no impact related to soil erosion and loss of topsoil.

c) No Impact

The project alignment would not be in a geologic unit that is unstable, nor would the project result in geologic units or soils becoming unstable. The project alignment is relatively flat and is mapped as having low susceptibility to landslides. Caltrans' design

and construction guidelines incorporate engineering standards that address liquefaction and other potential hazards such as lateral spreading, subsidence, or collapse. Therefore, there would be no impact.

d) No Impact

Underlying soils at the project site are Pleistocene-age marine terrace deposits, consisting of sand and gravel. These soils have low expansive properties. Therefore, the project would not be built on expansive soils and no impacts would occur.

e) No Impact

No septic systems would be implemented as part of the proposed project. Therefore, there would be no impact.

f) Less than Significant Impact

As discussed in Section 2.3.3.2, the potential for encountering intact significant fossils is low. Although some construction activities would take place within areas mapped as sensitive for paleontological resources, significant paleontological resources are not expected to be encountered because proposed construction would not exceed the depth disturbance related to the original construction of SR 1 and adjacent areas. The project includes PF-GEO-1 (Section 1.4.3.10), which provides for stopping work and performing further investigation if paleontological resources are encountered during project construction. Therefore, there would be a less than significant impact.

3.6.8 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

a) Less Than Significant Impact

Project construction would result in GHG emissions from use of construction equipment and worker and vendor trips. This would consist primarily of emissions from equipment exhaust and worker and vendor vehicle trips. Construction emissions were estimated using CAL-CET version 1.0.3, as described in Section 3.2.5. During construction, Build

Alternative 1 would generate approximately 164 metric tons of CO_2e, and Build Alternative 2 would generate approximately 186 metric tons of CO_2e. The project would implement measures to reduce construction emissions, such as maintenance of construction equipment and vehicles, limiting construction vehicle idling time, and scheduling and routing of construction traffic to reduce engine emissions. 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 1.4.3.10).

Neither Build Alternative 1 nor Build Alternative 2 would increase the vehicle capacity of project area roadways. This type of project generally causes minimal or no increase in operational GHG emissions. To be conservative, a quantitative analysis of operational CO_2 emissions was performed using the Caltrans CT-EMFAC2021 model. The results of the analysis are provided in Table 3.2-1 (Section 3.2.5). The estimated annual CO_2 emissions for Build Alternative 2 during the opening year (2028), design year (2048), and horizon year (2050) scenarios would be lower than the emissions for the No Build Alternative and Build Alternative 1, which is primarily attributed to the reduction in study area VMT under Build Alternative 2. The estimated CO_2 emissions for the No Build Alternative and both build alternatives would be lower in the opening year (2028) compared to the existing year (2023) because federal and state fuel economy standards are expected to reduce GHG emissions over time. However, the estimated CO_2 emissions for the No Build Alternative and both build alternatives would be similar or higher in the design year (2048) and horizon year (2050) compared to the existing year (2023) because AADT is expected to increase over time, independent of the proposed project. Neither Build Alternative 1 nor Build Alternative 2 would increase VMT compared to the No Build Alternative or affect travel demand or travel patterns in a way that would contribute to a long-term increase in GHG emissions. The impact would be less than significant.

b) <u>No Impact</u>

Plans and policies adopted for the purposes of reducing GHG emissions in California are described in Section 3.2.6. The project would not contribute to a long-term increase in GHG emissions, and GHG reduction measures (PF-AQ-1 through PF-AQ-4 in Section 1.4.3.10) would be implemented during construction. The project would not conflict with any plans, policies or regulations for reducing GHG emissions. As discussed in Section 2.2.1.2, the build alternatives would promote the use of walking and biking, consistent with the City of Pacifica Climate Action and Resilience Plan. Therefore, there would be no impact.

3.6.9 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
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact

a) Less than Significant

During construction, limited amounts of hazardous materials such as fuels, paints, asphalt, and lubricants would be used. These materials could pose a threat to human health or the environment if not properly managed. Adherence to federal and state regulations such as during project construction and maintenance would reduce the risk of exposure to hazardous materials and accidental releases of hazardous materials. Transportation of hazardous materials on area roadways is regulated by the CHP and the Caltrans, and use of these materials is regulated by Department of Toxic Substances (DTSC), as outlined in California Code of Regulations Title 22, Division 4.5. Compliance with existing regulations is mandatory.

Additionally, as part of PF-HAZ-1 (Section 1.4.3.10), Caltrans' Standard Specifications Section 13-4 would be implemented to prevent and control spills or leaks from construction equipment and from storage of fuels, paints, cleaners, solvents, and

lubricants. Caltrans Standard Specification Section 14-11 would also be implemented, which outlines handling, storing, and disposing of hazardous waste. Furthermore, a SWPPP would be required for the project, which would contain measures that address minor spills of hazardous materials (PR-WQ-1 in Section 1.4.3.10). Therefore, construction of the proposed project is not expected to create a hazard to construction workers, the public, or the environment.

There would be no changes related to the transport, use, and disposal of hazardous materials with the operation of the project. Vehicles using the roadways may carry hazardous materials such as household cleaning products and herbicides, but transport of these chemicals would be in limited amounts and are not expected to result in significant hazard to the public or environment. Therefore, impacts would be less than significant.

b) Less than Significant

Hazardous materials could be released into the environment during the construction of the project when excavating and grading soil. Additionally, during demolition or modification of the Manor Drive overcrossing, lead particles and asbestos fibers could be released into the environment, if present. During the detailed design phase, PF-HAZ-2 (Section 1.4.3.10) would be implemented, which requires performing a preliminary site investigation for potential hazardous materials concerns related to soil, groundwater, and building materials. The investigation findings would be used to evaluate soil, groundwater, and construction/demolition debris handling practices; construction worker health and safety concerns; and soil, groundwater, and debris 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. Implementation of PF-HAZ-1 and PF-HAZ-2 (Section 1.4.3.10) and adherence to applicable regulatory requirements would reduce the potential for adverse effects related to hazardous materials.

Operation of the project would be similar to existing conditions and is not expected to result in an upset or accident release of hazardous materials. For the reasons discussed above, the project would result in less-than-significant impact.

c) Less than Significant

Ocean Shore School (now closed), Oceana High School, and the City of Pacifica Child Care Services are within one-quarter mile of the project area. Implementation of the project features described in Items a and b above and compliance with existing regulations would limit the risk of emitting or handling hazardous materials near the

schools during project construction. In addition, PF-AQ-1 through PF-AQ-4 (Section 1.4.3.10) would also serve to minimize fugitive dust and vehicle emissions.

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

Therefore, impacts would be less than significant.

d) Less than Significant

As described in Section 2.3.4.1, six properties were identified in regulatory agency databases that may have impacted soil or groundwater in or within 1/8 mile of the project area. SR 1 was constructed before the phase-out of lead in gasoline, and project construction activities that disturb exposed shallow soils could encounter aerially deposited lead (ADL) contamination. In addition, hazardous building materials could be encountered during project construction.

PF-HAZ-2 (Section 1.4.3.10) would require a preliminary site investigation for aerially deposited lead, agricultural chemicals, and potential hazardous materials concerns related to soil and groundwater during the project design phase. If the investigation shows evidence of hazardous materials, Caltrans would require the contractor to follow the appropriate standard specifications for any contaminants. The project would not create a significant hazard to the public or the environment. Impacts would be less than significant.

e) No Impact

The project area is not in an airport land use plan or within 2 miles of a public airport or public use airport where the project would result in a safety hazard for people residing or working in the project area. San Francisco International Airport is located in the northeastern portion of unincorporated San Mateo County, approximately 5 miles to the east from the project area. The project area is located within Airport Influence Area A but is located outside of noise contours and safety zones. The project also does not include residences or occupied land uses that could be affected by airport activities. There would be no impact.

f) Less Than Significant Impact

The project includes preparation and implementation of a TMP (PF-TR-1; Section 1.4.3.10) 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. Therefore, the impact would be less than significant.

g) No Impact

The proposed project is located within a highly urbanized area outside of mapped fire hazard zones, as described in Section 3.4.1. Therefore, no impact would occur.

3.6.10 Hydrology and Water Quality

Would the Project:

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

a) Less than Significant Impact

As discussed in Section 2.3.1, the only surface water in the project area is Milagra Creek, which is culverted underneath the entire project area and SR 1 at approximately

20 feet below grade, and outfalls to the Pacific Ocean. No water bodies or creeks in or near the project area have been identified as pollutant impaired.

The project lies within the 700-acre San Pedro Valley Groundwater Basin (Groundwater Basin Number 2-36) for which water quality, groundwater level, and groundwater storage data for the basin is minimal. Implementation of PF-WQ-1 and PF-WQ-2 (Section 1.4.3.10) and compliance with the regulatory requirements discussed in Section 2.3.1.2 would reduce the potential for impacts to water quality during construction. Post-construction BMPs would be implemented in accordance with the Caltrans and City NPDES permits. Neither of the build alternatives would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Impacts would be less than significant.

b) No Impact

Given that the project and its surrounding areas are highly urbanized and paved, there is low potential for aquifer and groundwater recharge. Construction and operation of the project would cause no changes to groundwater levels or recharge. Neither of the build alternatives would decrease groundwater supplies or interfere with groundwater recharge. No impacts would occur.

c) No Impact

As discussed in Section 2.3.1, there is an existing MS4 system from the low point on SR 1 that discharges into the Pacific Ocean via an outfall west of Milagra Drive near the San Francisco RV resort. The size of the outfall is approximately 90 inches in diameter. Build Alternative 1 would add a total of 0.91 acres of new impervious surface and Build Alternative 2 would add 1.90 acres of new impervious surface.

The project would be designed to manage stormwater runoff from new impervious surface. Minor drainage improvements are anticipated for both build alternatives, which may include new drainage inlets and roadside ditches. Additional drainage systems may be required for Build Alternative 2 due to additional impervious surface. Specific drainage improvements would be determined during the detailed design phase. As Milagra Creek is culverted under the project area. There be would no alteration of the course of a stream or river or through the addition of impervious surfaces. Furthermore:

(i) The majority of the project area consists of Urban Land soil and Urban Land-Orthents, which are not considered to pose a potential risk due to erosion. Therefore, there is low potential for erosion or siltation on and off site. BMPs would be implemented to reduce erosional impacts during construction (PF-WQ-2, Section 1.4.3.10). There would be no impact.

(ii) The project area is within Zone X, an area of minimal flood hazard. Both build alternatives would include drainage improvements to capture runoff caused by additional impervious area. The project is not expected to substantially increase the rate of runoff that would cause flooding on or off-site. There would be no impact.

(iii) As discussed in Item c, the project would be designed to manage stormwater runoff from new impervious surface. The project is not expected to exceed the capacity of existing or planned stormwater drainage. There would be no impact.

(iv) The project would make minor drainage improvements to account for additional impervious area, but is not expected to redirect or impede flood flows. There would be no impact.

d) No Impact

The project area is mapped in FEMA Flood Insurance Rate Map 06081C0038F, which has a revision date of August 2, 2017. As shown in Figure 3.6-1, both build alternatives are located within Zone X, an area of minimal flood hazard. No project construction is proposed in a tsunami hazard area as the project lies outside of the Tsunami Hazard Area. The build alternatives would not affect the potential for a pollutant release from a flood, tsunami, or seiche event in the project area.

e) No Impact

The project is not within a California Basin Plan as defined by the State Water Resources Control Board nor is it within a Groundwater Sustainability Plan as defined by the California Department of Water Resources. There would be no impact.

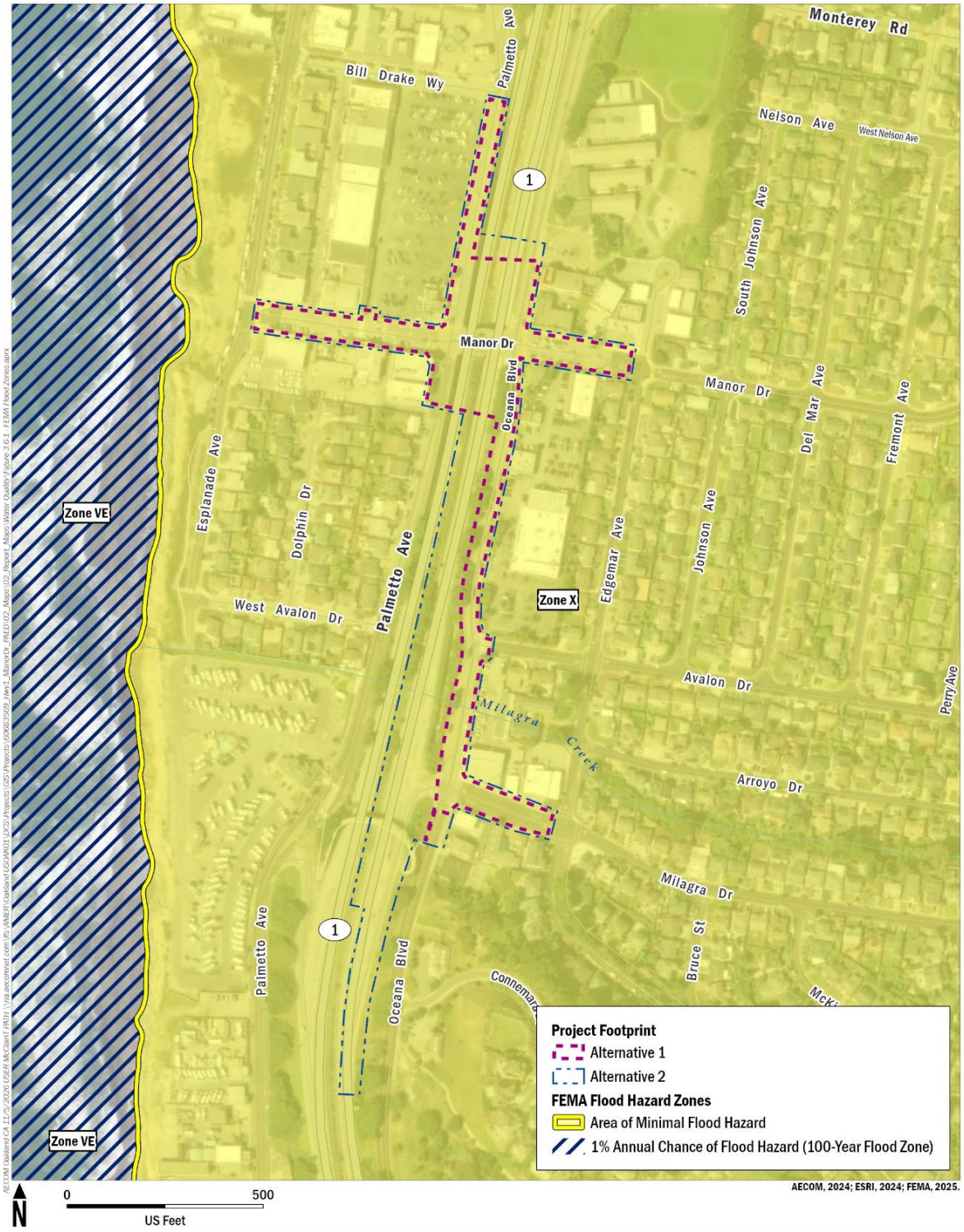

Figure 3.6-1. Federal Emergency Management Agency Floodplains in the Project Area

3.6.11 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 Impact

a) No Impact

All proposed improvements would be constructed within existing Caltrans and City ROW. SR 1, Manor Drive, and other project area roadways would not be permanently altered in a way that would create barriers to community access. A TMP would be implemented during construction to minimize short-term effects from temporary lane closures and detours (PF-TR-1 in Section 1.4.3.10). The project would not change any existing community boundaries or physically divide an established community. The proposed project would not result in new zoning or land use classifications that could open new areas for development or otherwise divide an existing community. No impact would occur.

b) Less Than Significant Impact

The proposed project would be consistent with the applicable objectives and policies discussed in Section 2.2.1. The project would be generally consistent with the Coastal Zone policies described in Section 2.2.2. The project features described in Section 1.4.3.10 and Table 2.2-2 would reduce the potential for inconsistency with applicable Coastal Zone policies, and both AMM-VIS-1 and AMM-VIS-2 in Section 2.2.2.3 further avoid or minimize the potential for impacts. Impacts would be less than significant.

3.6.12 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 area occurs within the Mineral Resource Zone (MRZ) category MRZ-2, which is defined as "areas where adequate information indicates that significant deposits are present, or where it is judged that a high likelihood for their presence exists" (California Department of Conservation 1987).

According to the City of Pacifica General Plan, the City is a source of some mineral resources, including limestone. Previously active quarries produced limestone, but these are no longer operational.

The project would not result in the loss of availability of a known mineral resource, as limestone deposits underlie existing developments or are not currently mined. The project would be constructed within existing Caltrans and City ROW, and a temporary construction easement would be required for sidewalk work along commercial development on Manor Drive and Palmetto Avenue. The project would not involve any activities that could result in the loss of availability of any known and/or locally important mineral resources. Therefore, no impact would occur.

3.6.13 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 with Mitigation Incorporated
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 Noise and Vibration Report completed in November 2025 (Illingworth & Rodkin 2025).

a) Less than Significant

The project was assessed for its potential to result in short-term, temporary increases in noise levels during construction as well as long-term changes to traffic noise in the project area.

Study Overview

A field investigation was conducted from June 11, 2025, to June 13, 2025, to identify land uses that could be subject to traffic and construction noise impacts from the proposed project. A noise monitoring survey consisting of two long-term (LT-1 and LT-2) and ten short-term (ST-1 through ST-10) noise measurements were made between June 11, 2025, and June 13, 2025 to document existing noise levels.

The long-term noise measurements (LT-1 and LT-2) were made to quantify the diurnal trend in noise levels. The long-term measurement locations are listed below and shown in Figure 3.6-2.

1. LT-1: Along Oceana Boulevard near Ocean Shore School (now closed), approximately 40 feet east of the centerline of Oceana Boulevard.
2. LT-2: Along Oceana Boulevard near 699 Oceana Boulevard, approximately 20 feet east of the centerline of Oceana Boulevard.

Ten short-term noise measurements (ST-1 to ST-10) were made along the project corridor and used to validate the traffic noise model. The short-term measurement locations are listed below and shown in Figure 3.6-2.

1. ST-1: Along the northern boundary of the residential property line of 206 Clifton Road, approximately 272 feet from the centerline of SR 1.
2. ST-2: In the parking lot of Seacliff Apartments at 322 Palmetto Avenue, approximately 280 feet east of the centerline of SR 1.
3. ST-3: At the corner of Oceana Boulevard and Monterey Road near the Ocean Shore School field, approximately 185 feet east of the centerline of SR 1.
4. ST-4: In the parking lot of the Ocean Shore School, approximately 320 feet east of the SR 1 centerline.
5. ST-5: Along the rear property line of 528 Palmetto Avenue, approximately 205 feet west of the SR 1 centerline.
6. ST-6: Along the rear property line of 560 Palmetto Avenue, approximately 130 feet west of the SR 1 centerline.
7. ST-7: At 108 Manor Drive in the State Farm outdoor use area, approximately 265 feet east of the SR 1 centerline.
8. ST-8: Along the front property line of 116 Avalon Drive, approximately 140 feet east of the SR 1 centerline.
9. ST-9: Along the front property line of 121 West Avalon Drive, approximately 370 feet west of the SR 1 centerline.
10. ST-10: Along the rear property line of 460 Manor Plaza, approximately 450 feet west of the SR 1 centerline.

Applicable Noise Ordinances

The following local noise ordinances apply to the project area:

City of Pacifica General Plan. City of Pacifica's General Plan sets forth goals, policies, and standards for evaluating community noise in the City. The following are applicable to the proposed project:

- NO-I-6 Construction Noise. Continue to limit hours for certain construction and demolition work.
- NO-I-7. Noise from Highways and Buses. Work with Caltrans and Sam Trans to mitigate transportation-related noise impacts on residential areas and sensitive uses. This may include encouraging installation of sound barriers or bus stop relocation in selected locations (City of Pacifica 2022a).



Figure 3.6-2. Project Area with Noise Measurement Locations

City of Pacifica Municipal Code. Title 5, Chapter 10 of the City's Municipal Code makes in it unlawful to cause any "loud, disturbing, unnecessary, or unusual noise or any noise which annoys, disturbs, injures, or endangers the comfort, health, repose, peace, or safety of other persons within the City." The following is from Section 5-10.03 of the Municipal Code.

> The following noises, among others, are hereby declared to be loud, disturbing, unnecessary, and unusual noises in violation of the provisions of Chapter 10; provided, however, such enumeration shall not be deemed or construed as in any degree exclusive, but merely illustrative, it being the intent and purpose of the provisions of this chapter to include and prohibit all noises of the kind and character described in Section 5-10.02 of Chapter 10.
>
> (m) Pile drivers, hammers and similar equipment. The operation, between the hours of 8:00 p.m. and 7:00 a.m., of any pile driver, steam shover, pneumatic hammer, derrick, steam or electric hoist, or other appliance, the use of which is attended by loud or unusual noise.

Municipal Code Title 8, Chapter 1, Section 8-1.05 provides the allowable construction hours for projects within the City of Pacifica. Allowable construction hours are 7:00 a.m. to 7:00 p.m. on Monday, Tuesday, Wednesday, Thursday, and Friday, and from 9:00 a.m. to 5:00 p.m. on Saturday and Sunday (City of Pacifica 2026).

Typically, work within the Caltrans ROW (shown on Figures 1-2 and 1-3) is not subject to local noise ordinances; however, Caltrans would work with the contractor to meet the local requirements where feasible. Caltrans' standard for temporary construction noise impacts is to not exceed a maximum hourly noise level (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.

Construction

Project construction is anticipated to occur over a period of 16 to 24 months and would include demolition, site preparation, grading/excavation, trenching/foundation, structures, and paving. Project construction would result in intermittent and short-term and temporary increases in noise levels. The extent of the noise would depend on the phase of construction. Construction noise would primarily result from the operation of heavy construction equipment, cast-in-drilled-hole (CIDH) piles, and arrival and departure of heavy-duty trucks. Impact pile driving is not anticipated. Most construction would take place during the day, but some nighttime construction would be necessary. The specific timing, duration, and locations of nighttime construction activities would be determined during the detailed design and preconstruction phases.

The FHWA Roadway Construction Noise Model was used to assess potential construction noise levels for each major construction phase at a distance of 50 feet, using project-specific construction information and the hourly average noise level ranges of different types of construction equipment. Construction-generated noise levels decrease at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often results in lower construction noise levels at distant receptors. Table 3.6-1 presents construction noise levels calculated for each major phase of the project at a distance of 50 feet, based on project-specific construction information.

Table 3.6-1. Noise Levels by Construction Phase at 50 Feet

Construction Type	Construction Phase	Maximum Noise Level (L_{max}, dBA)	Hourly Average Noise Level ($L_{eq[h]}$, dBA)
Roadway	Demolition	82	82
Roadway	Site Preparation	85	85
Roadway	Grading/Excavation	85	85
Roadway	Trench/Foundation	84	82
Roadway	Paving	90	86
Bridge	Demolition	90	86
Bridge	Trenching/Foundation	84	85
Bridge	Structure/Paving	90	86
CIDH Piles	-	84	74

For purposes of the temporary construction assessment, the project area was divided into zones representing receptor type (residential, commercial, and school) and assigned a unique identifier, as follows:

- Residential (R): R1 through R8
- Commercial (C): C1 through C9
- School (S): S1

The construction noise study zones are shown in Figure 3.6-3.



Figure 3.6-3. Construction Noise Study Zones

Construction equipment would likely be spread throughout the project alignment, but for purposes of construction noise modeling, all equipment was assumed to be operating in relatively the same area, with the geometrical center of construction equipment being the center of the construction site. Therefore, the propagation distances were estimated from the center of the active construction site to the nearest property line of the surrounding receptors. No shielding effects were assumed for the estimated noise levels.

Appendix D provides the detailed results of the estimated hourly average and maximum noise levels expected at the property line of the nearest surrounding noise-sensitive land use shown in Figure 3.6-3.

At residential and school properties, construction noise levels would typically range from 67 to 77 dBA L_{eq} (hourly average), or 64 to 80 dBA L_{max} (maximum). Construction noise levels would not exceed 86 dBA L_{max} when propagated to the nearest residential and school property lines.

At commercial properties, construction noise levels would typically range from 59 to 80 dBA L_{eq} (hourly average) or 59 to 84 dBA L_{max} (maximum). Construction noise levels would not exceed 86 dBA L_{max} when propagated to the nearest residential and school property lines.

With the exception of short periods of heavy demolition, paving, construction noise levels would not be expected to exceed the quantitative noise limits established by Caltrans. Construction noise levels would not be expected to exceed the 86 dBA L_{max} at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m.

The project includes PF-NOI-1 in Section 1.4.3.10 to reduce the potential for construction-related noise. Measure AMM-NOI-1 below would also be implemented to minimize noise impacts.

AMM NOI-1: Noise Minimization.

- All construction equipment shall conform to Section 14-8.02, Noise Control, of the latest Standard Specifications.
- When feasible, noise-generating construction activities shall be restricted to 7:00 a.m. to 7:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays and Sundays. If work is necessary outside of these hours, Caltrans shall require the contractor to implement a construction noise monitoring program and provide additional noise controls where practical and feasible.

The project would not result in substantial temporary construction noise. The project would be generally consistent with applicable noise standards. Construction noise impacts would be less than significant.

Operation

The traffic analysis for the project (Fehr & Peers 2025a) included average daily traffic volumes for the existing condition and future design year (2048) without the project and with Build Alternatives 1 and 2. The project is not expected to increase vehicle trips but would slightly change the existing lane geometry. Neither build alternative is anticipated to substantially change truck origins/destinations or truck routing in the area.

The noise increase attributable to the project was calculated by comparing the design year with-project traffic volumes to the design year without-project volumes. The project's contribution to increased traffic noise levels in the area would not be measurable or detectable (a 0 dBA Day-Night Level [Ldn] increase).

The project would not result in a permanent noise increase at noise-sensitive receptors in the project vicinity. No noise impact would occur from project operation.

b) Less than Significant Impact with Mitigation Incorporated

Construction

Project construction is anticipated to result in short-term, temporary increases in vibration. Construction vibration could occur during demolition, site preparation, grading/excavation, trenching/foundation, structures, and paving. No pile driving or blasting is proposed as part of the project. Construction activities with the greatest potential of generating perceptible vibration levels would include the removal of pavement and soil, the dropping of heavy objects, and the movement of heavy tracked equipment.

Construction vibration can be a concern when it is perceptible or affects nearby structures. Vibration can result in building damage including hairline cracking or loosening of plaster or masonry, dislodging of loose objects, and wide cracking.

Caltrans identifies a vibration limit of 0.5 inches per second Peak Particle Velocity (in/sec PPV) as the threshold at which there is a potential risk of damage to new residential and modern commercial/industrial structures, 0.3 in/sec PPV for older residential structures, and a conservative limit of 0.25 in/sec PPV for historic structures and some old buildings.

No historical structures that would be subject to the 0.25 in/sec PPV threshold are within 100 feet of the project limits. Table 3.6.2 shows a description of potential human reaction and potential effects on buildings from different vibration levels.

Table 3.6-2. Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Transportation and Construction Vibration Guidance Manual, Caltrans, April 2020.

Potential construction vibration was analyzed for residences and businesses in the vicinity of the Manor Drive overcrossing. The analysis used estimates of typical vibration levels for representative construction equipment or operations expected to be used for the project, and the estimated potential vibration levels at various distances.

Two older residential structures were estimated to experience construction vibration in excess of the recommended 0.3 in/sec PPV threshold: 560 Palmetto Avenue and 203 Milagra Drive. At both locations, clam shovel drops and vibratory roller operation are estimated to result in vibration levels of 0.354 in/sec PPV and 0.368 in/sec PPV, respectively.

The following modern commercial/industrial structures that could experience vibration in excess of the recommended 0.5 in/sec PPV threshold are listed below, along with the estimated vibration levels and associated construction operation/equipment:

- 498 Palmetto Avenue (Eddie's Valero Service Center): clam shovel drop, 0.553 in/sec PPV; vibratory roller, 0.575 in/sec PPV
- 74 West Manor Drive (Save More Meat Market): clam shovel drop, 1.186 in/sec PPV; vibratory roller, 1.233 in/sec PPV; hoe ram, large bulldozer, and caisson drilling for CIDH piles, 0.523 in/sec PPV

- 50 West Manor Drive (U.S. Postal Service): clam shovel drop, 0.707 in/sec PPV; vibratory roller, 0.735 in/sec PPV
- 455 Oceana Boulevard (Ocean Fish Sushi & Grill): clam shovel drop, 0.553 in/sec PPV; vibratory roller, 0.575 in/sec PPV
- 108 Manor Drive (State Farm): clam shovel drop, 0.621 in/sec PPV; vibratory roller, 0.646 in/sec PPV
- 549 Oceana Boulevard (Oasis Vietnamese Cuisine, Starbucks Coffee): clam shovel drop, 0.707 in/sec PPV; vibratory roller, 0.735 in/sec PPV

The Caltrans vibration limits do not represent thresholds at which damage is certain to occur, because vibration impacts depend on a number of factors, including the proximity of the existing structures to the construction location, soil conditions, the soundness of the structures, and the construction methods used. However, due to the close spacing of anticipated project construction activities to adjacent development, vibration impacts have to potential to be significant if no vibration management measures are taken.

To reduce the potential for vibration impacts resulting from project construction, MM-NOI-2 would be implemented during project construction.

MM-NOI-2: Vibration Controls During Construction.

- Avoid the use of vibratory rollers within 18 feet of structures. Static mode compaction shall be used when construction activities are less than 18 feet from structures.
- Avoid dropping heavy objects or equipment within 18 feet of structures.
- Avoid the use of CIDH piles, hoe rams, large bulldozers, and caisson drilling equipment within 9 feet of structures.
- If vibratory rollers must be used within 18 feet, and all other equipment must be used within 9 feet of structures, the following measures will be required:
    - Contractor must perform vibration monitoring, crack monitoring and photo/video documentation of the affected facilities during construction. The requirements to perform vibration monitoring, crack monitoring and photo/video documentation will be included in the project's construction specifications as part of the construction contract documents.

With the implementation of MM NOI-2, impacts would be less than significant.

Operation

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

c) No Impact

The project is not in the vicinity of an airport. There would be no impact.

3.6.14 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

a, b) No Impact

The project would not induce substantial population growth, directly (e.g., through construction of new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure). The project would not build commercial or residential facilities that may induce unplanned population growth, nor would the project increase the capacity of SR 1, Manor Drive, or other project area roadways. As such, neither build alternative would remove obstacles to growth, facilitate or accelerate growth beyond planned or projected developments, or induce growth elsewhere in the region.

The project would not require residential or business relocation and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, no impact related to population and housing would occur.

3.6.15 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?	No Impact
Police protection?	No Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	No Impact

a) No Impact

As described in Sections 2.2.3 and 2.2.4, various parks, two fire stations, and a police protection facility serve the study area. There are also schools and other public facilities located within or adjacent to the study area. These facilities would not be altered by the proposed project.

The project would not involve construction of new housing or other land uses that could increase the local population and demand for governmental facilities and services, such as fire protection, police protection, schools, or parks. The build alternatives would serve the existing urbanized area and would not involve the development of any undeveloped land. Therefore, there would be no need for expanded or altered facilities to accommodate the local population to maintain acceptable service ratios, response times or other performance objectives.

Temporary short-term traffic impacts are anticipated during construction. However, a TMP would be implemented to minimize delays and ensure accessibility throughout the corridor for emergency service providers (PF-TR-1 in Section 1.4.3.10). As such, construction impacts are not expected to substantially reduce responses times of public service vehicles. Since the project would not include new residential uses that would create a new demand for public services, and no construction or alteration of governmental facilities would be needed, there would be no impact.

3.6.16 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?	No Impact

a) No Impact

The project area contains multiple public parks and recreational facilities, as discussed in Section 2.2.3. The nearest public recreation facilities are Esplanade Beach and the Esplanade Beach Overlook Trail, both of which are located west of SR 1 along the Pacific Ocean.

The project would not induce additional demand on neighborhood and regional parks or other recreational facilities, either through providing new housing, jobs, access or by introducing new users to these facilities. As such, the project is not expected to result in substantial physical deterioration that would require the construction or expansion of recreational facilities.

During project construction, all parks and recreational facilities would remain open and access to them would remain available. Therefore, it is not expected that users would transfer to other nearby parks and cause deterioration. Furthermore, construction activities are temporary and short-term. There would be no impact.

b) No Impact

The project would not include the construction of new recreational facilities or require construction or expansion of recreational facilities that would generate an adverse physical effect on the environment. The construction or expansion of recreational facilities is not required, as discussed in Item a, because the project would not induce demand of these facilities. Therefore, there would be no impact.

3.6.17 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

a) Less than Significant Impact

Section 2.2.1 discusses the project's consistency with state, regional and local plans related to roadway, transit, bicycle, and pedestrian facilities. The build alternatives would be consistent with applicable transportation objectives and policies that call for improvements to streets that facilitate walking, bicycling, and transit use wherever possible. Furthermore, the build alternatives would improve the structural integrity of the Manor Drive overcrossing, which is consistent with the San Mateo County Transportation Plan and the City of Pacifica General Plan. The project would also be consistent with the City of Pacifica Climate Action and Resilience Plan because the build alternatives would improve and add pedestrian and bicycle facilities, which would promote active transportation and could result in reduced vehicle miles traveled. As such, the project's potential to conflict with a program, plan, ordinance, or policy addressing the circulation system is less than significant.

b) Less Than Significant Impact

SB 743 (2013) requires the Governor's Office of Planning and Research to identify new metrics for identifying and mitigating transportation impacts under CEQA. Under SB 743, CEQA Guidelines Section 15064.3(b) was revised to identify VMT as the most appropriate measure of assessing transportation impacts.

As documented in Section 3.3, neither Build Alternative 1 nor Build Alternative 2 is expected to lead to a measurable and substantial increase in vehicle travel. The project would not increase VMT because it is not a capacity-increasing project. The Caltrans Headquarters Director's Office of Sustainability provided concurrence with this finding on January 31, 2025.

Under Section 15064.3, subdivision (b), transportation projects that have no measurable and substantial increase in VMT should be presumed to cause less than significant transportation impacts.

c) No Impact

The project would involve widening or replacing the Manor Drive overcrossing, replacing the existing stop signs with traffic and pedestrian signals, and constructing new sidewalks and bicycle lanes. Both build alternatives would help to address safety and structural issues associated with the existing overcrossing (Section 1.2.2.3). No impact is anticipated.

d) Less Than Significant Impact

As discussed in Section 2.2.4.2, the project would include PF-TR-1 (Section 1.4.3.10), which would require preparation of a TMP 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.

Once operational, the project is anticipated to improve access and circulation in the project area, which would improve emergency vehicle response times. The impact would be less than significant.

3.6.18 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	Less Than Significant 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

a, b) Less Than Significant Impact

As discussed in Section 2.2.7.1, a search of the Sacred Lands File did not identify any Native American cultural resources in the APE. The NAHC provided a list of Tribal individuals who may have information related to cultural resources in the project area, including Tribal Cultural Resources. On November 1, 2024, the City sent letters describing the project with a map showing the APE to the Native American individuals specified by the NAHC to initiate Tribal consultation as required under Section 106 of the National Historic Preservation Act and CEQA (PRC Section 21080.3.1 and Chapter 532 Statutes of 2014, also known as California AB 52).

The Amah Mutsun Tribal Band of Mission San Juan Bautista, the Indian Canyon Mutsun Band of Costanoan, and the Costanoan Rumsen Carmel tribes responded to the City of Pacifica and Caltrans, requesting consultation. The Amah Mutsun and Indian Canyon Mutsun tribes requested Cultural Resources Sensitivity Training and archaeological and tribal monitoring. No other responses were received. Consultation with Native American groups is ongoing.

Subsurface construction activities associated with both build alternatives have the potential to affect previously undiscovered unique Tribal Cultural Resources. The project includes PF-CUL-1 and PF-CUL-2 (Section 1.4.3.10), which provide a protocol for cultural resource discoveries if encountered during construction. If human remains are discovered during excavation, all work within 60 feet of the discovery will halt and Caltrans' Office of Cultural Resource Studies (OCRS) will be called. Caltrans OCRS staff

will assess the remains and will contact the County Coroner as per California PRC Sections 5097.98, 5097.99, and Section 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner will contact the Native American Heritage Commission who will assign a Most Likely Descendant. Caltrans will consult with the Most Likely Descendant on treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

In addition to PF-CUL-1 and PF-CUL-2 (Section 1.4.3.10), AMM-CUL-1 (Section 2.2.7.3) would be implemented to provide for cultural resources awareness training for construction personnel, and AMM-TCR-1 below would be implemented to provide for an archaeological monitor and Tribal monitor to be present during ground-disturbing activities.

> **AMM-TCR-1: Archaeological and Tribal Monitoring.** An archaeological monitor and Tribal monitor shall be present during ground-disturbing activities. The City shall develop a monitoring plan prior to construction, and a professionally qualified archaeologist and tribal monitor shall conduct monitoring throughout the project area during ground disturbing activities. It is recommended that intermittent monitoring and/or spot-checking areas be employed due to previous disturbances (i.e., the development of SR 1 structures and surrounding roadways) or in areas of less sensitivity. The above-named tribes should be consulted prior to the development of the monitoring plan so as to narrow down the areas of concern that should be monitored.

While the project would not cause a substantial adverse change in the significance of a known Tribal Cultural Resource and, therefore, impacts to any potential Tribal Cultural Resources are less than significant, implementing PF-CUL-1, PF-CUL-2, AMM-CUL-1 and AMM-TCR-1 would avoid or reduce impacts to potential undiscovered unique Tribal Cultural Resources by providing for resource avoidance or protection in place where possible, and recommendations about treatment of resources in accordance with Tribal cultural values when avoidance or protection is not feasible. The impact would be less than significant.

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

a) Less Than Significant Impact

As discussed in Sections 2.2.4.2 and 2.3.1.2, utility relocations and new or modified drainage systems would be required to construct the build alternatives. Build Alternative 1 would require the permanent relocation of at least five overhead utility poles, and Build Alternative 2 would also require the permanent relocation of a joint utility pole. Furthermore, the replacement of the Manor Drive overcrossing under both build alternatives would require the permanent relocation of a 6-inch gas line and a 6-inch potable water line attached under the existing bridge.

Final verification of utilities would be performed during the project's detailed design phase, and relocations would be coordinated with the affected utility owner. No disruptions to electrical, gas, communications, or water services are anticipated. Once the project is built, utility services would be the same as existing conditions. Construction or relocation of utility and drainage facilities would adhere to all applicable requirements, and impacts would be less than significant.

b) – e) No Impact

The project would not result in any residential and commercial development that could increase population growth and subsequently increase water demand, wastewater generation, or solid waste disposal needs.

The build alternatives 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 that cannot be recycled would be disposed of at a certified facility based on the waste type and is not anticipated to affect landfill capacity. The project would also comply with all federal, state, and local statutes and regulations related to solid waste. The project would not require the construction of any new or expanded water, wastewater treatment, or stormwater drainage facilities. Therefore, no impact would occur.

3.6.20 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?	No 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

a) No Impact

The proposed project is not located within or adjacent to lands classified by CAL FIRE as very high fire hazard severity zones. The proposed project includes PF-TR-1 (Section 1.4.3.10), which requires implementation of a TMP to maintain emergency vehicle access for fire personnel and other emergency responders throughout construction. Therefore, no impact would occur

b) No Impact

Project features for minimizing fire risks would be incorporated per PF-WF-1 (Section 1.4.3.10), 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 project construction would follow state and federal fire regulations. Therefore, the project is not expected to exacerbate wildfire risks or expose project personnel to pollutants from wildfire or the uncontrolled spread of wildfire.

c) No Impact

The project would require some utility relocations, as described in Section 2.2.4.2. All utility relocations would be performed in compliance with state and federal fire regulations, and PF-WF-1 (Section 1.4.3.10) would be implemented to further reduce the potential for impacts. The project is not expected to exacerbate wildfire risks or result in temporary or ongoing impacts to the environment.

d) No Impact

The project area is relatively flat with little to no slopes. The 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 (PF-WQ-1 and PF-WQ-2 in Section 1.4.3.10). These measures are incorporated into the project design as a matter of Caltrans practice and are not mitigation. Therefore, the proposed project would not expose the public to a risk of post-fire slope instability or drainage changes.

3.6.21 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
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Less than Significant Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less than Significant Impact

a) Less than Significant Impact

As noted in the previous CEQA checklist items above, the project would have a less-than-significant impact or no impact on the environment, including on habitat, threatened and endangered species, and cultural resources. No sensitive natural communities, riparian habitat, special-status plants, or threatened or endangered species occur in the BSA. Potential impacts to western bumble bee (state candidate endangered) and Townsend's big-eared bat (state species of special concern) are less than significant and would be reduced through implementation of PF-BIO-1 through PF-BIO-6 in Section 1.4.3.10 and AMM-BIO-1 and AMM-BIO-2 in Section 2.4.2.3.

Potential impacts to cultural resources and Tribal Cultural Resources would be less than significant. The project includes PF-CUL-1 and PF-CUL-2 (Section 1.4.3.10), which provide a protocol for cultural resource discoveries if encountered during construction. In addition, AMM-CUL-1 (Section 2.2.7.3) would be implemented to provide for cultural resources awareness training for construction personnel, AMM-TCR-1 (Section 3.6.18) would be implemented to provide for an archaeological monitor and Tribal monitor to be present during ground-disturbing activities.

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 or restrict the range of a rare or endangered plant or

animal, or eliminate important examples of the major periods of California history or prehistory.

b) Less than Significant Impact

The project has been evaluated for cumulative impacts as described in Section 3.5. The project's effects would not be cumulatively considerable. The project's overall cumulative impact would be less than significant.

c) Less than Significant Impact

Environmental impacts to the resources evaluated in Chapter 3 have the potential to directly or indirectly impact human beings. As discussed in Chapter 3, short-term, temporary impacts are anticipated during project construction, and no-long term adverse effects would occur. Standard construction measures and AMMs would avoid the potential for substantial adverse effects. With implementation of the proposed measures, the project would not have substantially adverse direct or indirect impacts on human beings.

Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners 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.

4.1 Community Outreach

4.1.1 Preliminary Planning Study Phase

Public and stakeholder outreach for the project began in 2018, during the Preliminary Planning Study phase. Two community information meetings were held to share information about the proposed project and to solicit community input about their priorities and concerns. Additional details about these meetings follow.

- On November 27, 2018, a meeting took place at the City Hall Council Chambers facility at 2212 Beach Street in Pacifica. The meeting was noticed via 2,000 mailers distributed in the project area, a meeting notice on NextDoor, a City e-blast, and additional flyers created by community members distributed in the Pacific Manor and Edgemar neighborhoods.

- On May 8, 2019, a meeting took place at the City Hall Council Chambers facility at 2212 Beach Street in Pacifica. The meeting was noticed via 2,000 mailers distributed in the project area; meeting notices on NextDoor and the City's Facebook page; and an announcement from the City's Twitter account.

Approximately 45 community members, including residents and local business owners, attended each meeting. Most of the concerns raised by the community were about traffic (congestion and speeding) and bicyclist and pedestrian safety, including for children accessing Ocean Shore School (now closed). To respond to these concerns and evaluate the features supported by the community, the preliminary design was revised to add new crosswalks, lighting, and bridge width to accommodate sidewalks and bike lanes.

The next most prevalent topic raised during the community meetings was the concern about the proposed northbound on-ramp to SR 1 from Milagra Drive. At the May 2019

meeting, 75% of meeting attendees favored dropping further study of the on-ramp at Milagra Drive, and some suggested modifying the northbound on-ramp at Oceana Boulevard/Paloma Avenue to accommodate access from southbound Oceana Boulevard.

The project team expanded the traffic study area and conducted additional traffic counts and studies to assess the need for signals at the intersections of Manor Drive with Oceana Boulevard and Palmetto Avenue, and to further analyze the Milagra Drive on-ramp. Roundabout options were considered to allow both southbound and northbound Oceana Boulevard to access northbound SR 1 at the existing ramp just north of Paloma Avenue. A roundabout and other potential intersection improvements in this area were not advanced for further consideration because the improvements at Paloma Avenue were evaluated and found to not reduce the congestion at Manor Drive.

Some conceptual design exhibits for the Manor Drive overcrossing included parking on the bridge itself. Parking was not added as a result of comments from the community, Caltrans, and SamTrans. Rather, it was shown as a way to use potential available space on the overcrossing and replace existing on-street parking spaces if the project required the removal of on-street parking. (Note that the current design of the build alternatives maintains the existing number of parking spaces in the project area.) Attendees at the May 2019 community meeting expressed concern about traffic conflicts with the proposed parking, and Caltrans later confirmed that parking on the Manor Drive overcrossing would not be allowed.

The City and its consultant team also met with the San Mateo Transit District (SamTrans) in February 2019. SamTrans confirmed bus routes, types, and sizes in the project area; provided input on driver issues such as bus turning movements; and requested relocation of some bus stops.

4.1.2 Project Initiation Document Phase

Stakeholder and public outreach continued during the Project Initiation Document phase.

On November 28, 2022, during the Project Initiation Document phase, the City and its consultant provided a project overview and update at a City Council meeting. The meeting was open to the public, televised on local station Pacifica Coast TV, and recorded and made available on the City’s website and YouTube.

City Council members and commenters discussed topics including the following:

- Questions about whether a roundabout at Paloma Avenue could be studied as an alternative to the Build Alternative 2 northbound SR 1 on-ramp from Milagra

Drive. As noted in Section 5.4.1, this option was studied during the previous phase and not shown to improve traffic operations at Manor Drive.

- The process and timing for making a decision about a preferred alternative, and whether the Build Alternative 2 northbound SR 1 on-ramp from Milagra Drive had to be advanced for further consideration. The City confirmed that studying the Milagra Drive on-ramp was a condition of receiving funding for the current and upcoming project phases.

- Potential loss of parking, the need to avoid net loss of parking in the Coastal Zone, and possible locations for additional parking in the Manor Drive area.

- Other discussion topics included whether overhead utilities in the project area could be undergrounded as part of the project and whether the traffic analysis would account for the City's RHNA requirements. As noted in Section 1.4.3.7, the existing PG&E overhead transmission line east of Oceana Boulevard is anticipated to be placed underground along Oceana Boulevard from Avalon Drive to Manor Drive.

- The land use assumptions in the project's Traffic Operations Analysis Report included Plan Bay Area 2050 and Association of Bay Area Governments land use projections, which include RHNA allocations for Pacifica, as well as planned hotel/motel and multi-family residential developments in the project area (Fehr & Peers 2025a).

A third community meeting was held on April 18, 2023, at the City Hall Council Chambers at 2212 Beach Street in Pacifica. The purpose of the meeting was to share information and updates about the proposed project, alternatives, and upcoming environmental phase. Public notifications for the meeting included a postcard mailer to approximately 3,400 addresses, advertisements in the Pacifica Tribune (1 week and 2 weeks before the meeting), and social media and email notifications from the City. Approximately 80 members of the public attended.

Comments received at the meeting included concerns about parking and resulting small business impacts, changes in traffic patterns, safe bike/pedestrian access, safety for transit users, the project's relationship to the City's General Plan Housing Element and other City projects, and construction staging. Some attendees expressed opposition to the proposed northbound on-ramp to SR 1 from Milagra Drive, while other attendees expressed support.

4.1.3 Project Approval and Environmental Document Phase

Public input on the project will continue to be solicited during the review period for this IS/EA, which will last a minimum of 30 days. The public will be notified of the availability of the IS/EA by a number of methods, including 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/EA from interested parties. The review period and instructions for submitting comments are included on the first page of this document. All formal comments received during the comment period will be addressed and responses published in the final IS/EA.

4.2 Consultation and Coordination with Public Agencies and Organizations

During the Preliminary Planning Study Phase, the City and its consultant team met with the San Mateo Transit District (SamTrans) in February 2019. SamTrans confirmed bus routes, types, and sizes in the project area; provided input on driver issues such as bus turning movements; and requested relocation of some bus stops.

During the Project Approval and Environmental Document phase on February 20, 2024, the City and its consultant team met with SamTrans to share updated project plans and discuss potential bus stop relocations. On March 8, 2024, the project team met with the North County Fire to discuss a potential fire hydrant relocation and parking options near a fire department connection cabinet on Manor Drive.

Chapter 5 List of Preparers

The primary people responsible for contributing to, preparing, and reviewing this report are listed below.

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Emily Chen	Fehr & Peers Senior Transportation Planner
Ian Barnes	Fehr & Peers Principal Engineer
Heather Bruce	Illingworth & Rodkin Senior Consultant
Michael Thill	Illingworth & Rodkin Principal Consultant
Yilin Tian	Baseline Environmental Engineer

Chapter 6 Distribution List

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

Federal Elected Officials

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Appendix A 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

Transportation

PF-TR-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.

Visual/Aesthetics

- PF-VIS-1, Vegetation Preservation. Minimize the removal of vegetation, including groundcover, shrubs, and mature trees to the maximum extent feasible to maintain existing visual character. Protect trees and existing vegetation outside of the clearing and grubbing limits from the contractor's operations, equipment, and materials storage. High-visibility temporary fencing will be placed around vegetation to be protected before roadway work begins. No trenching or materials storage will occur within tree driplines.

- PF-VIS-2, Highway Replacement Planting. Replacement highway planting and irrigation along with a minimum one-year plant establishment period will be provided in all areas of highway planting removal consistent with the corridor's Eligible State Scenic Highway and Classified Landscaped Freeway Status and where safety and maintenance requirements can be met. This will include

replacement planting for the mature trees that are anticipated to be removed west of Oceana Boulevard, to the maximum feasible extent. Replacement planting with a minimum one-year plant establishment period shall be funded from the parent roadway contract, and must be under construction within 2 years of acceptance of the highway contract that damaged or removed the existing planting.

- PF-VIS-3, Revegetation Planting. After construction, disturbed areas will be revegetated using hydroseed mixtures with a combination of native grasses, shrubs, and legumes. Plants for revegetation should be regionally appropriate drought-tolerant or native plants. Temporarily disturbed areas will be restored to pre-construction conditions within one year of disturbance. Naturally occurring plants that are invasive will not be replanted.

- PF-VIS-4, Erosion Control. After construction, all areas of disturbed soil within the project limits resulting from construction activities including contractor access, staging, and trenching operations will be treated with appropriate certified weed-free erosion control measures (such as decompaction, mulch, hydroseed, and fiber rolls). All areas of disturbed soil will be reseeded using native grasses and forbs.

- PF-VIS-5, Construction Staging. Except as detailed in the Contract Plans, construction staging will not occur outside of paved areas. Staging or equipment storage in unpaved areas will provide soil decompaction and erosion control once use of the area is complete.

- PF-VIS-6, Construction Waste. During construction operations, unsightly materials and equipment in staging areas would be placed where they are less visible and/or covered where possible.

- PF-VIS-7, Construction Lighting. Construction lighting will be directed toward the immediate vicinity of active work to avoid light trespass through directional lighting, shielding, and other measures as needed.

Cultural Resources

- PF-CUL-1, Inadvertent Discovery of Cultural Resources. If archaeological resources are discovered within or near construction limits, do not disturb the resources and immediately:

    1. Stop all work within a 60-foot radius of the discovery
    2. Secure the area

3. Notify the Engineer

Caltrans investigates the discovery. Do not move archaeological resources or take them from the job site. Do not resume work within the radius of discovery until authorized.

If ordered, furnish resources to assist in the investigation or recovery of archaeological resources. This work will require a contract change order for the construction contractor.

- PF-CUL-2, Unanticipated Human Remains Discovery. If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the most likely descendent. At this time, the person who discovered the remains will contact the Caltrans Office of Cultural Resource Studies so that they may work with the most likely descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

Water Quality and Storm Water Runoff

- 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 Construction Site Best Management Practices (BMP) Manual (Caltrans 2024a) 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

Paleontology

- 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.

Hazardous Waste/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.

Wildfire

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

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.

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.

Biological Resources

- PF-BIO-1, Worker Environmental Awareness Training. Before the start of construction activities, a United States Fish and Wildlife Service (USFWS)-approved biologist will conduct a training program for all construction personnel. At a minimum, the training will include a description of the special-status bats and western bumble bee, and their habitats; the potential occurrence of these species in the biological study area (BSA); an explanation of the status of these species and protection under the federal Endangered Species Act; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction crews and personnel before they enter the BSA. On completion of this training, each person will sign a form, confirming attendance and understanding of all the avoidance and minimization measures.

- PF-BIO-2, Minimize Vegetation Removal. Vegetation removal will be minimized to the greatest extent feasible. No clearing or grubbing will be permitted beyond the designated work area. All cleared vegetation will be removed from the BSA to prevent attracting animals to work sites. The contractor will be responsible for

obtaining all permits, licenses, and environmental clearances for properly disposing such materials.

- PF-BIO-3, Preconstruction Clearance Surveys. Before the start of ground-disturbance activities, a qualified biologist will perform preconstruction surveys for special-status wildlife and plant species. If no special-status species or nesting birds are observed, then work may proceed. If any special-status species are observed, a qualified biologist will conduct daily pre-clearance surveys before the start of any ground-disturbing activities and will be required on-site to monitor during construction. In addition, the qualified biologist will determine whether additional species-specific avoidance or minimization measures (e.g., fencing, biological monitors during construction, delays to work) will be required before work proceeds and will coordinate with the California Department of Fish and Wildlife (CDFW) and/or USFWS as appropriate. Observations of special-status species will be documented in a field survey form and entered into the California Natural Diversity Data Base (CNDDB).

- PF-BIO-4, Preconstruction Nesting Bird Surveys. Tree removal or trimming will be conducted during the non-nesting period, between September 1 and February 14, to the maximum extent feasible. If vegetation trimming or tree removal occurs between February 15 and August 31, a qualified biologist(s) will survey for nesting birds, including raptors. The survey area will include the entire BSA and a buffer 300 feet beyond the boundaries of the BSA. If active raptor nests are detected in the BSA or 300 feet from its boundaries, or if active nests of other migratory birds are detected within 50 feet of BSA boundaries, the biologist monitor will establish an appropriate non-disturbance buffer to avoid direct effects or construction-related disturbance. All nest avoidance requirements of the Migratory Bird Treaty Act and the California Fish and Game Code will be observed.

- PF-BIO-5, Predesignated Staging Areas. All material stockpiling, vehicle parking, and equipment staging areas for the project will be permitted only in areas cleared by a qualified biologist. The limits of the designated staging area will be clearly marked before the start of construction. Staging areas will be within the Caltrans ROW, in non-sensitive locations at designated disturbed/developed areas outside construction zones. No staging will be allowed outside the predesignated staging areas. All construction equipment will be restricted to operating within the existing roadway or staging locations.

- PF-BIO-6, General Biological Resource Protection Measures.

- Discharge of pollutants into storm drains or watercourses from vehicle and equipment cleaning will be prohibited.
- Spill containment kits will be maintained on site at all times during construction operations and/or staging or fueling of equipment.
- Dust control measures will include the use of water trucks and dust palliatives to control dust in excavation-and-fill areas, and to cover temporary stockpiles when weather conditions warrant such action.
- To prevent listed species from becoming entangled or trapped in erosion-control materials, plastic mono-filament netting (i.e., erosion-control matting or wattles) or similar material will not be used in the BSA. Straw wattles will be made of natural fiber, and no plastic or synthetic material will be used.
- All excavated, steep-walled holes or trenches more than 6 inches deep will be covered at the end of each workday, or a dirt ramp or plywood ramp will be placed to provide a means of escape for wildlife. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals.
- All pipes, culverts, and similar structures that are staged in the BSA will be capped or will be thoroughly inspected for trapped animals before being buried, re-capped, or moved.
- To eliminate an attraction to predators of protected species, all food-related trash items—such as wrappers, cans, bottles, and food scraps—will be disposed in solid, closed containers (trash cans) and will be removed from the project footprint and vicinity at the end of each working day.
- No pets or firearms will be permitted within the construction area at any time.

Avoidance and Minimization Measures

Visual/Aesthetics

AMM-VIS-1: Minimize Permanent Lighting Impacts. The proposed new safety lighting along Manor Drive at the intersections of Palmetto Avenue and Oceana Boulevard will be designed to limit light pollution and have minimum impact on the surrounding environment. All light fixtures will have light-emitting diodes (LEDs) configured at the minimum necessary number of bulbs, optimal mounting height, mast-arm length, and angle to restrict light to the roadways. Where applicable, shields on the fixtures to prevent light trespass to adjacent properties will be considered during the detailed design phase.

AMM-VIS-2: Architecturally Treat New or Widened Overcrossing and Supporting Structures. The proposed new or widened overcrossing and any supporting infrastructure (e.g., retaining walls, fencing, and guard rails) shall be architecturally treated to enhance the visual quality of the surrounding landscape. These treatments may include decorative fencing and color and texture for concrete elements. The design will be finalized during the detailed design phase and will be context sensitive.

AMM-VIS-3: Other Architectural Treatment. Where pedestrian guardrails are installed, whether at sidewalk access areas and/or bus stop(s) or maintenance access gates along Oceana Drive, the project shall incorporate materials, forms, and colors that harmonize with the existing environment as viewed from the project corridor and surrounding areas, reflecting the community's preferences.

Cultural Resources

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

Tribal Cultural Resources

AMM-TCR-1: Archaeological and Tribal Monitoring. An archaeological monitor and Tribal monitor shall be present during ground-disturbing activities. The City shall develop a monitoring plan prior to construction, and a professionally qualified archaeologist and tribal monitor shall conduct monitoring throughout the project area during ground disturbing activities. It is recommended that intermittent monitoring and/or spot-checking areas be employed due to previous disturbances (i.e., the development of SR 1 structures and surrounding roadways) or in areas of less sensitivity. The above-named tribes should be consulted prior to the development of the monitoring plan so as to narrow down the areas of concern that should be monitored.

Biological Resources

AMM-BIO-1: Preconstruction Surveys for Western Bumble Bee. A minimum of two preconstruction surveys will be conducted within 30 days during appropriate activity periods (i.e., March through September), before the start of ground-disturbing activities, to identify bumble bee activity. The preconstruction surveys will occur when temperatures are above 60°F and not during wet conditions (e.g., foggy, raining, or drizzling). The survey will be conducted at least 2 hours after sunrise and 3 hours before

sunset, and will occur at least 1 hour after rain subsides. Preferably, the survey should be conducted during sunny days with low wind speeds (less than 8 mph), but surveying during partially cloudy days or overcast conditions will be permissible if the surveyors still can see their own shadows.

AMM-BIO-2: Preconstruction Surveys for Special-Status Bats.

Phase 1. Before the start of construction, an approved biologist will conduct bat assessment surveys to determine the presence/absence of bat species in the BSA. If the bat species are observed, Phase 2 will be implemented.

Phase 2. If project activities occur during the bat maternity roosting season (April 1 to August 31), the following measures will be implemented to minimize the impact on bat species during construction:

A qualified biologist will perform exit counts and acoustic surveys in the BSA at night, to determine the presence/absence of bats during the maternal roost season. These surveys will occur well in advance of active construction if possible, to allow time for mitigation planning.

If the presence of bats is found from the surveys, then construction activities at structures housing bats will be coordinated with a qualified biologist and CDFW will be consulted.

If direct impacts on roosting habitat is anticipated, humane evictions will be performed under the supervision of a biologist before the start of any work activities, following the end of the maternal roosting season (August 31). This action will be in coordination with and under the guidance of CDFW. Before exclusion events, alternative bat roosting structures will be installed in the BSA to mitigate for evictions.

Preconstruction Survey for Maternity Roosts. A qualified biologist will conduct preconstruction surveys for bats within 50 feet of all proposed staging areas or bridges. If any maternity roosts of special-status bats are discovered, roost sites will be identified as Environmentally Sensitive Areas (ESAs) and appropriate buffers and work windows will be applied during construction. To avoid impacts on bats during work over creek crossings in the BSA, exclusion devices may be installed before construction in consultation with CDFW.

Noise

AMM NOI-1: Noise Minimization.

- All construction equipment shall conform to Section 14-8.02, Noise Control, of the latest Standard Specifications.

- When feasible, noise-generating construction activities shall be restricted to 7:00 a.m. to 7:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays and Sundays. If work is necessary outside of these hours, Caltrans shall require the contractor to implement a construction noise monitoring program and provide additional noise controls where practical and feasible.

Mitigation Measure

Noise (Construction Vibration)

MM-NOI-2: Vibration Controls During Construction.

- Avoid the use of vibratory rollers within 18 feet of structures. Static mode compaction shall be used when construction activities are less than 18 feet from structures.

- Avoid dropping heavy objects or equipment within 18 feet of structures.

- Avoid the use of CIDH piles, hoe rams, large bulldozers, and caisson drilling equipment within 9 feet of structures.

- If vibratory rollers must be used within 18 feet, and all other equipment must be used within 9 feet of structures, the following measures will be required:

    - Contractor must perform vibration monitoring, crack monitoring and photo/video documentation of the effected facilities during construction. The requirements to perform vibration monitoring, crack monitoring and photo/video documentation will be included in the project's construction specifications as part of the construction contract documents.

Appendix B Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

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September 2025

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

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

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

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

Dina El-Tawansy (Sep 12, 2025 16:52:12 PDT)

DINA A. EL-TAWANSY
Director

"Improving lives and communities through transportation."

Appendix C Intersection Analysis Detailed Results

This appendix provides additional information about the intersection level of service analyses for No Build Alternative, Build Alternative 1, and Build Alternative 2. summarized in Section 2.2.5.2.

Tables C-1 and C-2 provide delay, level of service, and queue results for the 2028 AM and PM peaks, respectively.

Tables C-3 and C-4 provide delay, level of service, and queue results for the 2048 AM and PM peaks, respectively.

Table C-1: Year 2028 Intersection Level of Service and 95th Percentile Queue Results—AM Peak Hour

Intersection	Movement	Control "No Build (Build)"	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
1. Palmetto Avenue / Monterey Road	Eastbound left/thru/right	Stop	410	10.1	B	50	10.1	B	50	10.1	B	50
1. Palmetto Avenue / Monterey Road	Westbound left	Free	870	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
1. Palmetto Avenue / Monterey Road	Westbound thru	Stop	800	9.3	A	140	9.5	A	70	9.7	A	70
1. Palmetto Avenue / Monterey Road	Westbound right	Stop	200	7.5	A	140	7.0	A	70	6.9	A	70
1. Palmetto Avenue / Monterey Road	Northbound thru @ off-ramp	Stop	790	9.6	A	70	12.1	B	110	11.9	B	110
1. Palmetto Avenue / Monterey Road	Northbound left/thru @ Monterey	Free	100	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
1. Palmetto Avenue / Monterey Road	Southbound thru/right @ Monterey	Stop	1,020	**35.3**	**E**	170	24.5	C	190	24.2	C	180
1. Palmetto Avenue / Monterey Road	Southbound thru @ off-ramp	Stop	130	16.5	C	140	10.9	B	120	11.1	B	120
2. Palmetto Avenue / Manor Drive	Eastbound left/thru	Stop (signal)	460	**56.2**	**F**	280	49.5	D	250	48.7	D	170
2. Palmetto Avenue / Manor Drive	Eastbound thru/right	Stop (signal)	60	**55.0**	**F**	280	44.3	D	270	44.2	D	190
2. Palmetto Avenue / Manor Drive	Westbound left	Stop (signal)	120	27.4	D	290	27.2	C	210	26.2	C	240
2. Palmetto Avenue / Manor Drive	Westbound thru/right	Stop (signal)	120	6.2	A	250	18.5	B	220	17.1	B	260
2. Palmetto Avenue / Manor Drive	Northbound left/thru/right	Stop (signal)	690	**103.3**	**F**	230	**65.2**	**E**	280	**80.3**	**F**	240
2. Palmetto Avenue / Manor Drive	Southbound left	Stop (signal)	580	**71.1**	**F**	370	47.7	D	350	51.3	D	220
2. Palmetto Avenue / Manor Drive	Southbound thru/right	Stop (signal)	130	34.3	D	370	30.5	C	360	35.6	D	230
3. Oceana Boulevard / Monterey Road	Westbound left	Stop	180	24.3	C	340	23.6	C	430	21.4	C	380
3. Oceana Boulevard / Monterey Road	Westbound right	Yield	70	8.7	A	140	8.6	A	80	7.2	A	80
3. Oceana Boulevard / Monterey Road	Northbound thru	Free	890	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
3. Oceana Boulevard / Monterey Road	Northbound right	Free	70	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
4. Oceana Boulevard / Manor Drive	Eastbound left	Stop (Signal)	120	31.4	D	300	10.2	B	200	11.5	B	220
4. Oceana Boulevard / Manor Drive	Eastbound thru/right	Stop (Signal)	120	10.9	B	280	7.1	A	220	6.4	A	230
4. Oceana Boulevard / Manor Drive	Westbound left	Stop (Signal)	270	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	**>120**	**F**	40	**96.0**	**F**	40
4. Oceana Boulevard / Manor Drive	Westbound thru/right	Stop (Signal)	270	**>120**	**F**	700	**>120**	**F**	1,000	**111.1**	**F**	800

Intersection	Movement	Control "No Build (Build)"	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
4. Oceana Boulevard / Manor Drive	Northbound left	Stop (Signal)	180	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	32.1	C	100	29.5	C	110
4. Oceana Boulevard / Manor Drive	Northbound thru/right	Stop (Signal)	710	24.5	C	270	17.5	B	200	17.1	B	140
4. Oceana Boulevard / Manor Drive	Southbound left/thru/right	Stop (Signal)	890	**83.3**	**F**	530	**116.5**	**F**	680	**>120**	**F**	590
5. Oceana Boulevard / Avalon Drive	Westbound left/right	Stop	250	8.9	A	50	9.1	A	30	8.6	A	30
5. Oceana Boulevard / Avalon Drive	Northbound thru/right	Free	320	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
5. Oceana Boulevard / Avalon Drive	Southbound left/thru	Free	710	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
6. Oceana Boulevard / Milagra Drive	Eastbound left	Stop	710	14.3	B	250	15.1	C	260	11.8	B	190
6. Oceana Boulevard / Milagra Drive	Eastbound thru/right	Stop	180	13.0	B	130	14.2	B	140	12.1	B	130
6. Oceana Boulevard / Milagra Drive	Westbound left	Stop	170	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	1.8	A	120
6. Oceana Boulevard / Milagra Drive	Westbound thru/right	Stop	250	19.0	C	170	13.6	B	130	4.6	A	50
6. Oceana Boulevard / Milagra Drive	Northbound thru/right	Stop	490	11.6	B	200	18.1	C	160	14.6	B	130
6. Oceana Boulevard / Milagra Drive	Southbound left/thru	Stop	320	14.3	B	190	16.8	C	150	12.6	B	150

Source: Fehr & Peers 2025.

Notes:

Bold indicates LOS E or F condition.

"Queue storage (ft)" length is the length of the turn pocket, if there is one at that intersection approach. If there is no pocket, storage length is the distance to the next upstream intersection.

No Build, Build 1, and Build 2 queues shown are in feet. The 95th percentile queue is presented. If a vehicle queue blocks access to other turn pockets, the queue is measured from the vehicles trying to make each movement, not solely from those able to access the turn pocket.

Table C-2: Year 2028 Intersection Level of Service and 95th Percentile Queue Results—PM Peak Hour

Intersection	Movement	Control "No Build (Build)"	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
1. Palmetto Avenue / Monterey Road	Eastbound left/thru/right	Stop	410	26.6	D	70	9.4	A	80	9.4	A	80
1. Palmetto Avenue / Monterey Road	Westbound left	Free	870	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
1. Palmetto Avenue / Monterey Road	Westbound thru	Stop	800	12.5	B	100	10.4	B	110	10.5	B	100
1. Palmetto Avenue / Monterey Road	Westbound right	Stop	200	10.2	B	100	9.4	A	110	9.4	A	100

Intersection	Movement	Control "No Build (Build)"	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
1. Palmetto Avenue / Monterey Road	Northbound thru @ off-ramp	Stop	790	13.9	B	150	17.6	C	150	16.7	C	180
1. Palmetto Avenue / Monterey Road	Northbound left/thru @ Monterey	Free	100	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
1. Palmetto Avenue / Monterey Road	Southbound thru/right @ Monterey	Stop	1,020	**71.63**	**F**	170	12.7	B	160	12.7	B	160
1. Palmetto Avenue / Monterey Road	Southbound thru @ off-ramp	Stop	130	33.1	D	220	14.4	B	130	14.4	B	140
2. Palmetto Avenue / Manor Drive	Eastbound left/thru	Stop (signal)	460	**44.7**	**E**	320	**>120**	**F**	360	**66.5**	**E**	320
2. Palmetto Avenue / Manor Drive	Eastbound thru/right	Stop (signal)	60	**39.2**	**E**	320	**>120**	**F**	380	**60.0**	**E**	350
2. Palmetto Avenue / Manor Drive	Westbound left	Stop (signal)	120	21.74	C	230	11.7	B	210	14.8	B	210
2. Palmetto Avenue / Manor Drive	Westbound thru/right	Stop (signal)	120	7.9	A	190	9.1	A	220	10.5	B	220
2. Palmetto Avenue / Manor Drive	Northbound left/thru/right	Stop (signal)	690	32.2	D	130	**>120**	**F**	440	53.8	D	340
2. Palmetto Avenue / Manor Drive	Southbound left	Stop (signal)	580	**100.3**	**F**	440	**56.5**	**E**	590	41.0	D	380
2. Palmetto Avenue / Manor Drive	Southbound thru/right	Stop (signal)	130	**50.6**	**F**	440	42.0	D	600	32.4	C	420
3. Oceana Boulevard / Monterey Road	Westbound left	Stop	180	10.7	B	110	11.8	B	110	11.4	B	110
3. Oceana Boulevard / Monterey Road	Westbound right	Yield	70	3.9	A	30	3.9	A	30	4.1	A	30
3. Oceana Boulevard / Monterey Road	Northbound thru	Free	890	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
3. Oceana Boulevard / Monterey Road	Northbound right	Free	70	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
4. Oceana Boulevard / Manor Drive	Eastbound left	Stop (signal)	120	26.4	D	270	20.9	C	190	17.4	B	200
4. Oceana Boulevard / Manor Drive	Eastbound thru/right	Stop (signal)	120	12.7	B	260	19.9	B	210	15.8	B	230
4. Oceana Boulevard / Manor Drive	Westbound left	Stop (signal)	270	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	**90.1**	**F**	70	**110.0**	**F**	70
4. Oceana Boulevard / Manor Drive	Westbound thru/right	Stop (signal)	270	**40.1**	**E**	160	**94.3**	**F**	660	**114.2**	**F**	780
4. Oceana Boulevard / Manor Drive	Northbound left	Stop (signal)	180	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	**59.1**	**E**	230	**60.5**	**E**	200
4. Oceana Boulevard / Manor Drive	Northbound thru/right	Stop (signal)	710	31.9	D	250	42.1	D	260	35.3	D	160
4. Oceana Boulevard / Manor Drive	Southbound left/thru/right	Stop (signal)	890	29.0	D	220	41.3	D	330	39.7	D	320
5. Oceana Boulevard / Avalon Drive	Westbound left/right	Stop	250	0.0	A	0	0.0	A	0	0.0	A	0
5. Oceana Boulevard / Avalon Drive	Northbound thru/right	Free	320	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement

Intersection	Movement	Control "No Build (Build)"	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
5. Oceana Boulevard / Avalon Drive	Southbound left/thru	Free	710	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
6. Oceana Boulevard / Milagra Drive	Eastbound left	Stop	710	9.6	A	170	9.9	A	140	9.1	A	150
6. Oceana Boulevard / Milagra Drive	Eastbound thru/right	Stop	180	9.2	A	100	9.7	A	100	8.8	A	100
6. Oceana Boulevard / Milagra Drive	Westbound left	Stop	170	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	0.3	A	80
6. Oceana Boulevard / Milagra Drive	Westbound thru/right	Stop	250	8.1	A	50	8.7	A	60	2.2	A	30
6. Oceana Boulevard / Milagra Drive	Northbound thru/right	Stop	490	13.5	B	130	13.6	B	90	12.5	B	90
6. Oceana Boulevard / Milagra Drive	Southbound left/thru	Stop	320	9.7	A	90	12.3	B	100	10.5	B	90

Source: Fehr & Peers 2025.

Notes:

Bold indicates LOS E or F condition.

"Queue storage (ft)" length is the length of the turn pocket, if there is one at that intersection approach. If there is no pocket, storage length is the distance to the next upstream intersection.

No Build, Build 1, and Build 2 queues shown are in feet. The 95th percentile queue is presented. If a vehicle queue blocks access to other turn pockets, the queue is measured from the vehicles trying to make each movement, not solely from those able to access the turn pocket.

Year 2028 Intersection Conditions

In 2028, most of the intersection movements in the study area will operate at LOS D or better in the AM and PM peak hours, except as summarized below.

No Build Alternative

With the No Build Alternative in 2028, the following intersection movements would operate at LOS E or F during the AM and/or PM peak hours:

- Palmetto Avenue / Monterey Road (Intersection 1): The southbound through movement is expected to operate at LOS E in the AM peak and LOS F in the PM peak. Queue spillback, which is a build-up of traffic that exceeds the capacity of a road or intersection and can affect adjacent roadways, would extend from the all-way-stop-controlled Palmetto Avenue / Manor Drive intersection (Intersection 2) and continue to degrade operations at Intersection 1. The free westbound left-turn movement at the Palmetto Avenue / Monterey Road intersection would also reduce the gaps available for eastbound and southbound movements.

- Palmetto Avenue / Manor Drive (Intersection 2): The eastbound left, eastbound through, northbound left/through, and southbound left movements would all operate at LOS F during the AM peak. In the PM peak, the southbound movements would operate at LOS F, and the eastbound movements would operate at LOS E. The delays are expected due to the high volumes at these approaches and the complexity of the multi-lane all-way stop controls at this intersection.

- Oceana Boulevard / Manor Drive (Intersection 4): The westbound through and southbound left-turn movements would operate at LOS F in the AM peak and LOS E in the PM peak due to the all-way stop controls at this intersection.

Build Alternatives

With the build alternatives in 2028, all movements at Palmetto Avenue / Monterey Road (Intersection 1) would operate at LOS C or better during the AM and PM peak hours. However, the following intersection movements would operate at LOS E or F during the AM and/or PM peak hours.

- Palmetto Avenue / Manor Drive (Intersection 2): In the AM peak, the northbound left/through lane would operate at LOS E with both build alternatives, compared with LOS F with the No Build Alternative. In the PM peak, when the southbound movements would operate at LOS F under the No Build Alternative, the southbound left-turn lane would operate at LOS E under Build Alternative 1 and

LOS D under Build Alternative 2. The proposed northbound SR 1 on-ramp from Milagra Drive with Build Alternative 2, which would allow some vehicles to bypass the Oceana Boulevard / Manor Drive (Intersection 4), would also result in lower delays for movements at Intersection 2 due to lower demand and signal timing at Intersection 4.

In the PM peak, the eastbound movements operate at LOS E under No Build Alternative. The eastbound movement fails at LOS F under Build Alternative 1 to allow time to prioritize the southbound movement, but improves to LOS E under Build Alternative 2, where reduced demand at the overcrossing reduces delay and allows more time for the eastbound approach. The southbound movements operate at LOS F under No Build Alternative due to high volumes at this approach and the complexity of the multi-lane all-way stop. The southbound left-turn lane improves to LOS E and D under Build Alternatives 1 and 2, respectively. The southbound through and right lane improves to LOS D and C under Build Alternatives 1 and 2, respectively. The lower demand volumes at Intersection 4 under Build Alternative 2 result in overall lower delay for movements at Intersection 2 that are phased concurrently with those at Intersection 4.

- Oceana Boulevard / Manor Drive (Intersection 4): In the AM peak, the westbound approach and the southbound left/through movements would operate at LOS F under the No Build Alternative and both build alternatives. In the PM peak, the westbound movements would operate at LOS E under the No Build Alternative and worsen to LOS F under Build Alternatives 1 and 2.

  During both peak hours, the vehicle storage capacity for these movements would be exceeded because the bike boxes assumed in the analysis would prevent vehicles from turning right on red, thus limiting vehicle flow through the intersection. As described at the beginning of Section 2.2.5.2, the bike boxes assumed in the analysis are no longer proposed; therefore, delay for those movements and the overall intersection would likely improve.

  Where both build alternatives would operate at LOS F, Build Alternative 2 would have shorter queue lengths than Build Alternative 1, because the proposed northbound SR 1 on-ramp from Milagra Drive with Build Alternative 2 would allow some vehicles to bypass Oceana Boulevard / Manor Drive (Intersection 4).

Table C-3: Year 2048 Intersection Level of Service and 95th Percentile Queue Results—AM Peak Hour

Intersection	Movement	Control "No Build (Build)"	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
1. Palmetto Avenue / Monterey Road	Eastbound left/right	Stop	410	10.1	B	50	9.2	A	50	9.1	A	50
1. Palmetto Avenue / Monterey Road	Westbound left	Free	870	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
1. Palmetto Avenue / Monterey Road	Westbound thru	Stop	800	9.3	A	50	9.2	A	50	9.2	A	90
1. Palmetto Avenue / Monterey Road	Westbound right	Stop	200	7.5	A	50	7.1	A	50	7.2	A	90
1. Palmetto Avenue / Monterey Road	Northbound thru @ off-ramp	Stop	790	9.6	A	70	10.3	B	90	10.8	B	90
1. Palmetto Avenue / Monterey Road	Northbound left/thru @ Monterey	Free	100	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
1. Palmetto Avenue / Monterey Road	Southbound thru/right @ Monterey	Stop	1,020	**35.3**	**E**	160	**26.3**	**D**	150	**26.0**	**D**	160
1. Palmetto Avenue / Monterey Road	Southbound thru @ off-ramp	Stop	130	16.5	C	140	12.7	B	130	12.3	B	130
2. Palmetto Avenue / Manor Drive	Eastbound left/thru	Stop (signal)	460	**56.2**	**F**	230	**67.4**	**E**	290	**68.1**	**E**	300
2. Palmetto Avenue / Manor Drive	Eastbound thru/right	Stop (signal)	60	**55.0**	**F**	230	**61.5**	**E**	310	**62.3**	**E**	310
2. Palmetto Avenue / Manor Drive	Westbound left	Stop (signal)	120	27.4	D	280	9.8	A	270	9.8	A	260
2. Palmetto Avenue / Manor Drive	Westbound thru/right	Stop (signal)	120	6.2	A	230	3.2	A	270	3.1	A	260
2. Palmetto Avenue / Manor Drive	Northbound left/thru/right	Stop (signal)	690	**103.3**	**F**	330	**115.8**	**F**	570	**107.4**	**F**	700
2. Palmetto Avenue / Manor Drive	Southbound left	Stop (signal)	580	**71.1**	**F**	150	44.5	D	430	40.2	D	380
2. Palmetto Avenue / Manor Drive	Southbound thru/right	Stop (signal)	130	34.3	D	150	30.2	C	430	33.9	C	390
3. Oceana Blvd. / Monterey Road	Westbound left	Stop	180	24.3	C	460	30.3	C	450	21.6	C	180
3. Oceana Blvd. / Monterey Road	Westbound right	Yield	70	8.7	A	130	23.8	C	100	9.4	A	160
3. Oceana Blvd. / Monterey Road	Northbound thru	Free	890	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
3. Oceana Blvd. / Monterey Road	Northbound right	Free	70	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
4. Oceana Blvd. / Manor Drive	Eastbound left	Stop (signal)	120	31.4	D	290	19.0	B	200	19.3	B	210
4. Oceana Blvd. / Manor Drive	Eastbound thru/right	Stop (signal)	120	10.9	B	280	14.9	B	210	13.4	B	220
4. Oceana Blvd. / Manor Drive	Westbound left	Stop (signal)	270	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	97.2	**F**	30	97.2	F	30
4. Oceana Blvd. / Manor Drive	Westbound thru/right	Stop (signal)	270	**>120**	**F**	570	99.2	**F**	790	99.2	F	790

Intersection	Movement	Control "No Build (Build)"	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
4. Oceana Blvd. / Manor Drive	Northbound left	Stop (signal)	180	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	45.0	D	150	42.1	D	150
4. Oceana Blvd. / Manor Drive	Northbound thru/right	Stop (signal)	710	24.5	C	150	32.1	C	320	29.4	C	190
4. Oceana Blvd. / Manor Drive	Southbound left/thru/right	Stop (signal)	890	83.3	F	340	>120	**F**	650	>120	F	460
5. Oceana Blvd. / Avalon Drive	Westbound left/right	Stop	250	8.9	A	50	8.9	A	50	8.5	A	30
5. Oceana Blvd. / Avalon Drive	Northbound thru/right	Free	320	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
5. Oceana Blvd. / Avalon Drive	Southbound left/thru	Free	710	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
6. Oceana Blvd. / Milagra Drive	Eastbound left	Stop	710	14.3	B	160	17.0	C	150	11.7	B	150
6. Oceana Blvd. / Milagra Drive	Eastbound thru/right	Stop	180	13.0	B	130	15.3	C	130	13.3	B	180
6. Oceana Blvd. / Milagra Drive	Westbound left	Stop	170	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	1.0	A	1.0
6. Oceana Blvd. / Milagra Drive	Westbound thru/right	Stop	250	19.0	C	120	14.1	B	170	3.8	A	50
6. Oceana Blvd. / Milagra Drive	Northbound thru/right	Stop	490	11.6	B	110	19.5	C	170	14.3	B	120
6. Oceana Blvd. / Milagra Drive	Southbound left/thru	Stop	320	14.3	B	160	15.7	C	180	14.3	B	220

Source: Fehr & Peers 2025.

Notes:

Bold indicates LOS E or F condition.

"Queue storage (ft)" length is the length of the turn pocket, if there is one at that intersection approach. If there is no pocket, storage length is the distance to the next upstream intersection.

No Build, Build 1, and Build 2 queues shown are in feet. The 95th percentile queue is presented. If a vehicle queue blocks access to other turn pockets, the queue is measured from the vehicles trying to make each movement, not solely from those able to access the turn pocket.

Table C-4: Year 2048 Intersection Level of Service and 95th Percentile Queue Results—PM Peak Hour

Intersection	Movement	Control "No Build (Build)	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
1. Palmetto Avenue / Monterey Road	Eastbound left/right	Stop	410	119.7	**F**	190	9.3	A	50	9.2	A	50
1. Palmetto Avenue / Monterey Road	Westbound left	Free	870	Unrestricted movement*	Unrestricted movement*	Unrestricted movement*	Unrestricted movement*	Unrestricted movement*	Unrestricted movement*	Unrestricted movement*	Unrestricted movement*	Unrestricted movement*
1. Palmetto Avenue / Monterey Road	Westbound thru	Stop	800	17.9	C	850	10.3	B	110	10.3	B	90
1. Palmetto Avenue / Monterey Road	Westbound right	Stop	200	12.7	B	850	9.5	A	110	9.3	A	90
1. Palmetto Avenue / Monterey Road	Northbound thru @ off-ramp	Stop	790	50.7	**F**	180	16.5	C	170	16.7	C	190
1. Palmetto Avenue / Monterey Road	Northbound left/thru @ Monterey	Free	100	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement

Intersection	Movement	Control "No Build (Build)	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
1. Palmetto Avenue / Monterey Road	Southbound thru/right @ Monterey	Stop	1,020	>120	**F**	570	13.0	B	130	13.1	B	130
1. Palmetto Avenue / Monterey Road	Southbound thru @ off-ramp	Stop	130	>120	**F**	360	14.2	B	230	13.9	B	230
2. Palmetto Avenue / Manor Drive	Eastbound left/thru	Stop (Signal)	460	57.5	**F**	460	>120	**F**	550	66.6	**E**	350
2. Palmetto Avenue / Manor Drive	Eastbound thru/right	Stop (Signal)	60	60.6	**F**	460	>120	**F**	570	60.6	**E**	380
2. Palmetto Avenue / Manor Drive	Westbound left	Stop (Signal)	120	23.4	C	300	12.9	B	230	14.6	B	210
2. Palmetto Avenue / Manor Drive	Westbound thru/right	Stop (Signal)	120	9.6	A	260	9.2	A	250	8.3	A	220
2. Palmetto Avenue / Manor Drive	Northbound left/thru/right	Stop (Signal)	690	35.5	**E**	260	>120	**F**	500	70.7	**E**	410
2. Palmetto Avenue / Manor Drive	Southbound left	Stop (Signal)	580	>120	**F**	910	53.9	D	370	46.0	D	400
2. Palmetto Avenue / Manor Drive	Southbound thru/right	Stop (Signal)	130	87.1	**F**	910	39.7	D	380	33.7	C	440
3. Oceana Blvd. / Monterey Road	Westbound left	Stop	180	11.9	B	140	14.9	B	160	13.2	B	130
3. Oceana Blvd. / Monterey Road	Westbound right	Yield	70	4.5	A	100	5.5	A	60	4.6	A	50
3. Oceana Blvd. / Monterey Road	Northbound thru	Free	890	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
3. Oceana Blvd. / Monterey Road	Northbound right	Free	70	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
4. Oceana Blvd. / Manor Drive	Eastbound left	Stop (Signal)	120	27.6	D	280	20.3	C	230	18.6	B	200
4. Oceana Blvd. / Manor Drive	Eastbound thru/right	Stop (Signal)	120	13.7	B	270	18.5	B	240	18.1	B	230
4. Oceana Blvd. / Manor Drive	Westbound left	Stop (Signal)	270	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	>120	**F**	70	>120	**F**	60
4. Oceana Blvd. / Manor Drive	Westbound thru/right	Stop (Signal)	270	40.3	**E**	1,010	>120	**F**	1,040	>120	**F**	1,000
4. Oceana Blvd. / Manor Drive	Northbound left	Stop (Signal)	180	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	59.5	**E**	220	57.2	**E**	290
4. Oceana Blvd. / Manor Drive	Northbound thru/right	Stop (Signal)	710	30.2	D	660	41.1	D	280	42.5	D	240
4. Oceana Blvd. / Manor Drive	Southbound left/thru/right	Stop (Signal)	890	18.6	C	380	38.0	D	210	55.0	D	230
5. Oceana Blvd. / Avalon Drive	Westbound left/right	Stop	250	8.9	A	50	9.3	A	50	9.0	A	50
5. Oceana Blvd. / Avalon Drive	Northbound thru/right	Free	320	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
5. Oceana Blvd. / Avalon Drive	Southbound left/thru	Free	710	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement	Unrestricted movement
6. Oceana Blvd. / Milagra Drive	Eastbound left	Stop	710	9.9	A	200	10.9	B	150	10.3	B	150
6. Oceana Blvd. / Milagra Drive	Eastbound thru/right	Stop	180	10.7	B	100	9.8	A	100	9.5	A	100

Intersection	Movement	Control "No Build (Build)	Queue Storage (ft)	No Build Delay	No Build LOS	No Build Queue (ft)	Build 1 Delay	Build 1 LOS	Build 1 Queue (ft)	Build 2 Delay	Build 2 LOS	Build 2 Queue (ft)
6. Oceana Blvd. / Milagra Drive	Westbound left	Stop	170	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	Does not exist in scenario	0.4	A	80
6. Oceana Blvd. / Milagra Drive	Westbound thru/right	Stop	250	8.9	A	70	8.4	A	60	2.0	A	30
6. Oceana Blvd. / Milagra Drive	Northbound thru/right	Stop	490	15.3	C	130	13.9	B	130	13.1	B	90
6. Oceana Blvd. / Milagra Drive	Southbound left/thru	Stop	320	10.4	B	90	12.2	B	140	10.9	B	120

Source: Fehr & Peers 2025.

Notes:

Bold indicates LOS E or F condition.

"Queue storage (ft)" length is the length of the turn pocket, if there is one at that intersection approach. If there is no pocket, storage length is the distance to the next upstream intersection.

No Build, Build 1, and Build 2 queues shown are in feet. The 95th percentile queue is presented. If a vehicle queue blocks access to other turn pockets, the queue is measured from the vehicles trying to make each movement, not solely from those able to access the turn pocket.

* Though this is an unrestricted movement, there would be a downstream queue at Palmetto Avenue / Manor Drive that spills back onto southbound SR 1 under the No Build Alternative. This queue would be lessened under Build Alternatives 1 and 2 and would not spill back onto the freeway mainline.

Year 2048 Intersection Conditions

In 2048, most of the intersection movements in the study area will operate at LOS D or better in the AM and PM peak hours, except as summarized below.

No Build Alternative

- Palmetto Avenue / Monterey Road (Intersection 1): The southbound movement is expected to operate at LOS F in the AM peak. In the PM peak, the eastbound, northbound, and southbound movements would all operate at LOS F. As noted for the 2028 scenario, queue spillback from the all-way-stop-controlled Palmetto Avenue / Manor Drive intersection (Intersection 2) would continue to degrade operations; however, by 2048, the queue spillback would extend onto the southbound SR 1 off-ramp.

- Palmetto Avenue / Manor Drive (Intersection 2): The eastbound movements, northbound left/through lane, and southbound left-turn lane would all operate at LOS F in the AM peak hour. In the PM peak hour, the eastbound and southbound movements would operate at LOS F, and the northbound movement would operate at LOS E. For PM peak southbound movements in particular, queues are almost twice the length of the storage area under the No Build Alternative, which impacts operations at Palmetto Avenue / Monterey Road (Intersection 1) and the southbound SR 1 mainline.

- Oceana Boulevard / Manor Drive (Intersection 4): The westbound approach and southbound left/through movement would operate at LOS F during the AM peak hour and exceed the available storage capacity due the multi-lane all-way-stop intersection. In the PM peak hour, the westbound movement would operate at LOS E.

Build Alternatives

With the build alternatives in 2048, all movements at Palmetto Avenue / Monterey Road (Intersection 1) would operate at LOS D or better during the AM and PM peak hours. However, the following intersection movements would operate at LOS E or F during the AM and/or PM peak hours.

- Palmetto Avenue / Manor Drive (Intersection 2): In the AM peak, the eastbound movements would improve from LOS F with the No Build Alternative to LOS E with both build alternatives. In the PM peak, the eastbound movements would operate at LOS F with the No Build Alternative and Alternative 1, and LOS E with Build Alternative 2. The northbound left/through lane would operate at LOS F in the AM peak with the No Build Alternative and both build alternatives, and at LOS

E (No Build and Build Alternative 2) and LOS F (Build Alternative 1) in the PM peak. At this approach, the northbound right-turning movement has the highest demand volume. If right-turning vehicles are blocked by others due to the single-lane approach or if the overcrossing storage area is full, northbound vehicles must wait a full cycle before moving through the intersection, which results in higher delays and queues under Build Alternative 1. As noted for this intersection under 2028 conditions, the proposed northbound SR 1 on-ramp from Milagra Drive with Build Alternative 2 would reduce delays for movements at this intersection due to lower demand and signal timing at Intersection 4.

- Oceana Boulevard / Manor Drive (Intersection 4): In the AM peak, the westbound approach and the southbound left/through movements at would operate at LOS F under both build alternatives as well as the No Build Alternative. In the PM peak, the westbound movements would operate at LOS E under the No Build Alternative and worsen to LOS F under Build Alternatives 1 and 2. During both peak hours, the vehicle storage capacity for these movements would be exceeded because the bike boxes assumed in the analysis would prevent vehicles from turning right on red, thus limiting vehicle flow through the intersection. As described at the beginning of Section 2.2.5.2, the bike boxes assumed in the analysis are no longer proposed; therefore, the delay for those movements and the overall intersection would likely improve, Where both build alternatives would operate at LOS F, queue lengths would be the same except for the southbound left/through movement, where Build Alternative 2 would have a shorter queue length than Build Alternative 1.

  In the PM peak, the northbound left lane would operate at LOS E with both build alternatives. Signalization would increase delay for this movement, as seen under Build Alternative 1, but when demand is reduced under Build Alternative 2 with the new SR 1 northbound on-ramp at Milagra Drive, the delay would decrease.

Appendix D Construction Noise Analysis Results

The following tables provide detailed analysis results for the construction noise study zones shown in Figure 3.6-3 in Section 3.6.13.

Table D-1. Hourly Average Roadway Construction Noise Levels by Phase at the Nearest Receiving Residential and School Structures (Calculated Hourly Average L_{eq}, dBA)

Type	Phase	Construction Equipment (Quantity)	Source (50 feet)	R1 (400 feet)	R2 (320 feet)	R3 (150 feet)	R4 (380 feet)	R5 (380 feet)	R6 (360 feet)	R7 (390 feet)	R8 (200 Feet)	R9 (185 feet)	R10 (260 feet)	S1 (270 feet)
Roadway	Demolition	Excavator (1) Rubber Tired Dozer (1) Air Compressor (1) Skid Steer Loader (4)	80	64	66	73	65	65	65	64	70	71	68	67
Roadway	Site Preparation	Grader (1) Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1)	84	67	68	75	67	67	67	67	73	73	70	70
Roadway	Grading/ Excavation	Excavator (1) Grader (1) Rubber Tired Dozer (1) Tractors/Loaders/Backhoes (1)	84	67	69	76	68	68	68	67	73	74	71	71
Roadway	Trenching/ Foundation	Tractor/Loader/Backhoe (1) Excavator (1) Air Compressor (1)	82	64	66	73	65	65	65	65	70	71	68	68
Roadway	Paving	Pavers (1) Paving Equipment (1) Rollers (1) Tractor/Loader/Backhoe (1) Compactor (1)	84	68	70	76	68	68	69	68	74	74	71	71
Bridge	Demolition	Concrete/Industrial Saw (1) Excavator (1) Rubber-Tired Loader (1) Tractor/Loader/ Backhoe (1) Air Compressor (1)	86	68	70	77	69	69	69	68	74	75	72	72
Bridge	Trenching/ Foundation	Tractor/Loader/ Backhoe (1) Excavator (1) Crane (1) Bore/Drill Rig (1) Pump (2)	85	67	69	76	68	68	68	68	73	74	71	71
Bridge	Structure/ Paving	Generator Set (2) Rough Terrain Forklift (1) Paving Equipment (1) Tractor/Loader/ Backhoe (1) Aerial Lift (1)	86	68	70	76	68	68	69	68	74	74	71	71

Table D-2. Hourly Average Roadway Construction Noise Levels by Phase at the Nearest Receiving Commercial Structures (Calculated Hourly Average L_{eq}, dBA)

Type	Phase	Construction Equipment (Quantity)	Source (50 feet)	C1 (120 feet)	C2 (130 feet)	C3 (100 feet)	C4 (100 feet)	C5 (300 feet)	C6 (650 feet)	C7 (130 feet)	C8 (140 Feet)	C9 (700 feet)
Roadway	Demolition	Excavator (1) Rubber Tired Dozer (1) Air Compressor (1) Skid Steer Loader (4)	80	75	74	76	76	67	60	74	73	59
Roadway	Site Preparation	Grader (1) Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1)	84	77	76	79	79	69	62	76	76	62
Roadway	Grading/ Excavation	Excavator (1) Grader (1) Rubber Tired Dozer (1) Tractors/Loaders/Backhoes (1)	84	78	77	79	79	70	63	77	76	62
Roadway	Trenching/ Foundation	Tractor/Loader/Backhoe (1) Excavator (1) Air Compressor (1)	82	75	74	76	76	67	60	74	73	59
Roadway	Paving	Pavers (1) Paving Equipment (1) Rollers (1) Tractor/Loader/Backhoe (1) Compactor (1)	84	78	77	80	80	70	64	77	77	63
Bridge	Demolition	Concrete/Industrial Saw (1) Excavator (1) Rubber-Tired Loader (1) Tractor/Loader/ Backhoe (1) Air Compressor (1)	86	79	78	80	80	71	64	78	77	63
Bridge	Trenching/ Foundation	Tractor/Loader/ Backhoe (1) Excavator (1) Crane (1) Bore/Drill Rig (1) Pump (2)	85	78	77	79	79	70	63	77	76	62
Bridge	Structure/ Paving	Generator Set (2) Rough Terrain Forklift (1) Paving Equipment (1) Tractor/Loader/ Backhoe (1) Aerial Lift (1)	86	78	77	80	80	70	63	77	77	63

Table D-3. Maximum Roadway Construction Noise Levels by Phase at the Nearest Receiving Residential and School Structures (Calculated Hourly Average L_{eq}, dBA)

Type	Phase	Construction Equipment (Quantity)	Source (50 feet)	R1 (400 feet)	R2 (320 feet)	R3 (150 feet)	R4 (380 feet)	R5 (380 feet)	R6 (360 feet)	R7 (390 feet)	R8 (200 feet)	R9 (185 feet)	R10 (260 feet)	S1 (270 feet)
Roadway	Demolition	Excavator (1) Rubber Tired Dozer (1) Air Compressor (1) Skid Steer Loader (4)	82	64	66	72	64	64	65	64	70	71	68	67
Roadway	Site Preparation	Grader (1) Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1)	85	67	69	75	67	67	68	67	73	74	71	70
Roadway	Grading/ Excavation	Excavator (1) Grader (1) Rubber Tired Dozer (1) Tractors/Loaders/Backhoes (1)	85	67	69	75	67	67	68	67	73	74	71	70
Roadway	Trenching/ Foundation	Tractor/Loader/Backhoe (1) Excavator (1) Air Compressor (1)	84	66	68	74	66	66	67	66	72	73	70	69
Roadway	Paving	Pavers (1) Paving Equipment (1) Rollers (1) Tractor/Loader/Backhoe (1) Compactor (1)	90	72	74	80	72	72	73	72	78	79	76	75
Bridge	Demolition	Concrete/Industrial Saw (1) Excavator (1) Rubber-Tired Loader (1) Tractor/Loader/ Backhoe (1) Air Compressor (1)	90	72	74	80	72	72	73	72	78	79	76	75
Bridge	Trenching/ Foundation	Tractor/Loader/ Backhoe (1) Excavator (1) Crane (1) Bore/Drill Rig (1) Pump (2)	84	66	68	74	66	66	67	66	72	73	70	69
Bridge	Structure/ Paving	Generator Set (2) Rough Terrain Forklift (1) Paving Equipment (1) Tractor/Loader/ Backhoe (1) Aerial Lift (1)	90	72	74	80	72	72	73	72	78	79	76	75

Table D-4. Maximum Roadway Construction Noise Levels by Phase at the Nearest Receiving Commercial Structures (Calculated Hourly Average L_{eq}, dBA)

Type	Phase	Construction Equipment (Quantity)	Source (50 feet)	C1 (120 feet)	C2 (130 feet)	C3 (100 feet)	C4 (100 feet)	C5 (300 feet)	C6 (650 feet)	C7 (130 feet)	C8 (140 Feet)	C9 (700 feet)
Roadway	Demolition	Excavator (1) Rubber Tired Dozer (1) Air Compressor (1) Skid Steer Loader (4)	82	74	74	76	76	70	60	74	73	59
Roadway	Site Preparation	Grader (1) Rubber-Tired Dozer (1) Tractor/Loader/Backhoe (1)	85	77	77	79	79	73	63	77	76	62
Roadway	Grading/ Excavation	Excavator (1) Grader (1) Rubber Tired Dozer (1) Tractors/Loaders/Backhoes (1)	85	77	77	79	79	73	63	77	76	62
Roadway	Trenching/ Foundation	Tractor/Loader/Backhoe (1) Excavator (1) Air Compressor (1)	84	76	76	78	78	72	62	76	75	61
Roadway	Paving	Pavers (1) Paving Equipment (1) Rollers (1) Tractor/Loader/Backhoe (1) Compactor (1)	90	82	82	84	84	78	68	82	81	67
Bridge	Demolition	Concrete/Industrial Saw (1) Excavator (1) Rubber-Tired Loader (1) Tractor/Loader/ Backhoe (1) Air Compressor (1)	90	82	82	84	84	78	68	82	81	67
Bridge	Trenching/ Foundation	Tractor/Loader/ Backhoe (1) Excavator (1) Crane (1) Bore/Drill Rig (1) Pump (2)	84	76	76	78	78	72	62	76	75	61
Bridge	Structure/ Paving	Generator Set (2) Rough Terrain Forklift (1) Paving Equipment (1) Tractor/Loader/ Backhoe (1) Aerial Lift (1)	90	82	82	84	84	78	68	82	81	67

Appendix E List of Technical Studies and References

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