Larkspur Ferry Service Expansion and Parking Project





Draft Environmental Impact Report

Golden Gate Bridge, Highway and Transportation District

Marin County, California

October 2026

GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT

Executive Summary

ES.1 Introduction

This Draft Environmental Impact Report (DEIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental effects associated with implementation of the proposed Larkspur Ferry Service Expansion and Parking Project (Project) in Larkspur, California (Figure ES-1). The Golden Gate Bridge, Highway and Transportation District (District), as owner and operator of the Larkspur Ferry Terminal (LFT), is the CEQA Lead Agency for the Project.

The Project proposes to accommodate forecast increases in ferry ridership demand through 2050 and beyond by expanding ferry service; improving landside access at the LFT; and addressing multimodal, transit, active transportation, and parking capacity constraints. This Executive Summary provides an overview of the proposed Project, alternatives evaluated, environmental impacts, mitigation measures, and significance conclusions.

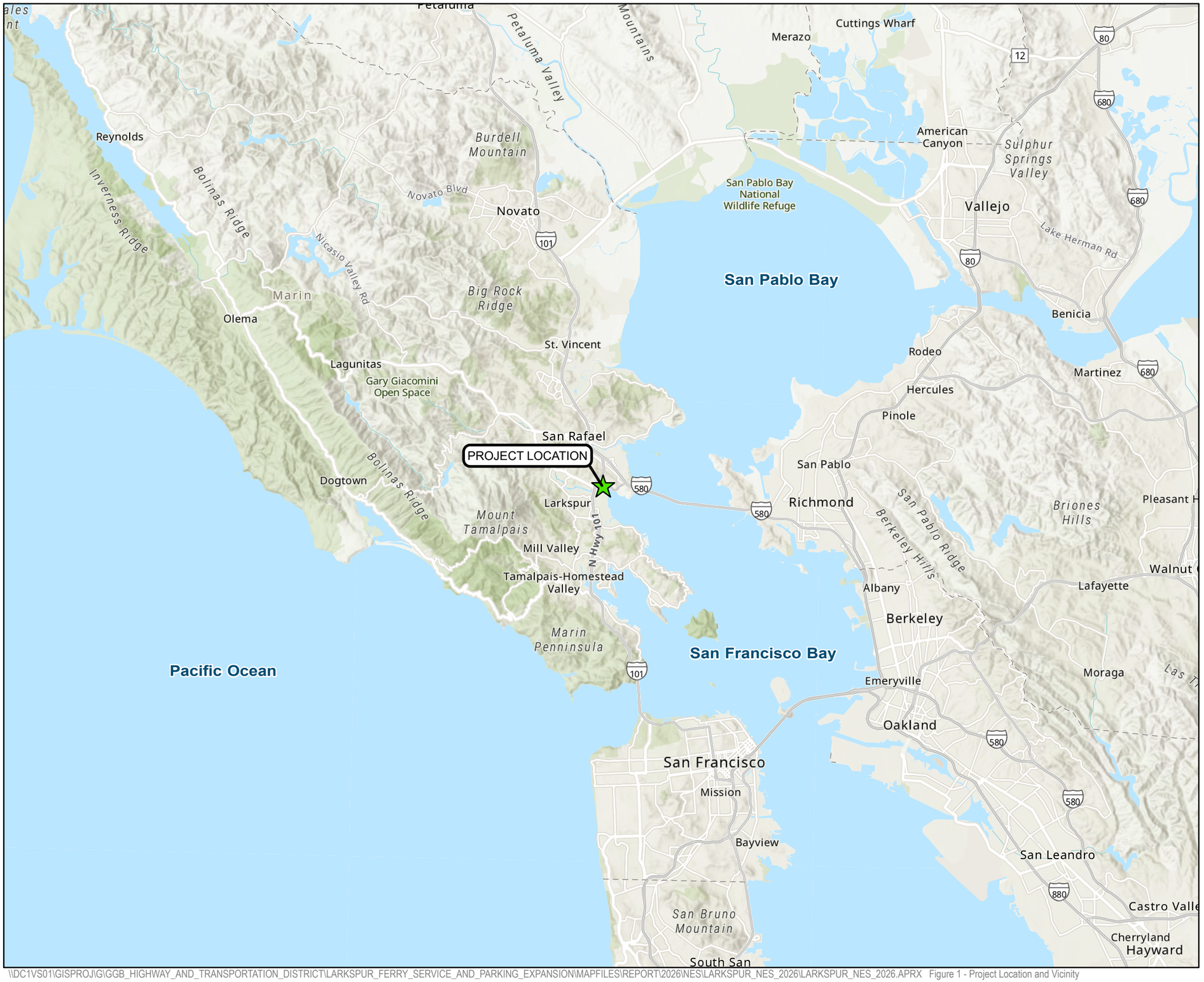
As required by CEQA Guidelines Section 15123, this Executive Summary includes the following:

- Project Overview
- Project Background
- Project Objectives
- No-Project Alternative
- Build Alternatives
- Alternatives Considered and Eliminated from Further Consideration
- Environmentally Superior Alternative
- Significant and Significant and Unavoidable Impacts
- Areas of Known Controversy
- Issues to Be Resolved

ES.2 Project Overview

The Project is designed to accommodate growing ferry ridership demand, enhance regional transit connectivity, reduce greenhouse gas emissions, and provide a reliable alternative to automobile travel along the United States Highway 101 (US 101) corridor in Sonoma, Marin, and San Francisco counties, as well as within San Francisco.

To meet future ferry passenger travel demand, the Project would increase ferry service incrementally based on demand from 42 daily trips up to as many as 76 daily trips through 2050. The Project would also implement a range of landside access improvements at the ferry terminal. These improvements include expanded parking capacity, transportation demand management (TDM) strategies, enhanced pedestrian and bicycle/scooter access (including accommodations for e-bikes), increased transit and shuttle services, and improved connections with Sonoma–Marin Area Rail Transit (SMART)





LEGEND

Project Location

Service Layer Credits: National Geographic World Map: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Hillshade: Esri, NASA, NGA, USGS

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Figure ES-1
Project Location and Vicinity
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

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ES.2.1 Project Background

The District is currently capped at an authorized maximum of 42 daily ferry trips between Larkspur and San Francisco, approved under the District's existing environmental clearance and operating parameters. Increasing ferry service beyond 42 daily trips requires completion of a new CEQA review and approval of a revised ferry service plan by the District's Board.

To help alleviate future congestion along the US 101 corridor and meet ferry ridership demand to 2050, the Project will provide the operational flexibility needed for the District to expand ferry service from the current limit of 42 daily ferry crossings up to 76 daily crossings, allowing ferry service to expand incrementally as future demand grows, and accommodate the increase in customers arriving at the LFT.

Today in Larkspur, 73% of ferry customers drive to and park at the ferry terminal, 9% travel by bicycle or scooter to and from the terminal, 8% arrive from SMART, 6.5% are picked up or dropped off by car (private car, taxi or Uber/Lyft), 2.5% walk to the terminal, and 1% take a bus to the terminal.

Today in San Francisco, 45% of Larkspur ferry customers walk to and from the San Francisco Ferry Terminal, 18% bike or scooter to and from the terminal, 17% arrive from MUNI, 10% are picked up or dropped off by car (private car, taxi or Uber/Lyft/Waymo), while the remainder use other means (such as AC Transit, Amtrak, bus, other ferry, company shuttle, etc.).

While the share of ferry riders driving to LFT may continue to gradually decrease because of personal preference and the availability of new options—including the District reinstating the Wave, a fixed-route ferry feeder shuttle on Sir Francis Drake Boulevard, during peak commute times in 2030—these alone will not be sufficient to meet ridership demand forecasts in 2050.

ES.2.2 Ridership Is Expected to More Than Double by 2050

The Project's ridership forecasts use 2019 pre-COVID-19 levels as the baseline, reflecting the last full year in which ferry service operated at its authorized maximum of 42 daily trips and average weekday ridership exceeded 8,000 passengers. While ferry service was operating at the authorized maximum of 42 daily trips, parking in the Main Lot and North Lot frequently filled during the morning commute period, limiting access to ferry service for potential riders who drive to and park at the ferry terminal.

As travel patterns have normalized following the pandemic, Larkspur ferry ridership has steadily rebounded, with continued growth expected as population, housing, and employment increase throughout Marin and Sonoma counties. Ferry ridership forecasts developed using the Transportation Authority of Marin (TAM) travel demand model show ferry ridership projected to recover to 2019 levels (pre-pandemic) of 8,000 daily riders by approximately 2035 and continue to grow to 17,600 daily riders by 2050.

ES.2.3 Regional Housing Growth Will Increase Demand for Ferry Service

Metropolitan Transportation Commission and Association of Bay Area Governments housing projections call for nearly 29,000 new homes in Marin and Sonoma counties by 2031, bringing thousands of additional residents to the North Bay. As these new residents add travel demand between the North Bay and regional employment centers, expanded ferry capacity and service frequency will become increasingly important to provide a reliable, less congested alternative to US 101 (there is no congestion on the Bay) and support sustainable regional growth.

ES.2.4 Countywide Transportation Planning Alignment

The Project has been developed to align with priorities of the TAM, which coordinates and funds transportation projects and programs throughout Marin County to improve mobility for all users, including roads, transit, bicycle, pedestrian, rideshare and others. In particular, the Project complements TAM's county-wide planning work, including the *Countywide Transportation Plan 2050* (adopted in December 2024) and the *Marin County Mobility Hub Plan* (adopted in September 2026). The Countywide Transportation Plan references the Project as an example of regional connectivity development through freeway, bridge, rail and ferry connections, serving multi-modal access and linking Marin to surrounding counties. In addition, the Mobility Hub Plan identifies the LFT and adjacent Larkspur SMART station as one of nine locations in Marin for improved transit access. Improvements to bicycle and pedestrian linkages and wayfinding, transit coordination and other efforts in the Mobility Hub Plan are complementary to the increased ferry service and multi-modal improvements in the Project alternatives.

ES.2.5 Cleaner, More Efficient Ferries

Additionally, the District is in the process of deploying new Liwa-class ferries, which use a modern twin-hull (catamaran) design that reduces drag through the water, creates less ferry wake, and reduces air emissions. Overall, compared to the existing twin-hull boats serving LFT, the Liwa vessels carry 50 more passengers (500 total), 75 bicycles, improve reliability, enhance accessibility, consume one-third less fuel, and meet the latest California Air Resources Board emissions standards. Alongside additional ferry service and landside access improvements associated with the Project, new ferry vessels will support District goals to carry more passengers and further reduce dependence on US 101 and Golden Gate Bridge car travel.

ES.3 Project Objectives

The following describe Project objectives:

- **Meet Growing Demand**: Meet increasing demand for ferry service between the LFT and San Francisco in 2050 and beyond
- **Expand Capacity:** Accommodate higher levels of ferry service beyond the historic cap of 42 average daily trips
- **Relieve Congestion: Reduce traffic congestion** within the US 101 highway corridor by providing an alternative and time competitive mode of travel to San Francisco that will reduce vehicle miles traveled (VMT) and air emissions
- **Improve Multimodal Access:** Develop facilities at the LFT to accommodate future ferry riders arriving by car, carpool, bus, train, bicycle/scooter, foot and other modes, including building parking garages on the Main Lot and North Lot

Table ES-1 compares accommodation of ferry demand and associated VMT for three Project alternatives, which include the two Build Alternatives (Alternative 1 and Alternative 2) and Alternative 3, which was withdrawn from consideration after review, and the No-Project Alternative. Table ES-2 compares the potential impacts of the two Build Alternatives and the No-Project Alternative by resource topic.

Table ES-1. Ferry Ridership and Vehicle Miles Traveled for No-Project and Alternatives 1, 2, and 3

Measure	No Project	Alternative 1	Alternative 2	Alternative 3
2035				
Ferry Ridership	7,130	7,500	7,500	7,500
Unmet Ferry Ridership	370	0	0	0
Total VMT	112,316	110,151	107,386	102,255
VMT Reduction compared with No Project	N/A	2,165	4,930	10,061
2050				
Ferry Ridership	8,800	17,600	17,600	14,000
Unmet Ferry Ridership	8,800	0	0	3,600
Total VMT	360,707	274,820	235,958	241,200
VMT Reduction compared with No Project	N/A	85,887	124,749	119,507

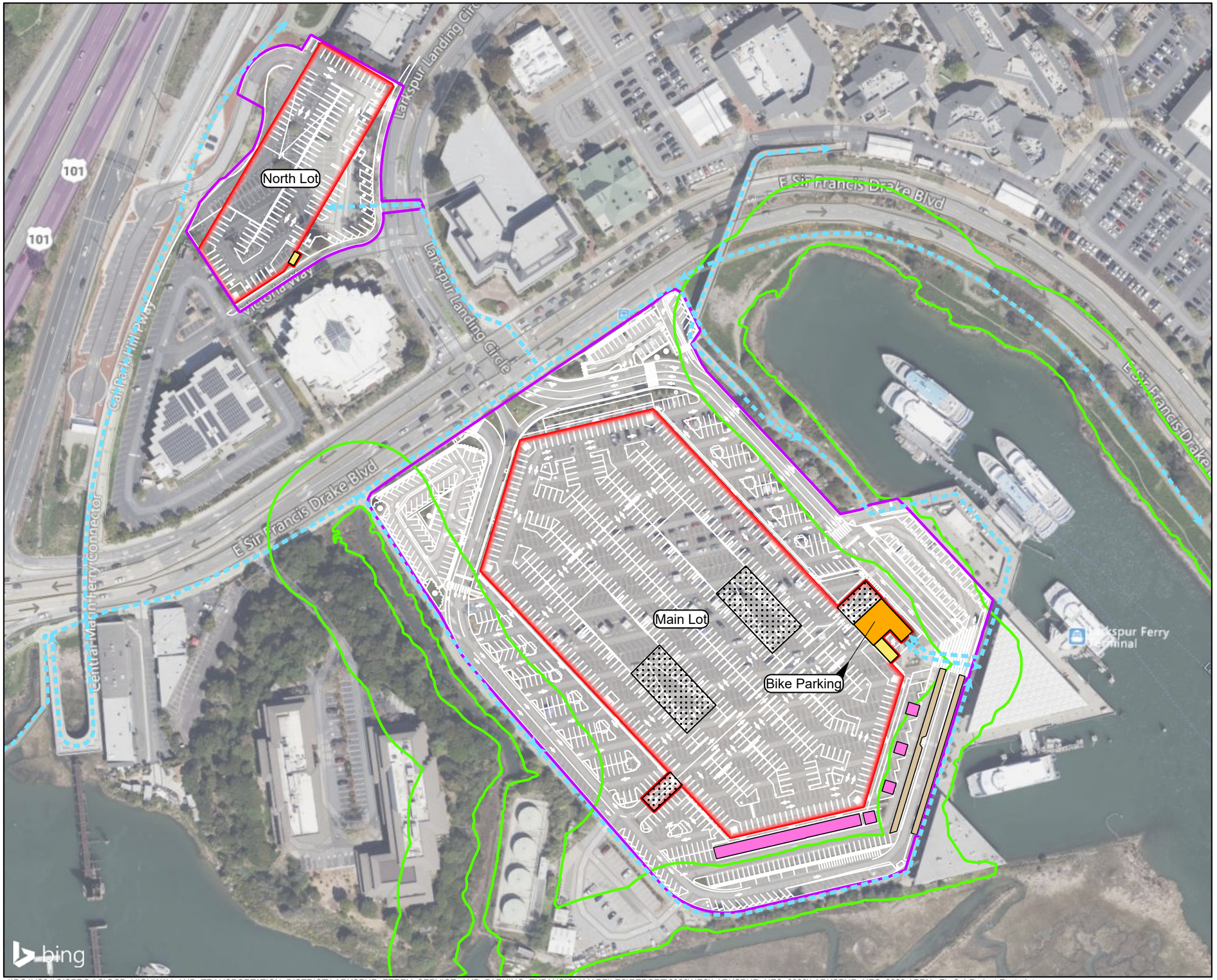
ES.4 No-Project Alternative

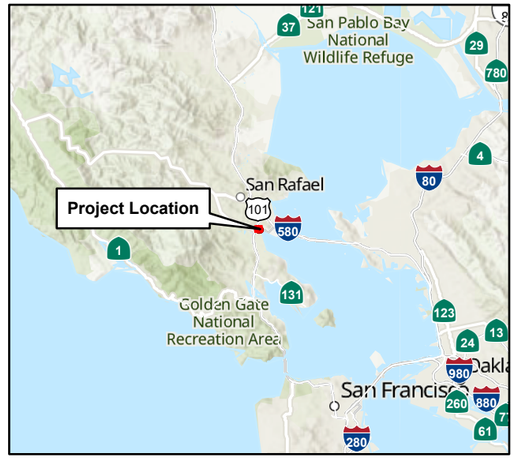
Under the No-Project Alternative, ferry service would be constrained to current levels (42 trips per day) despite projected growth in demand, restricting access to ferry transit and increasing reliance on US 101 and the Golden Gate Bridge to San Francisco. The District would not expand ferry services to meet increased demand beyond 42 trips per day and would not include additional parking spaces, multimodal access, or TDM improvements beyond those currently planned. Parking at the ferry terminal would remain as it is under existing conditions, with 2,023 stalls available at the North and Main Lots. This would result in more ferry customers being turned away, as happened in 2019, because the ferry terminal would not accommodate ferry passengers arriving by car after parking lots are at capacity.

Without additional ferry trips and associated parking, ferry patron access, or TDM program improvements, regional congestion, travel delays, and transit reliability issues would be greater. The No-Project Alternative would not achieve the reductions in VMT or air emissions associated with the Build Alternatives.

ES.5 Build Alternatives

Two Build Alternatives are being considered in this DEIR. Both would increase ferry service and construct new parking garages on the Main Lot and North Lot; improve the pickup/drop-off area to provide designated areas for fixed-route transit loading and unloading, transportation network companies, and drop-off activities; upgrade bicycle storage facilities; and improve pedestrian connections. The Build Alternatives occupy the same footprint and are generally similar, with the primary differences being (1) Alternative 2 including enhanced TDM measures to accommodate forecast ridership demand with one fewer parking level in the Main Lot garage, and (2) the height of the Main Lot parking garage, with Alternative 1 including a five-level garage and Alternative 2 including a four-level garage (Figure ES-2). Table ES-2 summarizes the environmental impacts associated with the Build Alternatives.





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- Project Footprint (13.70 acres)
- Parking Structure
- ADA Parking
- Bike Parking
- Pickup and Drop off Stalls
- Ramp
- Elevator
- Pedestrian Access
- BCDC Shoreline Band

Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Bing Maps Hybrid: © 2026 Microsoft Corporation © Maxar ©CNES (2026) Distribution Airbus DS © Mapbox © 2026 TomTom
World Hillshade: Esri, CGIAR, USGS

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Figure ES-2
Project Footprint
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\NES\LARKSPUR_NES_2026\LARKSPUR_NES_2026.APRX Fig 2-1 Project Footprint

If either of the Build Alternatives move forward, ferry service can increase beyond 42 trips per day, while additional actions will be necessary before construction of a parking garage begins. A preliminary list includes development of a funding plan (if federal funding is identified, then National Environmental Protection Act clearance will be required), final parking garage design, permitting, and bidding. Construction timing and sequencing for the North Lot and Main Lot would be up to the District's discretion and available funding, pending actual demand at the time to balance parking availability with the increased ridership and ferry operations and available funding.

ES.5.1 Common Design Features – Increased Ferry Service

Metropolitan Transportation Commission and Association of Bay Area Governments housing projections call for nearly 29,000 new homes in Marin and Sonoma counties by 2031, bringing thousands of additional residents to the North Bay. As these new residents add travel demand between the North Bay and regional employment centers, expanded ferry capacity and service frequency will become increasingly important to provide a reliable, congestion-reduced alternative to US 101 and support sustainable regional growth.

In 2050, ferry ridership is forecast to be approximately 8,800 riders in the southbound direction (17,600 daily trips). This level of ridership will require increasing the regular ferry service up to 76 revenue trips per day by 2050. The increase in revenue ferry trips can happen incrementally between 2027 and 2050 based on emerging demand and upon approval of this DEIR by the District's Board of Directors.

ES.5.2 Additional Common Design Features for Build Alternatives

The Build Alternatives would also include the following components:

- Secure bicycle parking for up to 350 bicycles at the Main Lot
- New pedestrian crossing on Larkspur Landing Circle to enhance pedestrian movements from the North Lot to the LFT
- Connection to existing drainage facilities and utilities
- Electric vehicle charging stations
- Solar panels on the top levels of the Main and North Lot parking garages
- Lighting that is NightSky-compliant (shining down only), with interior lighting designed to minimize projection outside the building envelope, and crash walls that prevent external headlight glare

ES.5.3 Additional Common Findings

ES.5.3.1 Wetlands and Local Waterways

Federal permits are required if a project affects wetlands, streams, or other waters protected under the Clean Water Act. Because all Project work would occur within existing paved areas, no impacts to protected waters are anticipated.

ES.5.3.2 Wake Wash

As part of the biological resources assessment, studies evaluated whether ferry wakes could contribute to shoreline erosion or affect nearby habitats. Measurements recorded from July 8 to 14, 2021, and again between March 19 and June 11, 2025, were found to be negligible and generally indistinguishable from

ambient conditions (wind-generated waves), and analyses found no significant impact from ferry operations. The studies concluded that existing ferry operations do not have a significant effect on shoreline habitats or other biological resources.

Looking ahead, the District plans to replace its existing fleet with new Liwa-class vessels by 2035. These vessels are designed to be more environmentally friendly, carrying more passengers and bicycles while using less fuel and producing fewer emissions. Analyses also found that the Liwa-class vessels would generate smaller wakes than the District's current fast ferries. As a result, ferry operations are found to have no significant impact on shoreline habitats, wetlands, or other biological resources.

ES.5.4 Alternative 1: Increased Ferry Service and New Parking Garages

To meet forecast ferry ridership, Alternative 1 is projected to increase ferry service up to 76 daily revenue trips in 2050 and beyond. Alternative 1 would construct new parking garages at both the North (Phase I) and Main Lots (Phase II). Phase I would construct a six-level parking garage on the North Lot, adjacent to the SMART station. The concrete structure would include approximately 260,000 square feet of parking for 850 stalls (145 surface/level 1 stalls and 705 garage stalls). The garage would include two elevators for Americans with Disabilities Act (ADA) accessibility and connect to existing onsite utilities.

Phase II would construct a five-level parking garage with secured bicycle parking on the Main Lot. The concrete structure would include approximately 1,200,000 square feet of parking for 3,998 stalls (401 surface lot stalls and 3,597 garage stalls). The structure would include elevators for ADA accessibility and connect to existing onsite utilities. The Main Lot structure's first level would be elevated to accommodate near-term forecast sea-level rise (Year 2100 Projection). First-level elevations would be increased approximately 1 to 5 feet above the existing grade. Generally, areas close to the marsh would be elevated 5 feet, while areas closer to Sir Francis Drake Boulevard would be elevated 1 foot based on difference between projected sea-level rise and existing grade. All major construction for the parking garage would occur outside of the San Francisco Bay Conservation and Development Commission's shoreline band. Anticipated work within the shoreline band would be limited primarily to restriping the remaining surface lot to accommodate the new circulation and remaining surface parking within the lot landscape improvements, and drainage tie-ins, as applicable.

ES.5.5 Alternative 2: Increased Ferry Services, New Parking Garages, and Enhanced Transportation Demand Management

To meet forecast ferry ridership, Alternative 2 is projected to increase ferry service up to 76 daily revenue trips in 2050 and beyond. Alternative 2 would also construct new parking garages at both the North (Phase I) and Main Lots (Phase II), within the same footprints as Alternative 1.

Phase I would construct the same six-level parking garage on the North Lot. Phase II would construct a four-level parking garage with secure bicycle parking on the Main Lot. The Main Lot garage first level would also be elevated to accommodate near-term forecast sea-level rise (Year 2100 Projection). The Main Lot garage would include approximately 960,000 square feet of parking for 3,258 stalls (401 surface lot stalls and 2,851 garage stalls). The garage would include an elevator and connection to existing onsite utilities. All major construction would occur outside of the San Francisco Bay Conservation and Development Commission's shoreline band. Anticipated work within the shoreline band would be limited primarily to restriping the remaining surface lot to accommodate the new circulation pattern and configuration of surface parking within the lot, landscape improvements, and drainage tie-ins, as applicable.

To meet forecast ridership demand with one less parking garage level, Alternative 2 includes additional transit and TDM measures to encourage mode shift to active transportation and transit. Proposed transit and TDM measures include the following or similar measures:

- In 2035, extend the one fixed-route peak-only feeder shuttle operated by the District (the Wave) to all-day service, as opposed to service during peak hours only.
- In 2050, add up to two additional fixed-route, neighborhood-based shuttle services timed to arrive and depart the terminal in line with the ferry schedule (all day).
- Pending ferry ridership demands, increased parking fees commensurate with inflation and to account for some costs for construction of the parking garages and some costs for feeder shuttle operations.
- Increase the amount of carpool parking spaces on the ground floor of the Main Lot parking garage.
- Up to 350 spaces for secure bicycle parking, and bicycle hub with repair services in the Main Lot garage.
- Active participation in the regional carpool matching program (currently known as Marin Commutes).

A detailed description of the proposed Project is provided in Chapter 2, Project Description.

ES.6 Alternatives Considered and Withdrawn From Further Consideration

ES.6.1 Alternative 3: Expand Ferry Service with Only Bicycle, Pedestrian, and Transit Access Improvements

Alternative 3 would increase ferry service and implement bicycle, pedestrian, transit, and TDM improvements intended to encourage access to the ferry terminal by modes other than driving. Parking capacity would remain at existing conditions, with approximately 2,023 parking spaces available between the Main Lot and North Lot.

The analysis concluded that Alternative 3 would not meet the Project's primary objective of accommodating forecast ferry ridership demand between the LFT and San Francisco through 2050 and beyond. While Alternative 3 would expand ferry service and improve multimodal access, the terminal would only be able to accommodate about 14,000 daily riders by 2050, well below the projected demand of approximately 17,600 daily riders. As parking demand grows, terminal parking would likely fill during the morning commute period, similar to pre-pandemic periods when parking often reached capacity before 10:00 AM. Riders unable to find parking would be forced to drive for all or part of their trip, increasing traffic on US 101 and the Golden Gate Bridge corridor.

As a result, by 2050, Alternative 3 would fall short of meeting forecast ferry demand and would generate higher net VMT, including travel by riders unable to access ferry service, compared to Alternative 2 (refer to Table ES-1).

ES.7 Environmentally Superior Alternative

The identification of the environmentally superior alternative results from a comparison of the impacts associated with each alternative. The No-Project Alternative would avoid the construction-related impacts associated with the Build Alternatives, including impacts related to aesthetics, air quality, biological resources, cultural resources, greenhouse gas (GHG) emissions, noise, tribal cultural resources, and transportation. Therefore, the No-Project Alternative is considered the environmentally superior

alternative. However, the No-Project Alternative would not meet most of the Project objectives because it would not achieve the following (refer to Table ES-1):

- Accommodate forecast ferry ridership demand through 2050 and beyond
- Reduce VMT and air emissions anticipated under the Build Alternatives
- Provide TDM measures or additional parking capacity to support increased ferry service

Pursuant to State CEQA Guidelines Section 15126.6(e)(2), because the No-Project Alternative is identified as the environmentally superior alternative, the DEIR must also identify an environmentally superior alternative from among the Build Alternatives.

ES.7.1 Alternative 2 – Environmentally Superior Build Alternative

Compared to Alternative 1, Alternative 2 would require less construction material, fewer hauling trips, and slightly less construction energy consumption because of the reduced size of the Main Lot parking garage. The lower height of the Main Lot garage would result in a reduced visual impact. Because of enhanced transit and TDM measures, Alternative 2 also consists of a reduced number of onsite parking stalls, resulting in fewer vehicle trips. The reduced vehicle trips result in a smaller contribution to the queuing issue as the US 101 southbound off-ramp and reductions in VMT and air emissions (refer to Section E.8) while accommodating the same forecast ridership demand. In 2050, Alternative 2 would reduce regional VMT by approximately 125,960 miles, reducing more fossil fuel use per day when compared to 86,056 fewer miles per day for Alternative 1.

Although both Build Alternatives would result in similar impact conclusions for most environmental resource areas, Alternative 2 would achieve the Project objectives with greater multimodal access opportunities, greater reductions in VMT and air emissions, a lower height Main Lot parking garage, and reduced construction intensity. Unavoidable significant impacts associated with Alternative 2 would be considered less when compared to the magnitude of the same unavoidable significant impacts for Alternative 1. Therefore, Alternative 2 is identified as the environmentally superior Build Alternative.

ES.8 Significant and Significant and Unavoidable Impacts

Section 15126.2(b) of the State CEQA Guidelines require that the Environmental Impact Report describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels.

ES.8.1 Significant Impacts

This DEIR identified the following resource areas in which the Project would result in significant impacts; however, the impacts were reduced to less than significant with implementation of the proposed mitigation measures (refer to Table ES-2).

- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials

- Hydrology and Water Quality
- Tribal Cultural Resources

ES.8.2 Significant and Unavoidable Impacts

Section 15126.2(b) of the State CEQA Guidelines require that the Environmental Impact Report describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. The following environmental impacts were determined to be significant and unavoidable (refer to Table ES-2).

This DEIR identified significant and unavoidable impacts associated with aesthetics and transportation for the Build Alternatives: (1) aesthetic construction impacts associated with visual intrusion over a prolonged (54-month) construction schedule; (2) aesthetic operational impacts associated with the Project substantially altering the existing visual character and quality of public views surrounding the LFT; (3) traffic operational impacts in 2050 resulting in increased queuing resulting in a speed differential that exceeds the California Department of Transportation (Caltrans) safe speed differential threshold, and (4) significant and unavoidable aesthetic and traffic impacts are also cumulatively considerable significant and unavoidable impacts.

Mitigation measures were included for aesthetics; however, the mitigation was unable to reduce the impact to less than significant. For transportation, the Project would contribute to a significant operational impact associated with queuing at the southbound US 101 off-ramp to Eastbound Sir Francis Drake, backing up onto the US 101 mainline within California Department of Transportation (Caltrans) right-of-way. No feasible mitigation within the control of the District was identified to reduce the impact to less than significant.

The District is committed to avoiding, minimizing, and mitigating these impacts to the greatest extent feasible. This commitment includes full compliance with all applicable local, regional, state, and federal construction requirements; meaningful incorporation of community input into the design of the Main Lot and North Lot parking garages; and ongoing collaboration with the City of Larkspur, TAM, Caltrans, and other local, regional, and state agencies to identify, advance, and implement transportation improvements that enhance mobility and address congestion on local roadways and the US 101 corridor.

The District will continue to refine Project design and implement adaptive management strategies throughout Project development, construction, and operations to reduce visual, traffic, and construction-related impacts while supporting the region's long-term transportation needs.

ES.9 Summary of Significant Impacts of Build Alternatives

Table ES-2 summarizes the No-Project and Build Alternatives, the resources and level of impact significance, and mitigation measures.

For a more detailed discussion of resource impacts identified in Table ES-2, refer to Chapter 3, Environmental Analysis, of this DEIR.

Table ES-2. Summary of Build Alternative Impacts and Required Mitigation Measures

Impact	No-Project Alternative	Alternative 1	Alternative 2	Mitigation	Significance After Mitigation
Aesthetics					
Have a substantial adverse effect on a scenic vista?	No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: None Required Operations: None Required	N/A N/A
Substantially damage scenic resources within a state scenic highway?	No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: None Required Operations: None Required	N/A N/A
Substantially degrade the existing visual character or quality of public views of the site and surroundings?	No Impact	**Construction: Significant** **Operations: Significant**	**Construction: Significant** **Operations: Significant**	**Construction: MM-AES-CNST-1** **Operations: No Feasible Mitigation Available**	**Construction: Significant and Unavoidable** **Operations: Significant and Unavoidable**
Create a new source of substantial light or glare?	No Impact	Construction: No Impact Operations: Less Than Significant	Construction: No Impact Operations: Less Than Significant	Construction: None Required Operations: None Required	N/A N/A
Air Quality					
Conflict with or obstruct implementation of the applicable air quality plan?	No Impact	Construction: Significant Operations: Significant	Construction: Significant Operations: Significant	Construction: MM-AQ-CNST-1 Operations: MM-AQ-CNST-1	Construction: Less Than Significant with Mitigation Operations: Less Than Significant with Mitigation
Result in a cumulatively considerable net increase of criteria pollutants?	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None Required Operations: None Required	N/A N/A
Expose sensitive receptors to substantial pollutant concentrations?	No Impact	Construction: Significant Operations: Less Than Significant	Construction: Significant Operations: Less Than Significant	Construction: MM-AQ-CNST-1 Operations: None Required	Construction: Less Than Significant with Mitigation Operations: N/A
Result in objectionable odors?	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None required Operations: None Required	N/A N/A
Biological Resources					
Adverse effect on special-status species?	No Impact	Construction: Significant Operations: Less Than Significant	Construction: Significant Operations: Less Than Significant	Construction: MM-BIO-CNST-1 Operations: None Required	Construction: Less Than Significant with Mitigation Operations: N/A
Adverse effect on sensitive natural communities?	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None required Operations: None Required	N/A N/A
Adverse effect on wetlands?	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Interfere with movement of fish or wildlife species or nursery sites?	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None Required Operations: None Required	N/A N/A
Conflict with local biological resource policies?	No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: None Required Operations: None Required	N/A N/A
Conflict with habitat conservation plans?	No Impact	Construction: No Impact Operations: No Impact	Construction: No Impact Operations: No Impact	Construction: None Required Operations: None Required	N/A N/A

Impact	No-Project Alternative	Alternative 1	Alternative 2	Mitigation	Significance After Mitigation
Cultural Resources					
Cause a substantial adverse change in a historical resource?	No Impact	Construction: Less Than Significant Operations: No Impact	Construction: Less Than Significant Operations: No Impact	Construction: None Required Operations: None Required	N/A N/A
Cause a substantial adverse change in an archaeological resource?	No Impact	Construction: Significant Operations: No Impact	Construction: Significant Operations: No Impact	Construction: MM-CULT-CNST-1, MM-CULT-CNST-2 Operations: None Required	Construction: Less Than Significant with Mitigation Operations: N/A
Disturb human remains?	No Impact	Construction: Significant Operations: No Impact	Construction: Significant Operations: No Impact	Construction: MM-CULT-CNST-1, MM-CULT-CNST-2, MM-CULT-CNST-3 Operations: None Required	Construction: Less Than Significant with Mitigation Operations: N/A
Energy					
Result in wasteful, inefficient, or unnecessary consumption of energy resources?	No Impact	Construction: Significant Operations: Less Than Significant	Construction: Significant Operations: Less Than Significant	Construction: MM-AQ-CNST-1 Operations: None Required	Construction: Less Than Significant with Mitigation Operations: N/A
Conflict with a state or local plan for renewable energy or energy efficiency?	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None Required Operations: None Required	N/A N/A
Geology and Soils					
Fault rupture	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A N/A
Strong seismic ground shaking	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Liquefaction	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Landslides	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Soil erosion or loss of topsoil	No Impact	Construction and Operations: Significant	Construction and Operations: Significant	Construction and Operations: MM-HYD-CNST-1	Construction and Operations: Less Than Significant with Mitigation
Unstable soils	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Expansive soils	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Septic systems	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Paleontological resources	No Impact	Construction: No Impact	Construction: No Impact	Construction: None Required	N/A
GHG Emissions					
Generate GHG emissions that may have a significant impact on the environment?	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None Required Operations: None Required	N/A N/A
Conflict with an applicable GHG reduction plan, policy, or regulation?	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A

Impact	No-Project Alternative	Alternative 1	Alternative 2	Mitigation	Significance After Mitigation
Hazards and Hazardous Materials					
Routine transport, use, or disposal of hazardous materials	No Impact	Construction and Operations: Significant	Construction and Operations: Significant	Construction and Operations: MM-HYD-CNST-1, MM-HYD-OP-1	Construction and Operations: Less Than Significant with Mitigation
Upset and accident conditions involving release of hazardous materials	No Impact	Construction: Significant Operations: Significant	Construction: Significant Operations: Significant	Construction: MM-HYD-CNST-1 Operations: MM-HYD-OP-1	Construction: Less Than Significant with Mitigation Operations: Less Than Significant with Mitigation
Hazardous materials within one-quarter mile of a school	No Impact	Construction and Operations: Significant	Construction and Operations: Significant	Construction and Operations: MM-HYD-CNST-1, MM-HYD-OP-1	Construction and Operations: Less Than Significant with Mitigation
Hazardous materials sites (Cortese List)	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Public airport/private airstrip hazards	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Emergency response plans	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Wildland fire exposure	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Hydrology and Water Quality					
Violate water quality standards or degrade surface/groundwater quality	No Impact	Construction: Significant Operations: Significant	Construction: Significant Operations: Significant	Construction: MM-HYD-CNST-1 Operations: MM-HYD-OP-1	Construction: Less Than Significant with Mitigation Operations: Less Than Significant with Mitigation
Groundwater depletion	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Alter drainage patterns	No Impact	Construction: Significant Operations: Significant	Construction: Significant Operations: Significant	Construction: MM-HYD-CNST-1 Operations: MM-HYD-OP-1	Construction: Less Than Significant with Mitigation Operations: Less Than Significant with Mitigation
Flood hazards, tsunami, seiche-related pollutant release	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Conflict with water quality plans	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Housing in floodplain	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Land Use and Planning					
Physically divide an established community	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Conflict with land use plans, policies, or regulations adopted to avoid environmental effects	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A

Impact	No-Project Alternative	Alternative 1	Alternative 2	Mitigation	Significance After Mitigation
Noise and Vibration					
Increase ambient noise levels	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None Required Operations: None Required	N/A N/A
Excessive groundborne vibration or noise	No Impact	Construction: Less Than Significant Operations: Less Than Significant	Construction: Less Than Significant Operations: Less Than Significant	Construction: None Required Operations: None Required	N/A N/A
Population and Housing					
Induce substantial population growth	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Displace people or housing	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Public Services and Recreation					
Require new or expanded public facilities	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Increase use of parks causing deterioration	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Require recreational facilities with adverse effects	No Impact	Construction and Operations: No Impact	Construction and Operations: No Impact	Construction and Operations: None Required	N/A
Transportation					
Conflict with circulation plans, policies, or programs	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Conflict with CEQA Guidelines §15064.3 (VMT)	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Substantially increase hazards due to design features or incompatible uses	No Impact	Construction: Less Than Significant **Operations: Significant and Unavoidable**	Construction: Less Than Significant **Operations: Significant and Unavoidable**	Construction: Less Than Significant **Operations: No Feasible Mitigation Available**	Construction: N/A **Operations: Significant and Unavoidable**
Inadequate emergency access	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Tribal Cultural Resources					
Adverse change in significance of a tribal cultural resource	No Impact	Construction: Significant Operations: No Impact	Construction: Significant Operations: No Impact	Construction: MM-CULT-CNST-1, MM-CULT-CNST-2, MM-CULT-CNST-3, MM-TCR-CNST-1 Operations: None Required	Construction: Less Than Significant with Mitigation Operations: N/A
Utilities and Service Systems					
New or expanded utility facilities	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Adequate water supply	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Adequate wastewater capacity	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A

Impact	No-Project Alternative	Alternative 1	Alternative 2	Mitigation	Significance After Mitigation
Solid waste generation and disposal	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Wildfire					
Emergency response and evacuation plans	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Exacerbate wildfire risk	No Impact	Construction and Operations: Less Than Significant	Construction and Operations: Less Than Significant	Construction and Operations: None Required	N/A
Wildfire-related infrastructure requirements	No Impact	Construction: Less Than Significant Operations: No Impact	Construction: Less Than Significant Operations: No Impact	Construction: None Required Operations: None Required	N/A N/A
Post-fire flooding, slope instability, and drainage changes	No Impact	Construction: No Impact Operations: Less Than Significant	Construction: No Impact Operations: Less Than Significant	Construction: None required Operations: None Required	N/A N/A

Note: Bolding indicates Significant and Unavoidable impact.

N/A = not applicable (impacts less than significant. No mitigation required)

ES.10 Areas of Known Controversy/Issues Raised by Agencies and the Public

CEQA Guidelines Section 15123 requires that an Environmental Impact Report provide a brief summary of areas of controversy known to the lead agency, including issues raised by agencies or the public during the Environmental Impact Report process, and to identify ways in which these issues have been or are being resolved Public input on the Notice of Preparation was received during the Project's scoping period, which ended on October 31, 2024 (Appendix A: Scoping Summary Report). Specific environmental issues raised by agencies and the public during the scoping period are summarized by resource topic as follows; these topics are addressed in Chapter 3, Environmental Analysis, as applicable:

- Transportation and Traffic
  - Reducing traffic congestion in the Project area and along Sir Francis Drake Boulevard
  - Adopting transportation demand management strategies, including increasing pedestrian and bike access (including e-bikes) to the LFT, increasing bus shuttles to the LFT, and transit connectivity with SMART and local bus schedules
- Aesthetics
  - Potential for views of the San Francisco Bay and LFT to be blocked by the parking structure on the Main Lot
  - Lighting impacts on the Greenbrae Boardwalk community
- Hydrology and Water Quality
  - Wake wash from ferry vessel operations
  - Marsh erosion and shoreline erosion
  - Improve revetments to protect marsh and shoreline erosion near Greenbrae Boardwalk
- Noise
  - Potential for increased noise pollution
- Air Quality
  - Potential for air quality impacts
- Biological Resources
  - Impacts on biological features
  - Impacts on marsh habitat

ES.11 Issues to Be Resolved

As the CEQA Lead Agency the District has primary responsibility to evaluate the project, identify and mitigate significant impacts, and provide the public with an opportunity to comment on the project. As the CEQA Lead Agency, the District must prepare a statement of overriding considerations, as applicable, make findings, and ultimately make the determination on selection of a Preferred Alternative and whether to approve the proposed project and adopt a mitigation monitoring and reporting plan. Issues to be resolved include, but are not limited to, the following:

- Consensus regarding selection of the Preferred Alternative
- Final design and aesthetic treatments for the structures

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Acronyms and Abbreviations

Acronym	Definition
ABAG	Association of Bay Area Governments
ACP	auger cast pile
ADA	Americans with Disabilities Act
AMM	avoidance and minimization measure
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
AVE	area of visual effects
BAAD	Bay Area Air District
BAAQMD	Bay Area Air Quality Management District
BCDC	Bay Conservation and Development Commission
BFE	base flood elevation
BMP	best management practice
BPMP	Bicycle and Pedestrian Master Plan
BSA	Biological Study Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy Standards
CalEPA	California Environmental Protection Agency
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CBTP	Community-Based Transportation Plans

Acronym	Definition
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEBC	
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CLI	California Legislative Information
CMFD	Central Marin Fire Department
CMP	Congestion Management Plan
CMPA	Central Marin Police Authority
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CPT	cone penetrometer test
CRHR	California Register of Historical Resources
CTP 2050	Marin Countywide Transportation Plan
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
DEIR	Draft Environmental Impact Report

Acronym	Definition
District	Golden Gate Bridge, Highway and Transportation District
DOSITS	Discovery of Sound in the Sea
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resources, Inc.
EFH	Essential Fish Habitat
EIA	U.S. Energy Information Administration
EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
EV	electric vehicle
FEMA	Federal Emergency Management Agency
FESA	Endangered Species Act
FHWA	Federal Highway Administration
FIGR	Federated Indians of Graton Rancheria
FIRM	Flood Insurance Rate Map
FNU	Formazin nephelometric unit
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	geographic information system
HP	H-pile
HRA	health risk assessment

Acronym	Definition
IGP	Industrial General Permit
IRP	Integrated Resource Plan
LCI	Office of Land Use and Climate Innovation
LED	light-emitting diode
LFT	Larkspur Ferry Terminal
LHMP	Local Hazard Mitigation Plan
LID	low impact development
LOS	level of service
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MCE	Marin Clean Energy; Maximum Credible Earthquake
MCSTOPPP	Marin County Stormwater Pollution Prevention Program
MHP	Mobility Hub Plan
MJHMP	Marin County Multi-Jurisdiction Hazard Mitigation Plan
MMI	Modified Mercalli Intensity
MMPA	Marine Mammal Protection Act
MMWD	Marin Municipal Water District
MTC	Metropolitan Transportation Commission
MWPA	Marin Wildfire Prevention Authority
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NES	Natural Environment Study
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act

Acronym	Definition
NMFS	National Marine Fisheries Service
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
NRG	Neighborhood Response Group
NTU	nephelometric turbidity unit
NWIC	Northwest Information Center
OA	Operational Area
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM_{10}	inhalable coarse particles
$PM_{2.5}$	inhalable fine particles
PPV	peak particle velocity
PRC	California Public Resources Code
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Allocation
RMS	root-mean-square
ROG	reactive organic gas

Acronym	Definition
RPS	Renewables Portfolio Standard
RVSD	Ross Valley Sanitary District
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SCAQMD	South Coast Air Quality Management District
SFBAAB	San Francisco Bay Area Air Basin
SHMA	Seismic Hazards Mapping Act
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File
SMART	Sonoma-Marin Area Rail Transit
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures Plan
SRA	State Responsibility Area
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TAM	Transportation Authority of Marin
TCP	Traffic Control Plan
TDM	Transportation Demand Management
THPO	Tribal History Preservation Office
TMP	Traffic Management Plan
TNC	Transportation Network Company

Acronym	Definition
TOC	Transit-Oriented Community
TSCA	Toxic Substances Control Act
USDOT	U.S. Department of Transportation
UCMP	University of California Museum of Paleontology
U.S.C.	United States Code
US 101	United States Highway 101
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UWMP	Urban Water Management Plan
VdB	vibration decibels
VegCAMP	Vegetation Classification and Mapping Program
VMT	vehicle miles traveled
ZEV	zero-emission vehicle
ZVI	zone of visual influence

1. Introduction

1.1 Overview

The Golden Gate Bridge, Highway and Transportation District (District) plans to accommodate increases in ferry ridership demand with additional daily ferry trips and expanded landside access at the Larkspur Ferry Terminal (LFT). Ferry ridership forecasts developed using the Transportation Authority of Marin travel demand model indicate ferry demand more than doubling from pre-COVID-19 levels to 17,600 daily riders by 2050. Key factors in the forecast include projected regional growth and work-from-home levels from the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments' (ABAG's) *Plan Bay Area 2050+* (2026), as well as future congestion conditions on the Golden Gate Bridge corridor.

MTC and ABAG housing projections call for nearly 29,000 new homes in Marin and Sonoma Counties by 2031, bringing thousands of additional residents to the North Bay, and these forecasts incorporate regional population and employment forecasts, travel patterns, and transportation network conditions. As these new residents add travel demand between the North Bay and regional employment centers, expanded ferry capacity and service frequency will become increasingly important to provide a reliable, congestion-free alternative to United States Highway 101 (US 101) and support sustainable regional growth.

The proposed Larkspur Ferry Service Expansion and Parking Project (Project) is in the City of Larkspur (Figure 1-1) and is needed to meet increasing demand for ferry service from Larkspur to San Francisco and the greater Bay Area. To accommodate projected demand, the District would incrementally expand ferry service beyond the current average limit of 42 daily ferry crossings, ultimately providing up to 76 daily ferry crossings as warranted by future ridership levels.

The Project would provide increased ferry service and multi-modal landside access improvements at the ferry terminal, including parking and other improvements, such as adopting transportation demand management strategies, increasing pedestrian and bike access (including e-bikes) to the LFT, increasing bus shuttles to the LFT, and improving connectivity with Sonoma–Marin Area Rail Transit (SMART)

These improvements would enable the District to meet the Project objectives and ensure the ferry service remains a reliable and competitive travel option that reduces vehicle miles traveled and air emissions along the US 101 corridor in Marin and Sonoma Counties and for the greater Bay Area through 2050 and beyond.

Project objectives are as follows:

- Meet increasing demand for ferry service between the LFT and San Francisco in 2050 and beyond.
- Accommodate higher levels of ferry service beyond the historic cap of 42 average daily trips.
- Reduce traffic congestion within the US 101 highway corridor by providing an alternative and time competitive mode of travel to San Francisco that will reduce vehicle miles traveled and air emissions.
- Develop facilities at the LFT to accommodate future ferry riders arriving by car, carpool, bus, train, bicycle/scooter, foot and other modes, including building parking garages on the Main Lot and North Lot.

Figure 1-1. Project Location and Vicinity

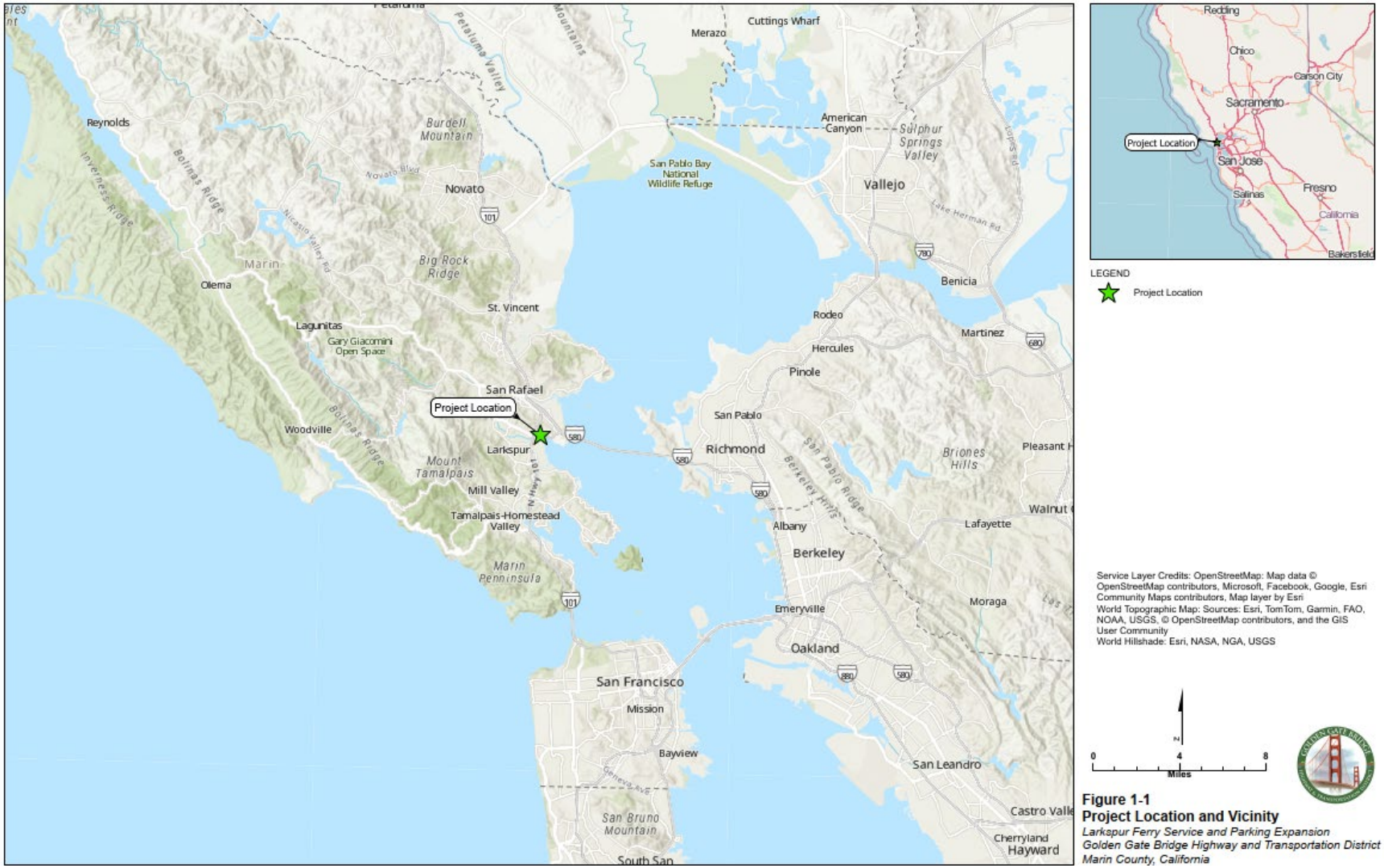


Figure 1-1
Project Location and Vicinity
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

Two Build Alternatives are being considered in this Draft EIR that would meet these objectives. Both would increase ferry service and construct new parking garages on the Main Lot and North Lot; improve the pickup/drop-off area to provide designated areas for fixed-route transit loading and unloading, transportation network companies, and drop-off activities; upgrade bicycle storage facilities; and improve pedestrian connections. The Build Alternatives occupy the same footprint and are generally similar, with the primary differences being (1) Alternative 2 includes enhanced TDM measures to accommodate forecast ridership demand with one fewer parking level in the Main Lot garage, and (2) the height of the Main Lot parking garage, with Alternative 1 including a five-level garage and Alternative 2 including a four-level garage (Figure ES-2). Table ES-2 summarizes the environmental impacts associated with the Build Alternatives.

A detailed description of the proposed Project is provided in Chapter 2, Project Description.

This Draft Environmental Impact Report (DEIR) was prepared in compliance with the California Environmental Quality Act (CEQA). The District, as the owner of the LFT, is the CEQA Lead Agency for the Project and has prepared this DEIR to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts.

1.2 Purpose of the California Environmental Quality Act and the Environmental Impact Report

In accordance with California Public Resources Code Section 21000 et seq., CEQA applies to all discretionary activities proposed to be implemented by California public agencies, including state, regional, county, and local agencies. The CEQA Guidelines are the primary source of rules and interpretation of CEQA (California Public Resources Code Section 21000 et seq.; 14 California Code of Regulations 15000 et seq.). CEQA requires agencies to analyze the potential environmental impacts of their actions, avoid or reduce significant environmental impacts where feasible, and consider the environmental implications of their actions before making a decision. CEQA also requires agencies to inform the public and other relevant agencies and consider their comments in the evaluation and decision-making process.

This DEIR was prepared in accordance with CEQA and the CEQA Guidelines (in accordance with 14 California Code of Regulations Section 15000 et seq.) and is intended to provide the environmental information necessary for the District to make final decisions regarding permitting construction and operation of the proposed Project. The District is the lead agency for the Project in accordance with CEQA. This DEIR is also intended to support discretionary reviews and decisions related to the Project by other agencies, as necessary. Implementation of the Project will require other discretionary actions by other government agencies, as described in Section 1.2.2, Permits and Other Approvals Required.

This DEIR has been prepared in compliance with CEQA to achieve the following goals:

- Identify potential direct, indirect, and cumulative environmental impacts associated with the Project.
- Describe feasible mitigation measures intended to avoid or reduce potentially significant impacts to a less-than-significant level.
- Disclose the environmental analysis, including the potential Project impacts and proposed mitigation measures, for public and agency review and comment.
- Discuss potential alternatives to the Project that can meet the basic Project objectives, are feasible, and would avoid or reduce identified significant Project impacts. This includes impacts of the No-Project

Alterative, which would allow decision-makers to compare the impacts of approving the Project with the impacts of not approving the project.

The District will provide a public review and comment period of 45 days from release of the DEIR . The District will also conduct a public meeting to receive comments during the comment period. Once the public review period is complete, the District will prepare a Final Environmental Impact Report that includes all the comments received on the DEIR, responses to all comments, and any necessary revisions to the DEIR. CEQA requires the District to review and consider the information in the DEIR before making a decision on the Project.

Before taking action on the Project, the District will consider the adequacy of the Final Environmental Impact Report (EIR). If the District decides to approve the Project, it will do the following:

- Certify the Final EIR.
- Make all required environmental findings.
- Adopt a Mitigation Monitoring and Reporting Program.
- If necessary, adopt a Statement of Overriding Considerations.

1.2.1 Agencies Expected to Use the Environmental Impact Report

The District is the CEQA lead agency, as defined under CEQA Guidelines Sections 15050 and 15051, and has principal responsibility for approving the Project. As the lead agency, the District also has primary responsibility for complying with CEQA. The District has analyzed the environmental effects of the Project, and the results of that analysis are presented in this DEIR. The District is responsible for certifying the Final EIR and approving the Findings of Fact and Statement of Overriding Considerations, if required, pursuant to CEQA Guidelines Sections 15090–15093, before Project approval.

1.2.2 Permits and Other Approvals Required

The Project would require approvals and permits from the authorities listed in Table 1-1.

Table 1-1. Required Permits and Approvals

Agency	Permit Type/Action
Bay Conservation and Development Commission	Coordination and amendment to LFT Bay Conservation and Development Commission Permit, as applicable
San Francisco Regional Water Quality Control Board	Construction General Stormwater Permit
California State Water Resources Control Board	Amendment to Districts Existing Industrial General Permit
City of Larkspur	Encroachment Permit

1.3 Scope and Content of the Environmental Impact Report

This section describes the scoping process for this DEIR, comments received in response to the Notice of Preparation (NOP), agency and public outreach efforts, resource topics included in this DEIR, and environmental resources not considered. Scoping refers to the process used to assist the lead agency (the District) in determining the focus and content of an EIR. Scoping solicits input on the potential topics to be

addressed in an EIR, the range of Project alternatives, and possible mitigation measures. Scoping is also helpful in establishing methods of assessment and in selecting the environmental effects to be considered in detail.

1.3.1.1 Notice of Preparation and Scoping

The scoping process formally began on October 1, 2024, when the NOP was submitted to the State Clearinghouse for distribution to federal, state, and local agencies. The purpose of the NOP is to solicit participation from relevant agencies and from the public in determining the scope of an EIR. The scoping period lasted 31 days and ended on October 31, 2024.

The District notified potentially interested agencies, individuals, and organizations regarding the scoping process and public scoping meeting for the Project through signage in the LFT; social media posts; information on the Project website; email outreach to stakeholders, elected officials, community-based organizations, homeowners associations, and neighborhood groups; a newspaper advertisement; and bulk mailings.

The Project team held an Open House Scoping Meeting on October 15, 2024, at the at the Drakes Landing Community Room at 300 Drakes Landing in Greenbrae to provide an opportunity for attendees to comment on environmental issues of concern.

Written and oral comments received during the scoping process are on file with the District and are included in the Scoping Summary Report in Appendix A. This DEIR considers and addresses the comments received during the scoping period, as applicable.

1.3.1.2 Comments Received in Response to the Notice of Preparation

Public input on the NOP was received during the Project's scoping period, which ended on October 31, 2024. Specific environmental issues raised in the comments on the NOP are summarized by resource topic as follows; these topics are addressed in Chapter 3, Environmental Analysis, as applicable:

- Transportation and Traffic
  - Reduction of traffic congestion in the Project area and along Sir Francis Drake Boulevard
  - Adoption of transportation demand management strategies, including increasing pedestrian and bike access (including e-bikes) to the LFT, increasing bus shuttles to the LFT, and improving transit connectivity with SMART and local bus schedules
- Aesthetics
  - Potential for views of the San Francisco Bay and LFT to be blocked by the parking garage on the Main Lot
  - Lighting impacts on the Greenbrae Boardwalk community
- Hydrology and Water Quality
  - Wake wash from ferry vessel operations
  - Marsh erosion and shoreline erosion
  - Improved revetments to protect marsh and shoreline erosion near Greenbrae Boardwalk
- Noise
  - Potential for increased noise pollution

- Air Quality
  - Potential for air quality impacts
- Biological Resources
  - Impacts on biological features
  - Impacts on marsh habitat

1.3.1.3 Agency and Public Outreach

The District has held various stakeholder interviews, surveys, and community meetings to solicit feedback from residents, transit riders, public agencies, and other stakeholders.

The District has held the following two public meetings during the Project development process:

- Community Open House – May 2024
- Attendance at and presentations to neighboring homeowners associations
- Environmental Scoping Open House – October 2024
- Project information and feedback on the District's website

Public meetings were held in English and Spanish.

1.3.1.4 Resource Topics

Consistent with Appendix G of the State CEQA Guidelines, this DEIR evaluates potential impacts the proposed Project may have on the following resource areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Population and Housing
- Public Services and Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

- Wildfire

The following topics are also analyzed in this DEIR:

- Alternatives to the proposed Project
- Cumulative impacts
- Growth-inducing impacts
- Significant and unavoidable environmental consequences
- Significant irreversible environmental changes

1.3.1.4.1 Environmental Resources Not Considered in this Draft Environmental Impact Report

CEQA Guidelines Section 15128 requires an EIR to contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. This DEIR does not include detailed analysis of potential impacts from the proposed Project on agriculture and forestry resources or on mineral resource because there would be no impact, as described as follows:

- **Agriculture and Forestry Resources.** Changes in the status of agricultural lands and forestry resources may constitute significant environmental impacts under CEQA. For example, if a project includes direct conversion of state-designated Important Farmlands to nonagricultural use, conflicts with Williamson Act (California Land Conservation Act) contracts, or results in various other types of environmental changes that have the potential to result indirectly in conversion of farmland to nonagricultural use, a significant impact under CEQA may occur. There is no farmland, timberland, or agricultural or forestry resources in the Project area. No impacts on agricultural or forestry resources would result from Project implementation or operation. Therefore, the Project would not have the potential to contribute directly or indirectly to conversion of farmland to nonagricultural use or to convert timberland to non-forest use. Agriculture and forestry resources are not discussed further in this document.
- **Mineral Resources**. Under CEQA, a project may cause a significant impact on mineral resources if the project would result in the loss of availability of a known mineral resource important to the region and state or a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Larkspur is in the North San Francisco Bay Production-Consumption Region, which the California Geological Survey has mapped for regionally significant construction aggregate resources. However, no active aggregate or surface mining operations are present within the City of Larkspur's jurisdiction, and no land designated as containing Portland cement concrete-grade aggregate is present within their jurisdiction (California State Mining and Geology Board 2018). The *City of Larkspur 2040 General Plan* (City of Larkspur 2024) does not include policies relating to mineral resources because the City of Larkspur does not contain any mineral deposits of regional significance. There are no mineral extraction uses in the Project area. There would be no impact on mineral resources during Project construction or operation. Mineral resources are not discussed further in this document.

1.4 Draft Environmental Impact Report Organization

This DEIR is organized into the following chapters and appendices:

- Chapter 1, Introduction, includes an overview of environmental review process; and the scope, content, and organization of the DEIR.

- Chapter 2, Project Description, includes a comprehensive description of the proposed Project.
- Chapter 3, Environmental Analysis, includes an evaluation of the identified environmental resource topics. Each section discusses the environmental setting, impacts, and mitigation measures for each environmental resource.
- Chapter 4, Cumulative Impacts, includes a discussion of the proposed Project's potential impacts related to past, present, and reasonably foreseeable development in the Project area.
- Chapter 5, Alternatives, includes a description of the Project alternatives considered and evaluation of several alternatives to the proposed Project, including those removed from further consideration.
- Chapter 6, Other CEQA-Required Analysis, includes a discussion of growth-inducing impacts, significant and unavoidable environmental impacts, and significant irreversible environmental changes.
- Chapter 7, List of Preparers, includes a list of persons who contributed to preparation of this DEIR.
- Chapter 8, References, includes a list of the references cited in the DEIR.
- Appendices A through G provide the following:
  - Appendix A, Scoping Summary Report
  - Appendix B, Air Quality and Greenhouse Gas Modeling Files
  - Appendix C, Natural Environment Study
  - Appendix D, Cultural Resources Report
  - Appendix E, Larkspur Ferry Terminal Sea Level Rise Impact Assessment
  - Appendix F, Noise Modeling Data
  - Appendix G, Larkspur Ferry Service and Parking Expansion Project Transportation Impact Analysis

2. Project Description

The Larkspur Ferry Service Expansion and Parking Project (Project) is being developed by the Golden Gate Bridge, Highway and Transportation District (District) to address growing demand for ferry service, improve regional transit connectivity, reduce greenhouse gas emissions, and provide a reliable transportation alternative to automobile travel along the United States Highway 101 (US 101) corridor.

The District's ferry ridership forecasts indicate ferry demand more than doubling from historic peak levels to 17,600 daily riders by 2050. To accommodate future demand, the Project would provide the District operational flexibility to incrementally expand ferry service beyond the current average limit of 42 daily ferry crossings, ultimately providing up to 76 daily ferry crossings as warranted by future ridership levels and funding availability. To accommodate additional passengers, the Project would develop landside access solutions, including parking, to meet future growth.

2.1 Existing Project Location

The Larkspur Ferry Terminal (LFT) and associated facilities are along the central San Francisco Bay near Sir Francis Drake Boulevard in Marin County, California, at latitude 37°56'40.2"N and longitude 122°30'31.4"W. The Project area is within the San Rafael U.S. Geological Survey 7.5-minute topographic quadrangle and the City of Larkspur city limits. The terminal is adjacent to San Francisco Bay wetlands and tidal areas and is bordered by a mix of transportation, commercial, and open-space land uses.

The Project site is connected to the wider transportation network via Sir Francis Drake Boulevard, which connects to US 101, the recently opened adjacent stop on the Sonoma–Marin Area Rail Transit (SMART), SMART Connect Larkspur shuttle, and the Golden Gate Transit Bus and Marin Transit Bus Service.

2.1.1 Existing Setting

The Golden Gate Ferry provides regular and special-event ferry service and is supported at LFT by multimodal access and two surface parking lots, the Main Lot and North Lot. Riders arrive via a mix of driving, drop-off/Transportation Network Company (TNC), bus transit, walking from the nearby SMART station, and regional bicycle and pedestrian routes. Ferry service levels include up to 42 weekday crossings, with additional trips during events and for maintenance operations and deadhead movements. Overall, the terminal is a key regional mobility hub in the Bay Area. Terminal parking frequently reached capacity before the COVID-19 pandemic. After the lots are full, ferry customers arriving by car are turned away and have to drive to San Francico. At capacity, ferry ridership is constrained by parking, limited transit connections, and indirect pedestrian and bicyclist connections, which limit the terminal's ability to accommodate forecast ferry ridership growth.

2.1.1.1 Larkspur Ferry Terminal

The LFT serves as the base for Golden Gate Ferry operations, offering regular ferry service to locations in the Bay Area, including the San Francisco Ferry Building and Oracle Park during baseball season and select special events. The terminal was constructed between 1975 and 1976 on the site of the former Hutchinson's Rock Quarry, and it officially opened on December 11, 1976. The LFT was designed by architect Jacques de Brer and consists of an 18,000-square-foot open-air "space frame" canopy. The terminal is accessible and includes amenities for passengers, such as a covered waiting area, restrooms, and bicycle racks accommodating up to 80 bicycles inside the paid area and an additional 60 outside.

Immediately outside the terminal building, there are pickup and drop-off spaces for bus transit and private vehicles/TNCs, along with a surface parking lot to serve ferry passengers who choose to drive and park.

2.1.1.2 Landside Facilities

Landside facilities include the Main Lot and North Lot, which are surface lots and together have a total of 2,023 parking spaces, inclusive of parking spaces intended for ferry riders with accessibility requirements. The standard parking stalls have substandard dimensions, compared to the current guidelines from the City of Larkspur.

The Main Lot is accessed from Sir Francis Drake Boulevard and has 1,808 parking spaces. The parking lot is an approximate hexagon shape, keeping with the original design of the terminal and surrounding areas. A road around the edge of the Main Lot provides circulation and internal access to all parking aisles, connects to the ferry terminal's pickup and drop-off area, and leads to a designated staff parking area southwest of the Main Lot. Onsite bicycle parking is available at the ferry terminal building for 140 bicycles. Four fuel storage tanks are used for daily ferry service; located just beyond the employee lot, each tank holds 75,000 gallons. Before the COVID-19 pandemic, the Main Lot regularly reached full capacity by midmorning on weekdays, resulting in overflow demand to the North Lot.

The North Lot is to the north of the Main Lot across Sir Francis Drake Boulevard near the SMART station and is accessed from Larkspur Landing Circle. It has 215 parking spaces and is intended to serve as an overflow car park once the Main Lot is filled.

2.1.2 Existing Ferry Operational Activities

Before the COVID-19 pandemic, the District was operating at the approved maximum (Baseline) ferry operations, with up to 42 regular service crossings between the City of Larkspur and San Francisco on weekdays. As of April 2026, the District currently operates below the baseline level, with 32 regular service crossings on weekdays and 15 crossings on weekends and holidays between the City of Larkspur and San Francisco. Deadhead trips and maintenance trips are estimated to be up to 10 trips and 2 trips, respectively. The District also runs special service for home games at Oracle Park, consisting of two crossings per game, for the entire season, as well as infrequent special service for large concerts or events. The Larkspur–San Francisco service is operated using a fleet of catamarans with a capacity ranging from 400 to 450 passengers. Based on forecast ferry ridership demand, services are forecast to return maximum revenue crossing levels of 42 trips per day in 2035. Detailed discussion of forecast ferry service demand is provided in Section 2.3.3.1 and are shown in Table 2-1. The District has begun the process of upgrading the entire ferry fleet to new, Liwa-class vessels; this conversion will be completed by 2033 before completion of the proposed Project. Compared to the legacy fleet, Liwa vessels have an improved hull design reducing wake generation and wave energy, a shallower 20-degree jet angle that will reduce disturbance and water turbidity, Tier 4 engines that result in reduced emissions, and higher fuel efficiency. The Liwa vessels are handicap-accessible, carry 50 more passengers (500 passengers total), and have space for 75 bicycles. Ferry operations staff onsite include 88 employees covering land and waterside operations and purchasing and general administration.

2.1.2.1 Existing Ferry Storage and Maintenance Activities

In addition to the daily ferry service operations discussed previously, LFT is the home base for the District's ferries. Up to seven ferries can be stored at the LFT overnight, but the actual number stored varies depending on offsite maintenance requirements and U.S. Coast Guard and Project inspection schedules.

The ferries receive daily fuel service onsite. Fuel is stored onsite in a 300,000-gallon tank farm that is adjacent to the employee parking southwest of the Main Lot.

The majority of in-water vessel maintenance for the ferries is completed at LFT by 20 maintenance and engineering staff. These activities include maintenance and repair activities for all vessel and facility systems and at times require the use of a large landside crane adjacent to a berth to support vessel repair and maintenance activities. Maintenance and repair activities generally include welding and fabrication, engine overhaul, oil changes, electrical work, facilities painting, and vessel auxiliary systems maintenance. The channel around the LFT requires periodic maintenance dredging to ensure safe ferry operation and to avoid damage to the vessels. Maintenance dredging is completed, as needed, under a separate permit for each event. Dredging was last completed in 2022 and is anticipated to be completed next in 2027.

2.1.3 Existing Access and Connectivity

Ferry riders access the LFT via a range of modes, including driving, transit, walking, bicycling, and rail. The estimated mode shares in 2018 (before the COVID-19 pandemic) and 2024, the most recent year for which data are available, are shown on Figure 2-1. The shift in mode share is largely because of commencement of SMART operation in 2019; consequently, SMART mode share is 8% in 2024 compared to 0% in 2018. Other changes in 2024 include drive and park decreasing by 6%, and bus transit decreasing by 3.5% as the connector between the San Rafael Transit Center and LFT discontinued service with the opening of the Larkspur SMART station. Combined, the walk and bike/scooter mode share increased 1.7% by 2024.

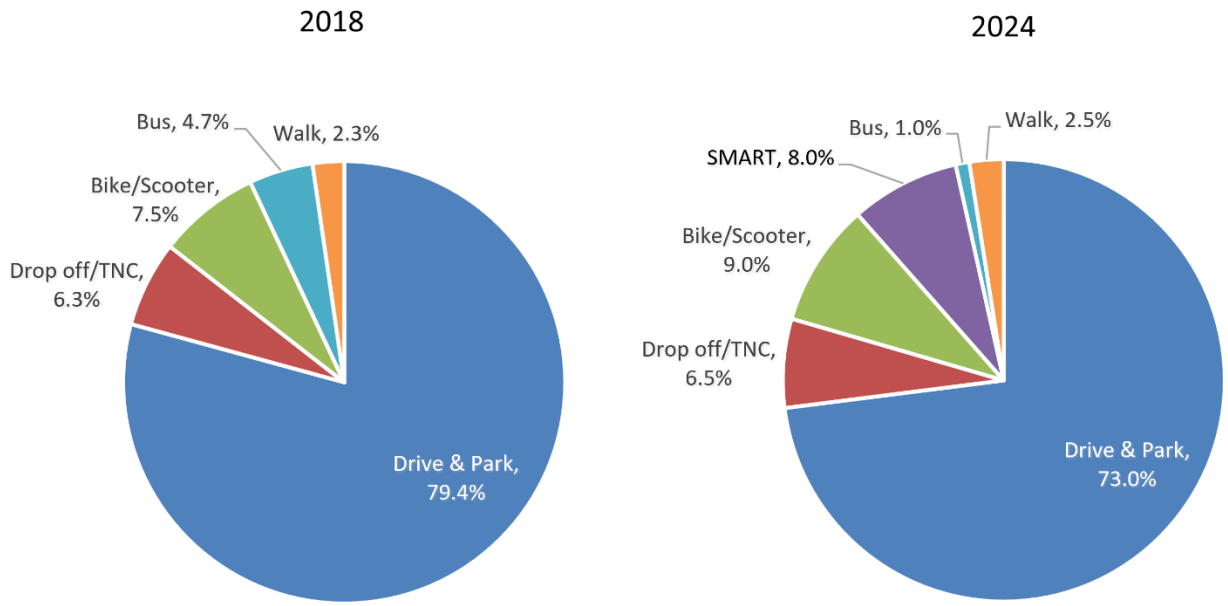


Figure 2-1. Mode of Arrival to Larkspur Ferry Service

Currently in San Francisco, 45% of Larkspur ferry customers walk to and from the San Francisco Ferry Terminal, 18% bike or scooter to and from the terminal, 17% arrive from MUNI, 10% are picked up or dropped off by car (private car, taxi or Uber/Lyft/Waymo), while the remainder use other means (such as AC Transit, Amtrak, bus, other ferry, company shuttle, etc.).

2.1.3.1 Private Vehicles – Drive and Park

The parking payment at both the Main and North Lots is a $2 daily rate or $20 for a 30-day permit (as of September 2026). Payment is required between 5 AM and 1 PM on weekdays, with parking free after 1 PM on weekdays, weekends, or holidays with ferry service.

2.1.3.2 Drop Off/Transportation Network Companies

The existing loading area includes approximately 145 feet of white curb, consisting of one 95-foot segment and one 50-foot segment separated by a crosswalk. The curb is designated for passenger pickup and drop-off activities, with a posted 10-minute time limit, and is used by private vehicles, taxis, and TNCs such as Uber and Lyft.

2.1.3.3 Transit – Bus and Sonoma–Marin Area Rail Transit

Transit includes the following:

- Bus: In 2019, shuttle Routes 25 and 31 operated by Golden Gate Transit served as feeder routes to the ferry. Route 31, connecting the San Rafael SMART station to LFT, suspended service after the Larkspur SMART station opened in late 2019, and Route 25 was discontinued in 2020 because of COVID-19 and has not returned because of lack of demand and sufficient parking capacity at LFT. Currently, regular bus transit routes serving the LFT directly include Golden Gate Transit Route 132 from San Anselmo to San Francisco. Marin Transit also operates three fixed bus routes connecting to the ferry—Routes 17, 29, and 228—which pick up/drop off just outside the Main Lot on Sir Francis Drake Boulevard.
- SMART: SMART's Larkspur Station opened in 2019 and is roughly 0.3 mile (straight line distance) from the ferry terminal; however, walking distance is approximately 0.6 mile, connected by the Cal Park Hill Pathway, a paved multi-use trail. The SMART system currently operates from the City of Larkspur to Windsor in Sonoma County. As of April 2026, trains operate on approximately 32-minute headways, improving schedule flexibility and enhancing connections to ferry departures throughout the day. SMART also provides weekend service. The SMART Connect Larkspur provides an alternative to the Central Marin Ferry Bicycle/Pedestrian Bridge, linking the SMART Larkspur Station with the Golden Gate LFT. This service is especially convenient for passengers who find the walk challenging. The provided service level offers flexibility in travel throughout the day and improves connections between the ferry terminal and regional facilities, such as the San Rafael Transit Center.

2.1.3.4 Non-Motorized Modes – Bicycle and Walking

The ferry terminal is served by sidewalks and pedestrian crossings at the major intersections near the ferry terminal, such as the Sir Francis Drake Boulevard/Larkspur Land Circle intersection. There is also a footbridge serving pedestrians and bicyclists over Sir Francis Drake Boulevard, connecting to the commercial land uses on Larkspur Landing Circle.

The Cal Park Hill Pathway, part of the Marin County North–South Greenway, offers another connection over Sir Francis Drake Boulevard and connects to the shared use paths serving the ferry terminal from the west. This crossing provides a good bicycle connection to the SMART station but does not attract pedestrians because of its indirect route.

2.1.3.5 Existing Transportation Demand Management

Thirty designated carpool parking spaces are available in the existing Main Lot.

2.2 Project Background and Objectives

Ferry service from the LFT has historically—before COVID-19 and work-from-home policies—been heavily used, with ferry ridership constrained by limits on ferry terminal capacity. Parking was frequently at capacity before 10 AM on weekdays, and there were limited alternatives for riders to access the site. Based on the ferry ridership forecast, developed with the Transportation Authority of Marin's transportation demand model, ferry ridership is projected to recover to 2019 levels (pre-pandemic) by approximately 2035 and continue to grow to 2050 and beyond. Ferry ridership is anticipated to recover to approximately 7,500 daily riders (3,750 riders in the southbound direction) by 2035, with forecast growth up to 17,600 daily riders (8,800 riders in the southbound direction to San Francisco) by 2050.

As ferry service is capped at 42 revenue crossings per day, an incremental increase in ferry service from the approved maximum 42 revenue crossings (baseline) up to 76 weekday crossings by 2050 would be needed to meet the ridership demand forecast. Additional per-weekday ferry crossings, including special events and maintenance and deadhead trips, could increase 6 to 16 weekday crossings in 2035 to 14 to 26 weekday crossings in 2050.

Forecast ferry ridership is further constrained by landside access limitations at the LFT. Increased accommodation of active transportation, transit services, and parking capacity will be necessary to accommodate 8,800 daily southbound ferry riders in 2050. With the Project, the District seeks to ensure that ferry service remains a reliable and competitive travel option for the greater Bay Area.

The purpose of the Project is to provide increased ferry service and landside access improvements to accommodate forecast future ridership demand and ensure that ferry service remains a reliable and competitive travel option that reduces vehicle miles traveled and greenhouse gases along the US 101 highway corridor in Marin and Sonoma Counties and for the greater Bay Area through 2050 and beyond.

The objectives of the Project are the following:

- Meet increasing demand for ferry service between the LFT and San Francisco in 2050 and beyond.
- Accommodate higher levels of ferry service beyond the historic cap of 42 average daily trips.
- Reduce traffic congestion within the US 101 highway corridor by providing an alternative and time competitive mode of travel to San Francisco that will reduce vehicle miles traveled and air emissions.
- Develop facilities at the LFT to accommodate future ferry riders arriving by car, carpool, bus, train, bicycle/scooter, foot and other modes, including building parking garages on the Main Lot and North Lot.

2.3 Two Build Alternatives

The Project proposes to increase ferry service; improve the pickup/drop-off area to provide designated areas for fixed-route transit loading and unloading, TNCs, and drop off; upgrade bicycle storage facilities; improve pedestrian connections; and use a phased approach to construct new parking garages on the Main and North Lots. The common design features that are the same for the Build Alternatives, such as increased ferry service and North Lot parking garage, are discussed in Section 2.3.1.

There are two Build Alternatives being considered in this Draft Environmental Impact Report. Alternatives 1 and 2 occupy the same footprint (Figure 2-2) and are essentially the same with the exception of (1) Alternative 2 includes additional transportation demand management (TDM) measures that fully address projected ridership demand with one less parking level in the Main Lot, and (2) Main Lot parking garage height (Alternative 1 is a five-level garage, and Alternative 2 is a four-level garage). The Project's

Build Alternatives are discussed in Section 2.3.2, Alternative 1, and Section 2.3.3, Alternative 2. Construction of the Build Alternatives would occur in phases, with Phase I consisting of TDM and transit improvements along with a parking garage on the North Lot, and Phase II including further TDM and transit improvements and a parking garage on the Main Lot. Construction of parking garages is contingent on funding availability and future demand, which is discussed in greater detail in Section 2.3.4.

2.3.1 Common Design Features – Alternatives 1 and 2

The following describes the common design features that are included within Alternatives 1 and 2.

2.3.1.1 Increased Ferry Service

In 2035, the unconstrained ferry ridership is forecast to be approximately 3,800 riders in the southbound direction (7,500 daily trips), and no additional service trips would be required.

In 2050, the unconstrained ferry ridership is forecast to be approximately 8,800 riders in the southbound direction (17,600 daily trips). This will require incrementally increasing the regular ferry service trips up to 76 revenue trips by 2050. Table 2-1 provides total anticipated trips, including typical daily crossings and large event special service for 2035 and 2050. With the maximum level of 76 trips in 2050, ferry operations will include up to four departures/arrivals per hour in the AM peak hours, which can be accommodated by existing facilities at Berths 1 and 2 at the LFT. Ferry operations will continue in accordance with existing practices and in compliance with all applicable rules and regulations to ensure safe, reliable service.

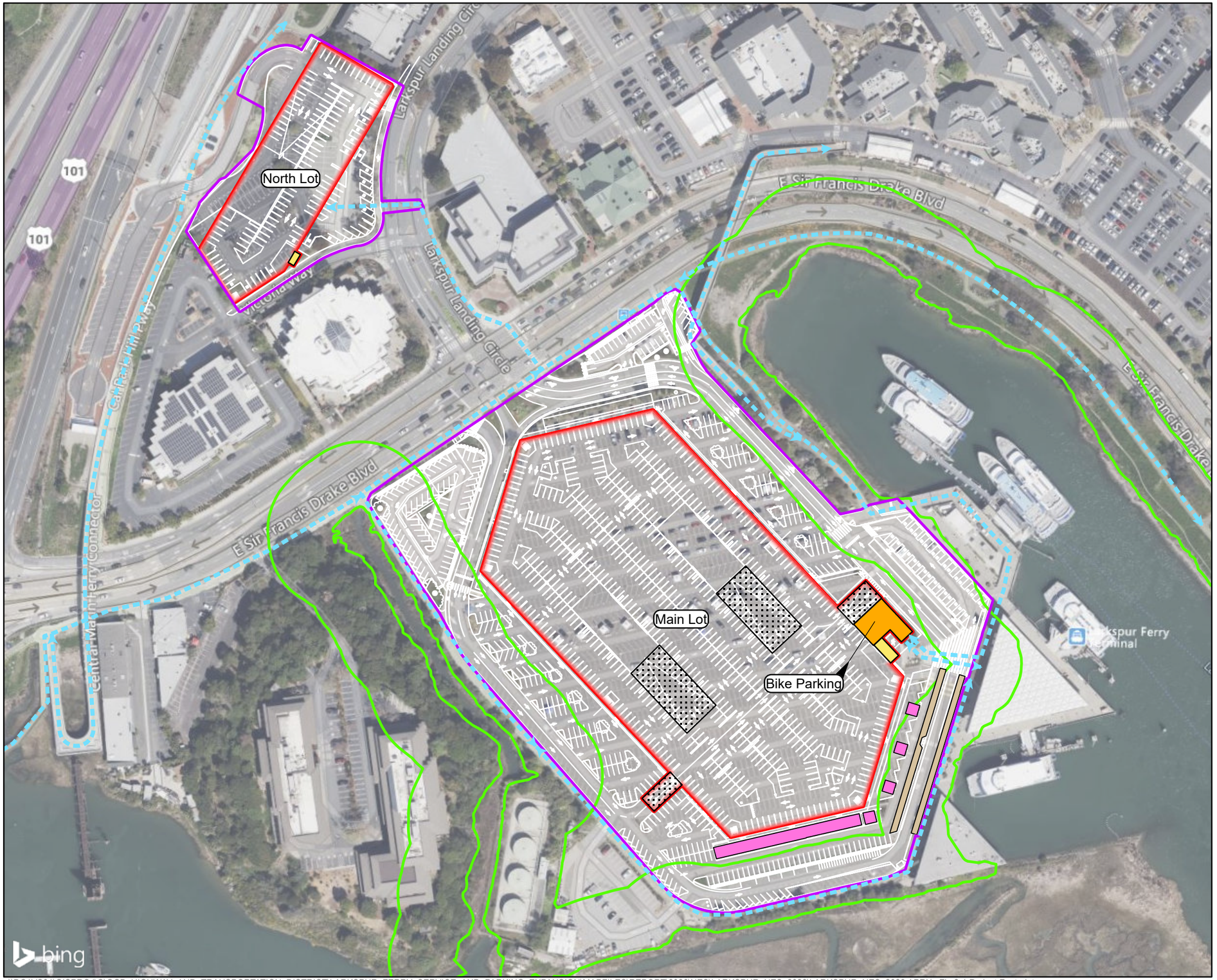
Table 2-1. Forecast Ferry Ridership and Trips

Trip Type	CEQA Baseline (Approved Trips)	Alternatives 1 and 2 (2035)	Alternatives 1 and 2 (2050)
85th Percentile Daily Ridership	N/A	7,500	17,600
Forecast Regular Revenue	42	42	76
Special Event Service	2	0 to 4	0 to 4
Deadhead—Larkspur, Sausalito, Tiburon	10	6 to 10	14 to 20
Maintenance	2	0 to 2	0 to 2
Total Daily Crossings—Typical Weekday	56	48 to 58	90 to 102
Large Event Special Service	18	0 to 18	0 to 18
Total Daily Crossings—with Large Event Special Service	74	48 to 76	90 to 120

CEQA = California Environmental Quality Act

N/A = not applicable

Actual service would depend on demand and be subject to the District's standard operating practices.



Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Bing Maps Hybrid: © 2026 Microsoft Corporation © Maxar ©CNES (2026) Distribution Airbus DS © Mapbox © 2026 TomTom
World Hillshade: Esri, CGIAR, USGS

Figure 2-2
Project Footprint
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\NES\LARKSPUR_NES_2026\LARKSPUR_NES_2026.APRX Fig 2-1 Project Footprint

It should also be noted that by 2035, the District fleet would be composed of all new Liwa-class vessels. These vessels are jet powered and have Tier 4 engines, resulting in reduced emissions and higher fuel efficiency. The Liwa vessels are handicap-accessible, carry 50 more passengers (500 passengers total), and have space for 75 bicycles.

2.3.1.2 North Lot Parking Garage

Phase I of Alternatives 1 and 2 would construct a six-level parking garage on the North Lot. The concrete garage would include approximately 260,000 square feet of parking for 850 stalls (145 surface/level 1 stalls and 705 garage stalls). The garage would include two elevators to comply with the Americans with Disabilities Act (ADA).

2.3.1.3 Project Footprint

The permanent footprints and temporary construction areas are the same for Alternatives 1 and 2.

2.3.1.4 Additional Common Design Features

Both Build Alternatives would also include the following components:

- Secure bicycle parking for up to 350 bicycles at the Main Lot
- Electric vehicle charging in accordance with the California Green Building Standards Code (Title 24, Part 11)
- New pedestrian crossing on Larkspur Landing Circle to enhance pedestrian movements from the North Lot to the ferry terminal
- Connection to existing drainage facilities and utilities
- Installation of solar canopies shades across approximately 75% of the upper levels of both garages, resulting in an estimated annual clean energy output of 5,700,000 kilowatt-hours per year for electric vehicle charging to help offset grid demand
- Uniform distribution of interior and exterior lights for the Main and North Lots that are provided through the following principles (actual spacing and total number of fixtures can vary based on many factors; typically, fewer are preferred, but it requires more advanced fixtures and will be developed in final design):
  - Minimum surface lighting level is 1 foot-candle, and there is a 5-foot-candle minimum at interaction areas. The maximum surface lighting level will be defined in the final design (as low as acceptable) to avoid glare.
  - All new exterior fixtures will be NightSky-compliant (each shining down only), preventing glare.
  - Interior fixtures are placed such that the cutoffs do not let a significant amount of light protrude outside the building envelope, preventing glare. Because they are ceiling mount, they shine downward by nature.
  - Fixtures will be light-emitting diode (LED) with minimum Color Rendering Index of 90 and automated (daylight and occupancy dimming).
  - Vehicle headlights in the garage are permanently blocked by solid crash-walls and do not shine outwards from the upper levels, preventing glare.

2.3.2 Alternative 1: Increased Ferry Service and New Parking Garages

2.3.2.1 Main Lot Garage

Alternative 1 would construct a five-level parking garage with secured bicycle parking on the Main Lot. The Main Lot garage's first level would be elevated to accommodate near-term forecast sea-level rise (Year 2100 Projection). First-level elevations would be increased approximately 1 to 5 feet above the existing grade. Generally, areas close to the marsh would be elevated 5 feet, while areas closer to Sir Francis Drake Boulevard would be elevated 1 foot based on difference between projected sea-level rise and existing grade. The concrete garage would include approximately 1,200,000 square feet of parking for 3,998 stalls (401 surface lot stalls and 3,597 garage stalls). The garage would include an elevator and connect to existing onsite utilities. All major construction would occur outside of the San Francisco Bay Conservation and Development Commission's shoreline band. Anticipated work within the shoreline band would be limited primarily to restriping the remaining surface lot to accommodate the new circulation and remaining surface parking within the lot, landscape improvements and drainage tie-ins as applicable.

2.3.2.2 Access and Connectivity with Proposed Landside Changes

While the share of ferry passengers who drive and park at the terminal is projected to decline from approximately 73% in 2024 to 65% in 2050, overall parking demand is still expected to increase (Table 2-2). This is because of substantial increases in forecast ferry ridership, which is connected to regional growth projections for the same period. As a result, additional parking capacity would be needed to accommodate future passenger demand, and ferry ridership under this alternative is not expected to be constrained by the amount of parking available.

Table 2-2. Mode Share Forecast for Alternative 1 in 2035 and 2050 and Associated Ferry Ridership Forecast

Mode of Arrival	2018	2024	2035	2050
Drive and Park	79.4%	73.0%	69.5%	65.0%
Drop off/TNC	6.3%	6.5%	6.5%	6.5%
Bike/Scooter	7.5%	9.0%	9.8%	11.0%
SMART	N/A	8.0%	8.5%	9.5%
Bus	4.7%	1.0%	3.0%	5.0%
Walk	2.3%	2.5%	2.7%	3.0%
Total	100%	100%	100%	100%
Ridership	6,350	3,500	7,500	17,600
Parking Demand	N/A	N/A	2,200	4,700
Parking Supply	2,023	2,023	2,658	4,848

Drop off/TNCs

Curb space in front of the ferry terminal is currently intended for pickup/drop-off by private vehicles and TNCs. In Alternative 1, some of the existing parking stalls on the Main Lot circulation road would be

reconfigured to provide additional spaces for pickup/drop-off, District-reserved parking, and motorcycle parking.

The proposed reconfiguration would result in the following:

- 95 feet of bus stop space
- 24 spaces for pickup/drop-off
- 120 feet of curb space allocated for reserved parking (District use)
- 100 feet of curb space allocated for motorcycle parking

Transit

The ferry terminal will continue to be served by transit. In 2035, bus service is assumed to consist of fixed-route transit services provided by Marin Transit and one fixed-route peak-only feeder shuttle—the Wave, which the District (Golden Gate Transit) will begin operating in 2030—during the peaks to match the ferry schedule. The same transit improvements are assumed for 2050.

Non-Motorized Modes

Alternative 1 would include the proposed development of additional onsite facilities to encourage mode shift from drive and park to transit and active transportation modes (bicycle and pedestrian), as described in Section 2.3.1.4.

2.3.2.3 Transportation Demand Management

Standard TDM measures would be pursued strategically to encourage mode shift to active transportation and transit. In addition to common design features in Section 2.3.1.4, potential TDM measures for Alternative 1 may include the following:

- Increased preferred parking spaces for carpool/vanpool for the ground floor of the Main Lot parking garage
- Increased parking fees commensurate with inflation and to account for some costs for construction of the parking garage

2.3.2.4 Utilities

New utility service is not anticipated. The Main Lot garage would connect to existing landside utility services.

2.3.3 Alternative 2: Increased Ferry Services, New Parking Garages, and Enhanced Transportation Demand Management

The following describes Alternative 2.

2.3.3.1 Main Lot Garage

Alternative 2 would construct a four-level parking garage with secure bicycle parking on the Main Lot after Phase I construction of the North Lot garage. The Main Lot garage's first level would be elevated to accommodate near-term forecast sea-level rise (Year 2100 Projection). First-level elevations would be increased approximately 1 to 5 feet above the existing grade. Generally, areas close to the marsh would be elevated 5 feet, while areas closer to Sir Francis Drake Boulevard would be elevated 1 foot based on

difference between projected sea-level rise and existing grade. The concrete garage would include approximately 960,000 square feet of parking for 3,258 stalls (401 surface lot stalls and 2,857 garage stalls). The garage would include an elevator and connection into existing onsite utilities. All major construction would occur outside of the Bay Conservation and Development Commission's shoreline band. Anticipated work within the shoreline band would be limited primarily to restriping the remaining surface lot to accommodate the new circulation pattern and configuration of surface parking within the lot, landscape improvements, and drainage tie-ins, as applicable.

2.3.3.2 Access and Connectivity with Proposed Landside Changes

The mode share of drive and park associated with Alternative 2 is projected to decrease between 2024 and 2050 from 73% to 56% in response to the proposed enhanced TDM measures and the new parking garages. Enhanced TDM measures described in Section 2.3.2 would improve transfers between modes, develop facilities, or provide incentives to encourage mode shift from private vehicle to other modes, including bus, SMART, bicycle, walking, carpool/vanpool. Therefore, while the demand for the number of parking spaces increases with forecast ferry ridership, when the TDM measures are combined with the new four-level garage, Alternative 2 is able to accommodate forecast increased ferry ridership up to 2050 any beyond (Table 2-3).

Table 2-3. Mode Share Forecast for Alternative 2 in 2035 and 2050 and Associated Ferry Ridership Forecast

Mode of Arrival	2018	2024	2035	2050
Drive and Park	79.4%	73.0%	68.8%	56.0%
Drop off/TNC	6.3%	6.5%	6.5%	7.0%
Bike/Scooter	7.5%	9.0%	10.0%	13.0%
SMART	N/A	8.0%	8.5%	10.0%
Bus	4.7%	1.0%	3.5%	11.0%
Walk	2.3%	2.5%	2.7%	3.0%
Total	100%	100%	100%	100%
Ridership	6,350	3,500	7,500	17,600
Parking Demand	N/A	N/A	2,200	3,850
Parking Supply	2,023	2,023	2,658	4,108

Drop Off/TNCs

Curb space is included in front of the ferry terminal and is used for pickup/drop-off by private vehicles or TNCs. Some of the existing parking stalls on the Main Lot circulation road would be reconfigured to provide additional spaces for pickup/drop-off, District-reserved parking, and motorcycle parking and would be further explored during preliminary design.

The proposed reconfiguration would result in the following:

- 195 feet of bus stop space
- 26 spaces for pickup/drop \-off
- 120 feet of curb space allocated for reserved parking
- 100 feet of curb space allocated for motorcycle parking

Transit

Alternative 2 is proposed to include the following enhancements to transit service:

- In 2035, bus service is assumed to consist of fixed-route transit services provided by Marin Transit.
- In 2035, extend the one fixed-route peak-only feeder shuttle—the Wave, which the District (Golden Gate Transit) will begin operating in 2030—from peak-only to all-day service
- In 2050, add up to two additional fixed-route, neighborhood-based services matching the ferry schedule (all day). These routes would connect the local communities, such as Larkspur, Greenbrae, and San Rafael, to the ferry terminal.

Non-Motorized Modes

Alternative 2 also includes a proposed bicycle hub with repair services in the Main Lot garage, alongside secure bicycle parking, to further encourage mode shift away from drive and park, in addition to measures as described in Section 2.3.1.4.

2.3.3.3 Transportation Demand Management

Alternative 2 would include enhanced TDM measures in addition to those noted for Alternative 1 (Section 2.3.2.3) and common design features (Section 2.3.1.4) to encourage mode shift to active transportation and transit. Examples of potential TDM measures that may be included are as follows:

- A bike hub, including bicycle repair services to accompany bicycle parking
- Pending ferry ridership demands, increased parking fees commensurate with inflation and to account for some costs for construction of the garages, and some costs for feeder shuttle operations; more spaces for preferential carpool parking on the ground floor of the Main Lot parking garage
- More spaces for preferential carpool parking on the ground floor of the Main Lot parking garage
- Active participation in the regional carpool matching program (currently known Marin Commutes)

2.3.3.4 Utilities

New utility service is not anticipated. The Main Lot garage would connect to existing landside utility services.

2.3.4 Phased Construction of North Lot and Main Lot Parking Garages

A preliminary list of activities necessary before each construction phase includes development of a funding plan (if federal funding is identified, National Environmental Policy Act clearance will also be required), final design, permitting, and bidding.

The Build Alternatives would be constructed in two phases. Phase I is construction of the North Lot garage, and Phase II is construction of the Main Lot garage. No other improvements are required at the LFT to accommodate the increase in ferry service discussed in Section 2.3.3.1. The Build Alternatives would require similar construction phases, activities, and construction footprints. The primary difference is the construction schedule for Alternative 2 Phase II, which would be slightly shorter in duration and require less concrete because of one less parking level on the Main Lot garage.

Ultimately, construction timing for the North and Main Lot garages is anticipated to be up to the District's discretion, pending funding availability and actual ridership demand at the time to balance parking availability with the increase ridership and ferry operations (up to a maximum of 76 revenue trips per day) in 2050 and beyond. It is anticipated that construction of the North Lot garage would require up to 18 months and would start in 2033; and construction of the Main Lot garage is anticipated to require up to 36 months and could begin as early as 2037. If funding is available and it is warranted by future ridership, both garages could open as early as 2040.

The construction period would include mobilization, demolition, utility work, structural work, structural finishing and inspections, and closeout. Each Build Alternative will include a Traffic Management Plan (TMP) and a Traffic Control Plans (TCP) that would include applicable measures that the contactor will be required to comply and approved by the City to address circulation for transit, bicycles, pedestrians, construction vehicles, emergency vehicles, and private vehicles for the duration of construction of the Project. The TMP/TCPs are designed to safely guide vehicles, cyclists, and pedestrians around the work zone; protect construction crews; keep traffic moving smoothly; minimize and prevent accidents; and lessen the impacts of construction traffic on daily local routines. The TMP and TCPs would be developed in tandem. The TMP would focus on means to reduce traveler delays and enhance traveler, pedestrian, and cyclist safety during Project construction. TCPs would identify the approach for managing traffic during construction to maximize efficiency and safety. This plan would follow the guidance contained in the California Manual on Uniform Traffic Control Devices on temporary closures of vehicle lanes, bicycle lanes, and sidewalks and appropriate detours for these facilities. Key elements in the TMP include the following:

- Public information/public awareness campaign
- Motorist information strategies
- Incident management
- Construction strategies
- Demand management
- Alternate route Strategies

Figure 2-3 shows the parking demand and supply during construction to 2050 and beyond. Because of requirements to close the Main and North Lots to parking during construction, this will result in an anticipated parking shortfall of 140 to 240 parking spaces during construction of the North Lot and an anticipated shortfall of 1,530 to 1,700 spaces during construction of the Main Lot. The District could offer parking at the District depot on Andersen Drive, complemented with a shuttle service connecting the depot to the ferry terminal. The District could also work with offsite businesses with excess parking to provide alternatives for parking and access to the LFT. Currently, additional offsite parking spaces are adjacent to the site at the movie theater and commercial/retail businesses and at the Marin Country Mart on Larkspur Landing Circle. Further coordination with property owners/management would be needed for use of these parking spaces during construction. Potential measures to address temporary parking shortfalls during construction would be evaluated and implemented by the District, as appropriate, before construction.

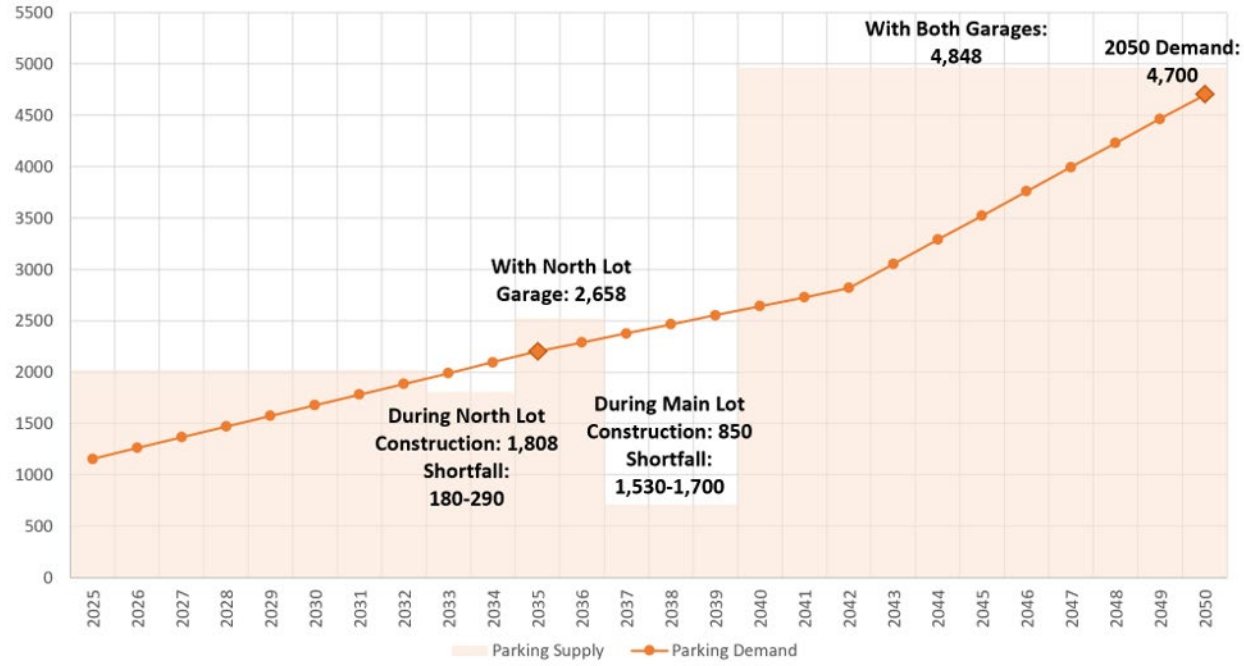


Figure 2-3. Construction Schedule and Parking Supply

Note: Actual construction schedule pending Board approval, funding availability and future demand.

Major activity phases, stages, and activities are discussed as follows:

- Phase I North Lot:
  - Stage 1, Site Preparation: Primary activities would include:
    - Mobilizing contractor
    - Installing construction fencing
    - Demolishing approximately 37,000 square feet of asphalt across the 1.02-acre North Lot
    - Removing curbs and islands
    - Clearing and grubbing
    - Addressing utility conflicts
    - Installing water quality best management practices
    - Establishing staging areas and jobsite office while maintaining access to the SMART station
  - Stage 2, Excavation: Approximately 3,700 cubic yards of rock would be excavated and hauled offsite in preparation for construction of slab-on-grad mat foundation.
  - Stage 3, Foundation: Approximately 7,400 cubic yards of base would be imported and compacted in preparation for the foundation. The mat foundation would be constructed.
  - Stage 4, Super Structure: The six-level, 260,000-square-foot parking garage with 850 parking stalls (145 surface/level 1 stall, and 705 garage stalls) would be constructed. The garage would include two elevators for ADA accessibility.
  - Stage 5, Parking Lot Improvements: The surface parking area surrounding the garage would be reestablished. This would include:

        - Regrading and compaction
        - Vehicle transition ramps
        - Pedestrian ADA ramps and walkways
        - Stormwater drainage, curb, gutter, and sidewalk reconstruction
        - Asphalt paving
        - Lighting, signage, and parking control devices
    - Stage 6, Mechanical, Electrical, and Plumbing and Architectural and Finishes: This would include:
        - Electrical and lighting installation
        - Fire/life safety systems
        - Elevator installation and commissioning
        - Signage and striping
        - Landscaping and site improvements
        - Architectural finishes
        - Solar shades
- Phase II Main Lot:
    - Stage 1, Site Preparation: Primary activities would include:
        - Mobilizing contractor
        - Installing construction fencing
        - Demolishing approximately 240,000 square feet of asphalt, including lighting pedestals and bollards within the 5.5-acre Main Lot footprint
        - Addressing utility conflicts
        - Installing water quality best management practices
        - Establishing staging areas and jobsite office while maintaining access along the perimeter for passenger dropoffs via private vehicles and buses to the LFT.
    - Stage 2, Excavation: Approximately 7.5 feet of liquefiable material (67,000 cubic yards) within the Main Lot garage would be excavated and hauled offsite. Approximately 67,000 cubic yards of engineered backfill material would be imported and compacted.
    - Stage 3, Foundation: Approximately 19,000 cubic yards of engineered base would be imported and compacted to make final grade at approximately 11.4 feet above mean sea level in preparation for the foundation. Two options are being considered: (1) H-pile foundation and (2) auger cast pile foundation. Details related to these options are provided as follows:
        - H-Pile Foundation: Approximately 19,000 cubic yards of engineered base would be imported and compacted to make final grade at approximately 11.4 feet above mean sea level in preparation for the foundation. Includes driving 2,151 90 foot-long 18x204 steel H-piles; constructing plie caps, grade beams, and perimeter foundation walls; and installing under-slab utilities.
        - Auger Cast Pile Foundation: Approximately 19,000 cubic yards of engineered base would be imported and compacted to make final grade at approximately 11.4 feet above mean sea level

in preparation for the foundation. Includes drilling and installing 950 36-inch-by-90-foot-long concrete auger cast piles and hauling out of approximately 27,000 cubic yards of drilling spoils, along with constructing plie caps, grade beams, and perimeter foundation walls and installing under-slab utilities.

- Stage 4, Super Structure: Parking garage on top of the pile foundation would be constructed. The super structure would consist of either:
  - Alternative 1: A five-level, approximately 1,200,000-square-foot concrete parking garage containing approximately 3,597 stalls
  - Alternative 2: A four-level, approximately 960,000-square-foot concrete parking garage containing approximately 2,857 stalls
- Stage 5, Parking Lot Improvements: The surface parking area surrounding the garage would be reestablished. This would include:
  - Regrading and compaction
  - Vehicle transition ramps
  - Pedestrian ADA ramps and walkways
  - Stormwater drainage, curb, gutter, and sidewalk reconstruction
  - Asphalt paving
  - Lighting, signage, and parking control devices
  - Final paving, striping, and site work, such as Asphalt Concrete paving, striping, and signage and landscaping
- Stage 6, Mechanical, Electrical, and Plumbing and Architectural and Finishes: This would include:
  - Electrical and lighting installation
  - Fire/Life safety systems
  - Elevator installation and commissioning
  - Signage and striping
  - Landscaping and site improvements
  - Architectural finishes
  - Solar shades

3. Environmental Analysis

Introduction

This chapter, which is organized by environmental resource area, provides an integrated discussion of the regulatory setting, environmental setting, and impact analyses (including mitigation measures for potentially significant impacts) associated with the Larkspur Ferry Service Expansion and Parking Project (Project) and Build Alternatives. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

Chapter Organization

This chapter is organized into the following environmental resource sections:

- 3.1, Aesthetics
- 3.2, Air Quality
- 3.3, Biological Resources
- 3.4, Cultural Resources
- 3.5, Energy
- 3.6, Geology and Soils
- 3.7, Greenhouse Gas Emissions
- 3.8, Hazards and Hazardous Materials
- 3.9, Hydrology and Water Quality
- 3.10, Land Use and Planning
- 3.11, Noise
- 3.12, Population and Housing
- 3.13, Public Services and Recreation
- 3.14, Transportation
- 3.15, Tribal Cultural Resources
- 3.16, Utilities and Service Systems
- 3.17, Wildfire

Each environmental resource section begins by summarizing the environmental resource and cross referencing related issues addressed elsewhere in the Draft Environmental Impact Report (DEIR) and includes the following discussions:

- **Regulatory Setting:** Identifies the federal, state, regional, and local laws, along with regulations, ordinances, and policies, that are relevant to each environmental resource area and applicable to the construction and operation of the Build Alternatives.
- **Environmental Setting:** Provides an overview of the existing physical considerations of an environmental resource in the area at the time of, or prior to, the publication of the Notice of

Preparation, which could be affected by implementation of the Build Alternatives. A specific study area is identified for each environmental resource, given the extent of how the study area varies with each resource. The study area is defined as the limits of an area in which impacts could be expected to occur for each environmental resource. The environmental setting provides the basis of analysis of potential impacts related to each resource.

- **Environmental Impacts:** Describes the methodology used for the analysis, criteria used to determine the significance of potential impacts, and corresponding discussion of impacts associated with the Build Alternatives. For each potential impact, the analysis makes a significance determination (that is, no impact, less than significant, potentially significant, less than significant with mitigation, or significant and unavoidable) for construction and operations. If required to reduce a potentially significant impact, feasible mitigation measures are identified. The following describes the contents of the impact analysis discussion in further detail.

A discussion of how the proposed Project would contribute to cumulative impacts is discussed in Chapter 4, Cumulative Impacts.

Approach to Impact Analysis

Significance Criteria

The significance criteria used in this DEIR to define the level at which an impact would be considered significant in accordance with the California Environmental Quality Act (CEQA) are presented under the subheading Thresholds of Significance in each environmental resource section. In accordance with Section 15022(a) of the State CEQA Guidelines, the Golden Gate Bridge, Highway and Transportation District uses significance criteria based on State CEQA Guidelines Appendix G; factual or scientific information and data; and regulatory standards of applicable federal, state, regional, and local jurisdictions.

Impact Identification and Levels of Significance

Each environmental resource section identifies and lists impacts sequentially. An impact statement precedes the discussion of each impact and summarizes the impact topic.

The level of significance associated with an impact is determined by comparing the environmental effects of the Build Alternatives with the existing environmental conditions and applying the identified significance threshold. This DEIR uses a variety of terms to describe the levels of significance of impacts identified within the environmental analysis. Each impact is categorized as one of the following:

- **No impact:** The Build Alternatives would not cause any adverse change in the environment.
- **Less-than-significant impact:** The Build Alternatives would not cause a substantial adverse change in the environment because the specified standard of significance would not be exceeded; therefore, no mitigation measures are required.
- **Significant impact:** The Build Alternatives would cause a substantial adverse change in the physical conditions of the environment in excess of the specified standard. This is typically the level of significance of an impact before the application of feasible mitigation measures to reduce the impact to less-than-significant level.
- **Less-than-significant impact with mitigation:** The Build Alternatives would cause a substantial adverse change in the physical conditions of the environment in excess of the specified standard of significance;

however, one or more feasible mitigation measures would reduce environmental effects to levels less than the specified standard of significance.

- **Significant and unavoidable impact:** The Build Alternatives would cause a substantial adverse change in the physical condition of the environment; there is no feasible mitigation available, or even with implementation of feasible mitigation measures, the Build Alternatives would cause a significant adverse effect on the environment in excess of the specified standard of significance.

Mitigation Measures

State CEQA Guidelines Section 15126.4(a)(1) states that an Environmental Impact Report "shall describe feasible measures which could minimize significant adverse impacts." Mitigation measures identified in this DEIR were developed during the analysis and are designed to reduce, minimize, or avoid potential environmental impacts associated with the proposed Project. Measures to be implemented during construction are distinguished by the inclusion of "CNST" in the mitigation measure title, and measures to be implemented during operations include "OP."

3.1 Aesthetics

This section describes the existing conditions for aesthetic or visual resources in the vicinity of the proposed Larkspur Ferry Service Expansion and Parking Project (Project) in the City of Larkspur. Also described are the potential aesthetic or visual resource impacts that would result from implementation of the Project. Mitigation measures to lessen any significant impacts, where feasible and appropriate, are identified. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project. This aesthetic/visual analysis follows the Federal Highway Administration (FHWA) 2015 *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015).

3.1.1 Existing Conditions

3.1.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal and State

There are no federal regulations or plans, relevant to visual or scenic resources, that are applicable to the Project. CEQA Guidelines (California Code of Regulations Title 14. Natural Resources Division 6. Resources Agency Chapter 3. Section 15000 to 15007. Appendix G) includes four questions related to aesthetic or visual resources that must be evaluated to inform permitting agencies and the public about the potential environmental effects of the Project.

Local

Marin County General Plan

The 2023 *Marin Countywide Plan* is the comprehensive long-range general plan for the county, which includes the following goals, policies, and implementing programs pertaining to aesthetic, visual, and scenic resources that are relevant to the Project (Marin County 2023):

- **Policy BIO-4.7 – Protect Riparian Vegetation.** Retain riparian vegetation for stabilization of streambanks and floodplains, moderating water temperatures, trapping and filtering sediments and other water pollutants, providing wildlife habitat, and aesthetic reasons.
- **Goal DES-4 – Protection of Scenic Resources.** Minimize visual impacts of development and preserve vistas of important natural features.
- **Policy DES-4.1 – Preserve Visual Quality.** Protect scenic quality and views of the natural environment—including ridgelines and upland greenbelts, hillsides, water, and trees—from adverse impacts related to development.
- **Implementing Program DES-4a – Protect Key Public Views.** Work with community groups to identify, map, and protect important view corridors. Establish design standards for development in these areas as part of the design review requirements and individual community plans (see DES-3.b).

- **Implementing Program DES-4b – Minimize Visual Impacts of Public Facilities.** Amend applicable codes and procedures to require appropriate placement, design, setbacks, and native landscaping of public facilities (including soundwalls, medians, retaining walls, power lines, and water tanks) to reduce visual impacts, and encourage local agencies to adopt similar standards.
- **Implementing Program DEC 4c- Regulate Mass and Scale.** Ensure that the mass and scale of new structures respect environmental site constraints and character of the surrounding neighborhood (see Program DES-3.b), are compatible with ridge protection policies (see Program DES 4.e), and avoid tree-cutting (especially on wooded hillsides) and grading wherever possible. Community plans should consider regulations concerning home size.
- **Goal DES-5 – Attractive and Functional Streets and Parking Areas.** Design automobile use areas to fit the character of the community, and comfortably accommodate travel by pedestrians and bicyclists, while still meeting health, safety, and emergency access needs.
- **Policy DES-5.1 – Achieve Streetscape Compatibility.** Ensure that roadways, parking areas, and pedestrian and bike movement are functionally and aesthetically appropriate to the areas they serve.

City of Larkspur General Plan

The *City of Larkspur 2040 General Plan* is the comprehensive long-range general plan for the City of Larkspur, which includes the following goals, policies, and action programs pertaining to aesthetic and visual resources that are relevant to the Project (City of Larkspur 2024):

- **Policy CHAR-1.3:** Visually integrate the various segments of the community.
- **Action Program CHAR-1.3.a:** Adopt design standards for public spaces to ensure consistent streetlamps, signage, street trees, streetlamp banners, and landscaping as appropriate to the area. The standards should consider appearance, function, public safety, cost, energy efficiency, water conservation, maintenance, and the ability to withstand vandalism when determining the type of streetlamps, signs, trees, and other objects.
- **Goal LU-10:** A wide variety of public transportation options in the San Quentin Peninsula.
- **Policy LU-10.1:** Support retention of the ferry terminal on the San Quentin Peninsula.
- **Goal CIR-6:** Attractive alternatives to the use of private automobiles in order to reduce automobile traffic, vehicle miles travelled, and transportation-related sources of air pollution.
- **Policy CIR-6.7:** Encourage continuation of the Larkspur Ferry Terminal at its present site.
- **Action Program CIR-6.7.a:** Support improvement of bicycle and pedestrian connectivity between the planned Larkspur SMART [Sonoma-Marin Area Rail Transit] station and the ferry terminal.
- **Goal ENV-2:** Protected water and riparian resources.
- **Policy ENV-2.3:** Continue to designate the wetlands along Corte Madera Creek, Piper Park, Redwood High School, the Larkspur Ferry Terminal, and the shoreline between East Sir Francis Drake Boulevard and the Bay waters as Shoreline/Wetland Conservation areas.
- **Goal ENV-5:** Reasonable visual and physical public access to natural resources without adversely impacting natural habitats and species.

3.1.1.2 Environmental Setting

Regional Location

The Project's regional location and setting provide the context for characterizing changes to the existing visual environment. The Project is on public land in the City of Larkspur adjacent to San Francisco Bay to the east. The Town of Corte Madera is to the south, while the City of San Rafael is to the north. Portions of unincorporated Marin County are to the west. The natural and cultural (built) environments near the Project area are described as follows.

The Project area is in the San Francisco Bay Area region of Northern California. The regional natural environment is in the Marin Hills Ecological Region (6o) according to the U.S. Environmental Protection Agency's Level IV Ecoregions (EPA 2013). This ecoregion "consists of mountains and hills between San Francisco Bay and the San Andreas Fault. Soil temperature regimes are mostly mesic and thermic, with some isomesic. Soil moisture regimes are mostly xeric. Vegetation is mostly coast live oak, annual grasslands, coastal scrub, and some tanoak and Douglas-fir. Ecoregion 6o has less relief and coniferous forest than Ecoregion 1k. Most of the smaller streams are dry by the end of the summer" (Griffith et al. 2016). The region is visually notable for its varied natural topography, with mature tree-covered hills and grass-filled valleys to the north, west, and south of the Project area, along with coastal lowlands, where natural water features, such as Corte Madera Creek, San Clemente Creek, and San Rafael Creek, meet San Francisco Bay. The region is in a Mediterranean climate (Köppen-Geiger climate classification – Csb [NOAA 2026]) that is characteristic of coastal California, with cool and dry summers and wet and cool winters. Fog can occur in the summer. The winter months are the wettest, while the summer months are the driest.

The regional cultural (built) environment consists of a suburban area with mixed land uses within 1 mile of the Project. Existing land use in and around the Project area, as designated by the *City of Larkspur 2040 General Plan* zoning district map, are residential (low density to moderate density), commercial, light industrial, education, planned unit development, and open space (City of Larkspur 2024). Most buildings are low-rise (that is, one to three stories). The downtown Larkspur central business district is approximately 1.5 miles southwest of the Project site. Another notable built feature is the San Quentin Rehabilitation Center, which is approximately 0.75 mile east/southeast of the Project site. Numerous parks are found in the Project area, including Remillard Park to the east, Greenbrae School Park to the west, Piper Park to the southwest, and the Corte Madera Marsh Ecological Reserve to the south. Numerous hike/bike trails are found in the Project area, including along Sir Francis Drake Boulevard, Cal Park Path and Redwood Highway Pathway along United States Highway 101 (US 101), and Corte Madera Creek Path, which connects the cities of Larkspur and Corte Madera. Undeveloped natural areas occur west of the Project area and include the rugged Southern Heights Ridge to the north; rugged Blithedale Ridge, Windy Ridge, and King Mountain to the west; and other ridges, hills, and valleys that separate the San Franciso Bay from the Pacific Ocean.

Local Setting

The Project site primarily consists of two existing surface parking lots for visitors to access the LFT. The Main Lot has 1,808 parking spaces and is bordered by Sir Francis Drake Boulevard and Larkspur Landing shopping center to the north. The Larkspur Landing shopping center includes retail, restaurants, offices, administrative and public services, a theater, and a hotel. To the west of the Main Lot is Wood Island, a four-story hillside professional office complex consisting of two primary buildings. Adjacent to the Main Lot on the southwest corner is the employee parking lot; two white, single-story, metal-sided maintenance buildings; and four cylindrical, white, single-story fuel tanks. Adjacent to the Main Lot on the northeast

corner are facilities for pickup/drop-off for bus patrons and transportation network companies, sidewalks and surface pedestrian crossings, and a pedestrian footbridge over Sir Francis Drake Boulevard to the Larkspur Landing shopping center. Also adjacent to the Main Lot on the northeast corner are three ferry boat docks; one white, single-story, metal-sided maintenance building; one white, open-air, "space frame," three-story canopy that covers the ticket office, ticket machines, restrooms, and passenger waiting arear; and one white, two-story employee office building. Both the open-air canopy and office building have a triangular-shaped layout. Blue-painted accents are visible on the maintenance building and facilities under the open-air canopy. To the south and east are tidal marsh areas, Corte Madera Creek, and San Franciso Bay.

The existing north parking lot has 215 parking spaces and is bordered by Victoria Way on the south, Larkspur Landing Circle on the east, and the SMART Larkspur Station to the north and west. Several two- and three-story commercial buildings are also near the north parking lot, one of which is the Larkspur Landing Cinema.

Both existing parking lots fit within the suburban context of the larger regional area.

Area of Visual Effect

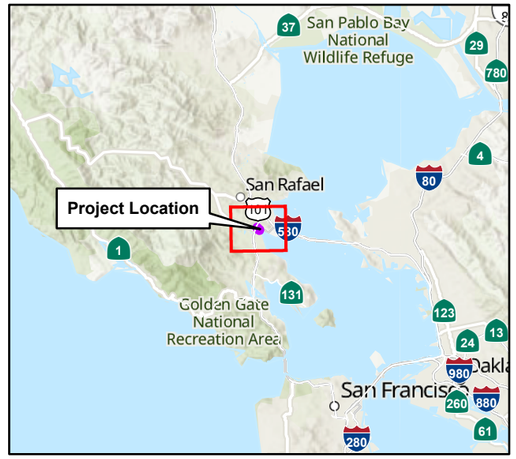
The Build Alternatives were discussed in detail in Chapter 2. The area of visual effect (AVE) is the area of the Project's visual influence. It is the sum of the viewsheds of neighbors with views of the Project and travelers with views from the Project. The AVE was determined by the physical constraints of the environment (such as surrounding terrain and existing vegetation) and the physiological limits of human sight.

The AVE for the Project was developed based on geographic information systems (GIS) visibility modeling and field observations. Because of the highly developed suburban nature of the area surrounding the Project, a 1/4-mile, 1/2-mile, and 1-mile buffer was used as the geographic basis for the viewshed analysis (also called the zone of visual influence [ZVI] analysis) (refer to Figure 3.1-1). A computer-generated map based on U.S. Geological Survey 10-meter digital-elevation models was created to illustrate locations from which the Project could be visible within a given area based on topography alone. The ZVI analysis likely overstates the level of visibility because this analysis is a line-of-sight model that does not account for attenuating factors, such as distance, buildings, vegetation, curvature of the earth, haze, humidity, background landscape, or weather. These factors can make Project elements invisible or barely detectable from certain locations under some atmospheric or weather conditions. Thus, the results of the ZVI analysis are overly conservative regarding Project visibility.

The ZVI was prepared using the Esri ArcPro program's viewshed analysis tool. The analysis included selecting features of the Project, such as the existing surface parking lots and proposed height of new parking garages. The colored area indicates potential Project visibility, while areas with no color indicate the Project would likely not be visible. The ZVI analysis did not analyze the screening effects of buildings, structures, or vegetation, resulting in a conservative estimate of potential visibility. The ZVI analysis covers both the San Francisco Bay and the City of Larkspur surrounding the Project site.

While most of the Project views would be limited to 0.25 mile, there are locations beyond 0.25 mile where the Project would potentially be visible if looking in the right direction with unobstructed line-of-sight views. For these reasons, the AVE generally extends approximately 0.25 mile for those portions of the Project.





LEGEND

- Viewpoints (VP)/Direction Looking
- Project Footprint (13.68 acres)
- Parking Structure
- 1 Mile from Project
- 1/2 Mile from Project
- 1/4 Mile from Project
- Zone of visual Influence

Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Bing Maps Hybrid: © 2026 Microsoft Corporation © Maxar ©CNES (2026) Distribution Airbus DS © Mapbox © 2026 TomTom
World Hillshade: Esri, CGIAR, USGS

N

0 1,500 3,000
Feet

Figure 3.1-1
Zone of Visual Influence
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\VISUAL\LARKSPUR_VISUAL_2026\LARKSPUR_VISUAL_2026.APRX Figure 3-1 Zone of Visual Influence

Scenic and Visual Resources

There are no designated national scenic byways, national scenic trails, national historic trails, national historic landmarks, national wild or scenic rivers, or national wildlife refuges within 2 miles of the Project (FHWA 2026; NPS 2026a; NPS 2026b; NPS 2026c; DOI 2026; USFWS 2026). There are no designated state scenic highways, state wild or scenic rivers, or state parks within 2 miles of the Project (Caltrans 2019; California State Geoportal 2025; California State Parks 2026).

The Corte Madera Marsh Ecological Reserve is approximately 0.15 mile south of the Project on land and in the waters of the San Francisco Bay. This reserve is a 620-acre northern coastal salt marsh with numerous plant and wildlife species. Activities in this reserve include wildlife viewing and hiking, and the reserve has no facilities. The property was designated as an ecological reserve by the California Fish and Game Commission in 1977 (CDFW 2026) (Figure 3.1-2). The Project is not anticipated to include activities that would affect this reserve.

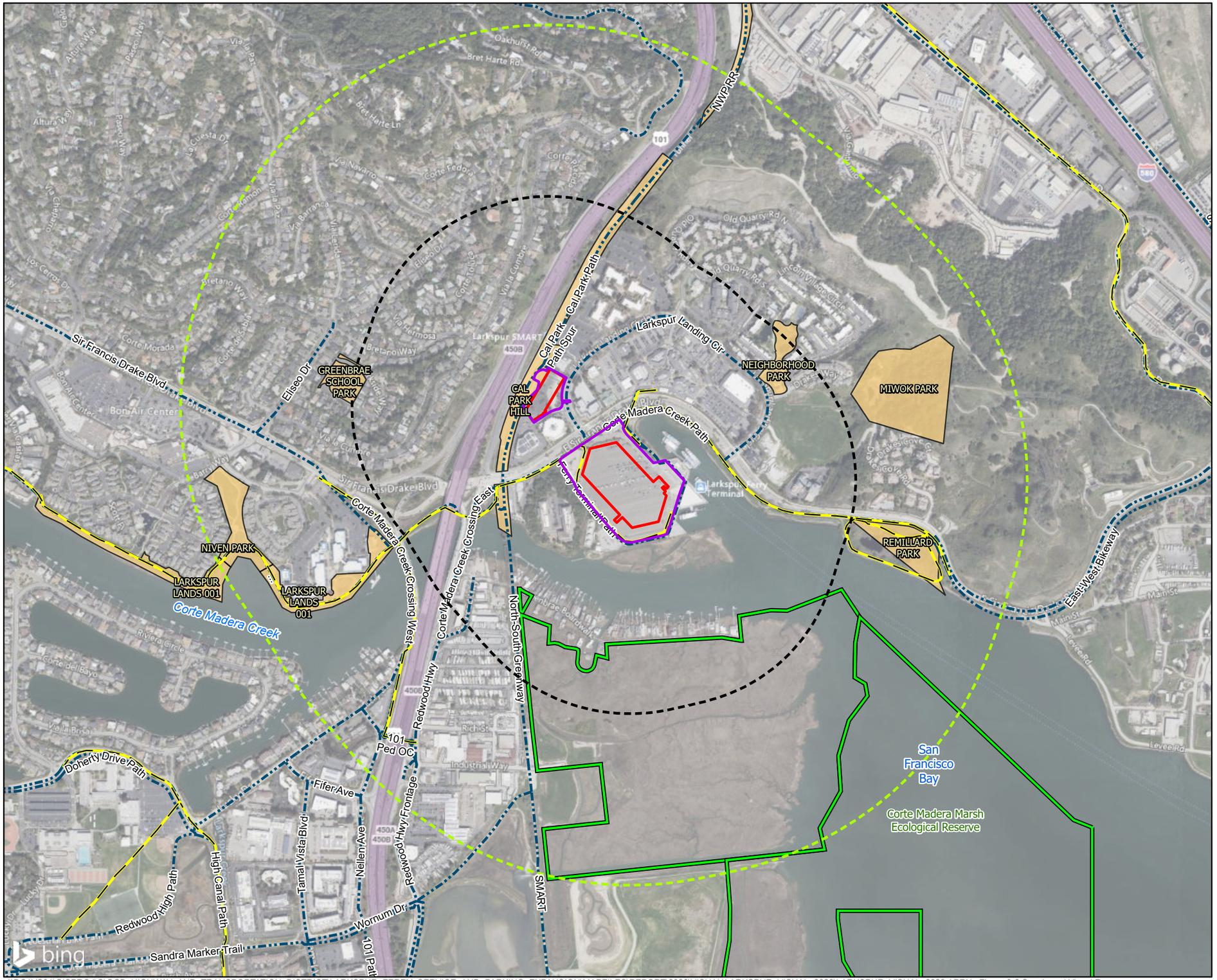
Other non-designated local visual resources within 1/2 mile of the Project are listed as follows and shown on Figure 3.1-2:

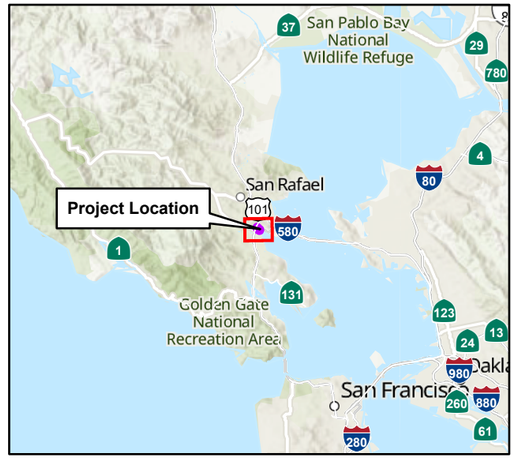
- Water Features: San Francisco Bay and Corte Madera Creek
- Local/Regional Parks: Remillard Park, Miwok Park, Neighborhood Park, Cal Park Hill, Greenbrae School Park, Larkspur Lands Park, Niven Park, and Shorebird Marsh
- Local Trails/Bicycle Pathways: East-West Bikeway, Corte Madera Creek Path, Ferry Terminal Path, Cal Park Path, North-South Greenway, Corte Madera Creek Crossing, Redwood Highway Pathway, Sir Francis Drake Boulevard, Eliseo Drive, Doherty Drive Path, Redwood High Path, High Canal Path, Sandra Marker Trail, Tamal Vista Boulevard, Nellen Avenue Wormum Drive, and Nellen Avenue

Visual Character and Quality

This section provides a description of the visual character and visual quality of the Project's visual elements. Visual character is an assessment of the land, water, vegetation, development, land use, and atmospheric conditions. The existing Main Lot surface is relatively flat and approximately 5 feet above sea level, while the existing North Lot is approximately 20 feet above sea level and gently slopes downward toward Sir Francis Drake Boulevard. There are visually noticeable hills and ridgelines that surround the Project site, with the ridgeline to the north varying between approximately 200 feet to approximately 350 feet above sea level. The Wood Island office complex, to the west of the Main Lot, is at an elevation of approximately 40 feet above sea level. The Greenbrae residential subdivision that is adjacent to the southbound side of US 101, and west of the Project, is at an elevation of approximately 100 to 200 feet above sea level (USGS 2026). There are a few higher elevation ridgelines farther to the north and west that are visually noticeable from the Project site. Noticeable landforms outside of the AVE include views of the rugged Southern Heights Ridge to the north; the rugged Blithedale Ridge, Windy Ridge, King Mountain to the west; and Ring Mountain and Tiburon Peninsula to the south. Consistent with Ecoregion 6o, the ridgelines within and outside of the AVE are mostly covered with mature trees with isolated areas of natural grasses, and the valleys are grass covered except for human-related development.

Two main water features (San Francisco Bay and Corte Madera Creek) are found south and east of the Project site and are visually dominant. There is a small tidal marsh area adjacent to the south side of the existing Main Lot that is partially submerged during high tide. The Corte Madera Marsh Ecological Reserve is approximately 0.15 mile south of the Project site on land and in the waters of San Francisco Bay.





LEGEND

- Project Footprint (13.68 acres)
- Parking Structure
- 1/2 Mile from Project
- 1/4 Mile from Project
- Bikeway
- Trails
- Parks
- Ecological Reserve

Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Bing Maps Hybrid: © 2026 Microsoft Corporation © Maxar ©CNES (2026) Distribution Airbus DS © Mapbox © 2026 TomTom
World Hillshade: Esri, CGIAR, USGS

N

0 750 1,500
Feet

Figure 3.1-2
Scenic and Visual Resources
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\VISUAL\LARKSPUR_VISUAL_2026\LARKSPUR_VISUAL_2026.APRX Figure 3-2 Scenic and Visual Resources

Outside of the developed parking lots and roadways, the vegetated areas near the Project site consist of landscaped patches of coast live oak, rock and sparsely vegetated tidal zones, ruderal vegetation, and marshland. Ruderal and developed/landscaped cover types are not considered sensitive natural communities and are not protected by regulatory agencies. The tidal zones, marshland, and estuarine waters of the San Francisco Bay are waters of the United States and State that would be subject to federal regulation under Clean Water Act and to state regulation under the California Coastal Act. No ground disturbance is anticipated to occur to any natural vegetation, wetlands, or waters.

The developed parking lots at the Project site are noticeable, built (cultural) environment features but not visually distinctive. These flat parking lots are gray colored and have a smooth, horizontal texture. White and yellow pavement markings are seen, along with several shapes, sizes, and colors of directional signage. Buildings adjacent to the Main Lot include two white, single-story, metal-sided maintenance buildings and four white, cylindrical, single-story fuel tanks on the southwest corner. Other buildings adjacent to Main Lot include one white, single-story, metal-sided maintenance building; one white, open-air, "space frame," three-story canopy that covers the ticket office, ticket machines, restrooms, and passenger waiting arear; and one white, two-story employee office building. Both the open-air canopy and office building have a triangular-shaped layout. Blue-painted accents are visible on the maintenance building and facilities under the open-air canopy. Additionally, there are three ferry boat docks adjacent to the Main Lot on the northeast side. A gray, cement footbridge over Sir Francis Drake Boulevard connects the Main Lot to the Larkspur Landing shopping center. Ornamental landscaped mature green trees and shrubs of various sizes are on the north and south sides of the Main Lot, while mature green ornamental trees and shrubs are on the southeast, south, and east sides of the north parking lot. Developed land uses near the Project site are suburban, with residential (low density), commercial, planned unit development, transportation infrastructure, and open space. Most buildings are low-rise (that is, one to three stories). These buildings are a mix of architectural styles and contribute to the overall suburban character.

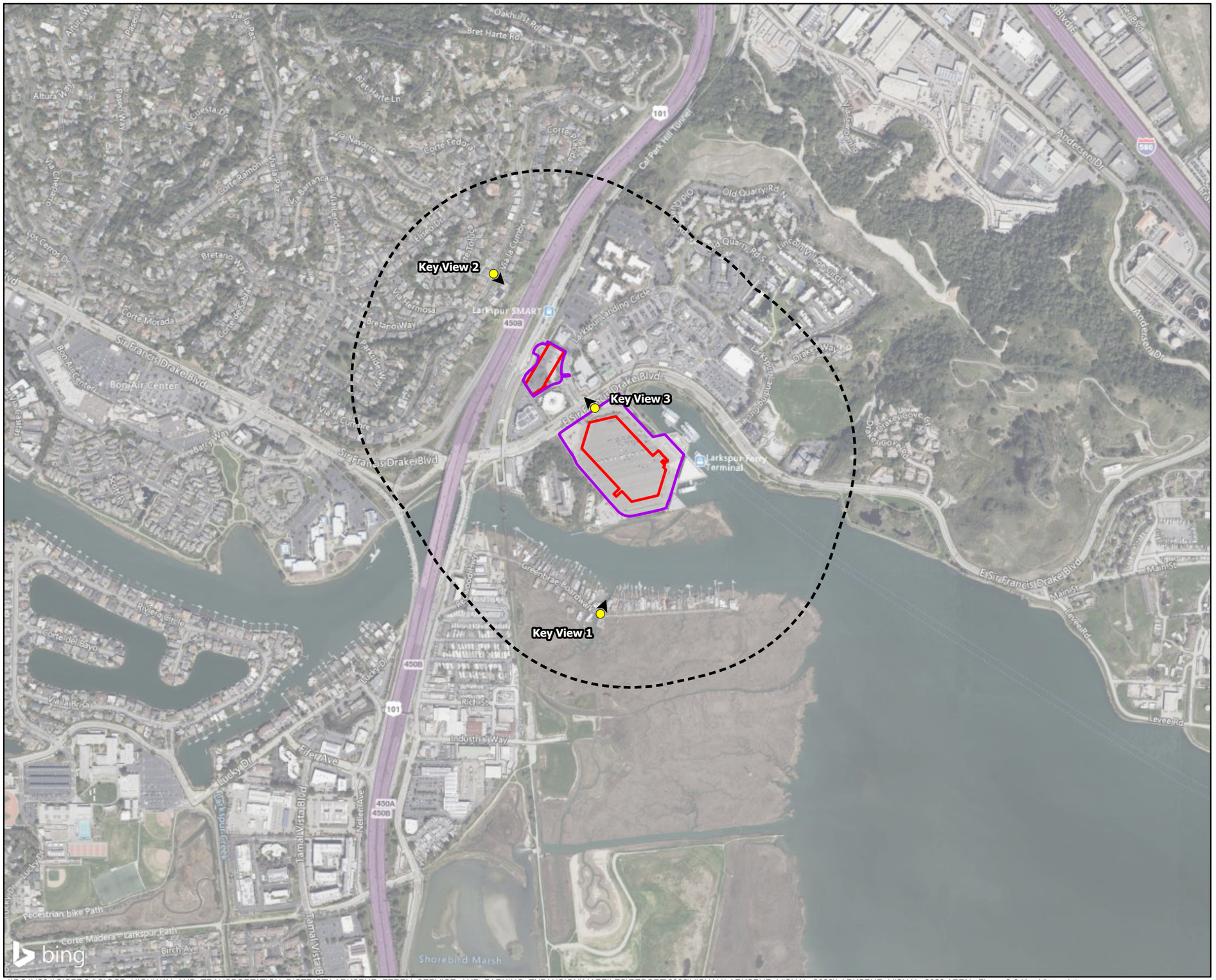
Visual quality is an assessment of the interaction between viewers and their environment in the Project area. Viewers are discussed in detail as follows and are categorized either as neighbors who are viewers adjacent to the Project with "views of the Project" and travelers who are viewers on the Project site with "views from the Project." Three general aspects of visual perception help to determine the visual quality of an area from the viewers' perspectives: (1) natural harmony, (2) cultural order, and (3) Project coherence. (FHWA 2015). These aspects are qualitatively measured as low, moderate, or high. Neighbors in the Project area are expecting to experience moderate to high natural harmony because of the mature tree and grass-covered ridgelines. Neighbors with views of the visually distinctive San Francisco Bay and Corte Madera Creek would expect to experience high natural harmony, while neighbors with views within a typical residential subdivision or commercial development would expect to experience low to moderate natural harmony because the landscape has been noticeably altered with development. Traveler views at the Project site would expect to experience low natural harmony because of the highly disturbed landscape, but moderate cultural order because these parking lots are designed to provide a consistent user experience with typical parking lot elements that a viewer would expect. While these parking lots are visually noticeable, depending on the view, they are not considered to be visually distinctive or memorable. Views from the parking lots to the nearby water features, San Francisco Bay and Corte Madera Creek, would be more memorable. For these reasons, the overall landscape's intactness does not exhibit a sense of place because of the mix of natural and built environment features within the AVE. Unity is considered to be unbalanced because the arrangement of natural and built environment features is not consistent within the AVE. Vividness within the AVE does not exhibit consistent forms, lines, colors, and textures because the natural environment contrasts with the built environment. Together, this results in low to high natural harmony, moderate cultural order, and moderate Project coherence for neighbors and travelers.

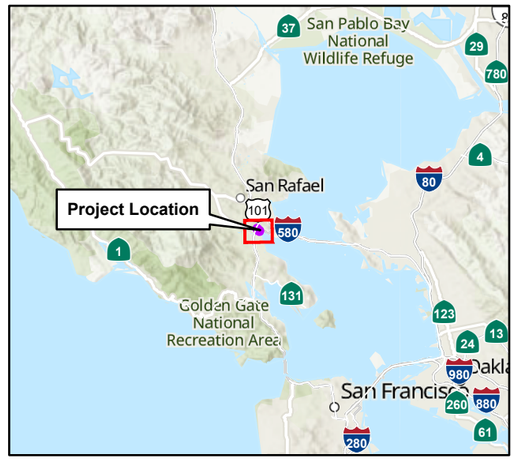
Light and Glare

Based on a review of the lighting zones from DarkSky International, which is a recognized worldwide authority on combating light pollution, the Larkspur area is considered to be in the LZ2: Moderate Ambient Lighting Zone. This zone has moderate ambient brightness, which is not uniform and continuous. This zone is typically associated with suburban areas across the world (DarkSky International 2026). Minimal disability glare and discomfort glare results as roadway/highway adjacent lighting is directed toward the ground. Residential, commercial, and planned unit development generally have exterior safety and security lighting that can also result in glare. At the Project site, numerous monopole lights are scattered throughout the Main Lot, while minimal monopole lights are at the north parking lot. While most of these lights are not shielded or directed toward the ground, a few are shielded to assist with light trespass. The ferry terminal's open-air canopy contains lights under the roof that help identify the ferry terminal at night and can be seen from nearby roadways and buildings because of its elevation. Those non-shielded lights trespass onto adjacent properties where existing mature vegetation and trees do not block the light source. Because of proximity to other nearby Marin County suburban areas, this location is not considered to be an International Dark Skies place.

Potential Key Views/Viewpoints

The publicly accessible viewpoints evaluated for the aesthetic/visual analysis were chosen to take representative character photographs of the area and represent the range of views and viewers that could be affected by the Project within the AVE. Twenty-three potential viewpoints were evaluated to represent the potentially sensitive viewers (such as residential or park neighbors) and the anticipated degree of visual change (Figure 3.1-1). Viewpoint photographs were taken on May 20, 2026. After the field visit, the 23 viewpoints were reviewed, and three key views were ultimately chosen to provide representative views of the Project and serve as the basis for this aesthetic/visual analysis. Figure 3.1-3 provides the key view location, and Table 3.1-1 summarizes each viewpoint and key view considered.





LEGEND

- Key Views/ Direction Looking
- Project Footprint (13.68 acres)
- 1/4 Mile from Project
- Parking Structure

Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
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World Hillshade: Esri, CGIAR, USGS

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Feet

Figure 3.1-3
Key Views
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\VISUAL\LARKSPUR_VISUAL_2026\LARKSPUR_VISUAL_2026.APRX Figure 3-3 Key Viewpoints

Table 3.1-1. Viewpoints and Key Views

Viewpoint Number	Name	Location and Distance from Project	View Direction	Selection Rationale
1	Sir Francis Drake Boulevard/Main Street Intersection	0.55 mile east/southeast of Project	Looking west/northwest	Not recommended for further analysis because of limited Project visibility
2	Sir Francis Drake Boulevard Hike/Bike Trail	0.25 mile east of Project	Looking west	Not recommended for further analysis because of limited Project visibility
3	Sir Francis Drake Boulevard Hike/Bike Trail	0.12 mile east of Project	Looking west	Not recommended for further analysis because of limited Project visibility
4	Sir Francis Drake Boulevard/Larkspur Landing Circle Intersection	0.10 mile northeast of Project	Looking southwest	Not recommended for further analysis because the view is duplicative of Viewpoint 11
5	Larkspur Landing Circle/Lincoln Village Circle intersection	0.20 mile northeast of Project	Looking southwest	Not recommended for further analysis because of limited Project visibility
6	Larkspur Landing Circle	0.15 mile north of Project	Looking south	Not recommended for further analysis because of limited Project visibility
7	SMART Larkspur Station Platform	0.03 mile northwest of Project	Looking southeast	Not recommended for further analysis because the view is duplicative of Viewpoint 18
8	Cal Park Hill Pathway Overcrossing of Sir Francis Drake Boulevard	0.12 mile west of Project	Looking east	Not recommended for further analysis because the view is duplicative of Viewpoint 11
9	Sir Francis Drake Boulevard Hike/Bike Trail	0.10 mile west of Project	Looking east	Not recommended for further analysis because of limited Project visibility
10	Redwood Highway Pathway	0.26 mile southwest of Project	Looking northeast	Not recommended for further analysis because of limited Project visibility
11[a]	Greenbrae Boardwalk	0.15 mile south/southwest of Project	Looking north/northeast	Recommended as Key View 1 to show the Project; both daytime and nighttime views are proposed

Viewpoint Number	Name	Location and Distance from Project	View Direction	Selection Rationale
12	Industrial Way/Corte Madera Marsh Ecological Preserve Trailhead	0.33 mile south/southwest of Project	Looking north/northeast	Not recommended for further analysis because of limited Project visibility
13[a]	Via La Cumbre (upper road)	0.13 mile northwest of Project	Looking southeast	Recommended as Key View 2 to show the Project
14	Via La Cumbre (lower road)	0.13 mile northwest of Project	Looking southeast	Not recommended for further analysis because the view is duplicative of Viewpoint 13
15	Southbound US 101	0.08 mile northwest of Project	Looking southeast	Not recommended for further analysis because of limited Project visibility
16	Corte Madera Creek Hike/Bike Trail	0.30 mile south/southwest of Project	Looking north/northeast	Not recommended for further analysis because of limited Project visibility
17	Larkspur Landing Circle (near north parking lot)	Between the two new proposed parking garages	Looking southeast	Not recommended for further analysis because the view is duplicative of Viewpoint 11
18[a]	Sir Francis Drake Boulevard (near Main Lot)	Between the two new proposed parking garages	Looking northwest	Recommended as Key View 3 to show the Project
19	Golden Gate Ferry Leaving Larkspur	0.16 mile southeast of Project	Looking northwest	Not recommended for further analysis because the view is duplicative of Viewpoint 11
20	Corte Madera Marsh Ecological Preserve Trail	0.50-mile south of Project	Looking north	Not recommended for further analysis because of limited Project visibility
21	Sir Francis Drake Boulevard Overcrossing	0.06 mile north of Project	Looking south	Not recommended for further analysis because the view is duplicative of Viewpoint 11
22	Drakes Cove Road	0.28 mile northeast of Project	Looking southwest	Not recommended for further analysis because the view is duplicative of Viewpoint 11

Viewpoint Number	Name	Location and Distance from Project	View Direction	Selection Rationale
23	Larkspur Landing Circle	0.14 mile northeast of Project	Looking southwest	Not recommended for further analysis because the view is duplicative of Viewpoint 17

[a] Retained as key view.

The existing conditions at each key view selected for detailed analysis are summarized in Section 3.1.2.4 to aid the reader in understanding the Project impact analysis.

Viewers

Viewers are people who would be able to experience visual changes caused by the Project. The type of viewer and their activities influence their visual preferences, and therefore, their sensitivity to changes in the viewed environment. Two distinct groups of viewers are discussed in this aesthetic/visual analysis: neighbors and travelers. Neighbors are static viewers and refer to people who are not traveling on the ferry terminal parking lots but have views of the Project from their location within the AVE. Additionally, viewers who are traveling (but not on the Project site under study) are also considered as neighbors, even though they may be local motorists, transit users, or bicyclist/pedestrian on other routes (such as Sir Francis Drake Boulevard, Larkspur Landing Circle, or US 101). Travelers are dynamic viewers at the ferry terminal or parking lots (Project site) who have views from the Project (FHWA 2015).

For the purposes of this analysis, neighbors are subdivided into the following four categories (residential, commercial, recreational, and local motorist/transit users/bicyclist/pedestrian) who have "views of the Project":

- Residential neighbors live within the AVE, primarily in the Larkspur Landing development, Greenbrae Boardwalk area, Drakes Cove Neighborhood, and Greenbrae Neighborhood in the City of Larkspur. Their visual preferences tend toward a "desire to maintain the existing landscape as is," meaning they prefer high natural harmony and cultural order (FHWA 2015).
- Commercial neighbors "occupy property within the AVE (office buildings, warehouses, and other commercial structures)" and workers and customers are part-time visitors, such as the Larkspur Landing development in the City of Larkspur. Their visual preferences tend toward good cultural order and Project coherence (FHWA 2015).
- Recreational neighbors include those visitors to local/regional parks water sport users (boaters, kayakers) within the AVE. Their "visual preferences tend to be focused on and associated with the recreational activity." "Depending on the type of recreation, recreational neighbors are interested in high natural harmony and cultural order, with some degree of Project coherence" (FHWA 2015).
- Local motorist/transit/bicyclist/pedestrian neighbors include those users on local roads, nearby parks, and train/bus/ferry users within the AVE that are not directly affected by the Project.

For the purposes of this analysis, travelers are subdivided into the following three categories (local motorist, transit, and bicyclist/pedestrian) who have "views from the Project":

- Local motorist travelers include those users on the parking lots that would be directly affected by the Project. Vehicle speeds would be low. For the local motorist, drivers would be primarily focused on navigating the parking lot, while their passengers would be somewhat freer to examine their

surroundings. The driver's "primary interest is in Project coherence," while "passengers prefer evidence of good natural harmony and cultural order" (FHWA 2015).

- Transit travelers include those users on the District ferries/buses, Marin Transit buses, Muir Woods Shuttle buses, or transportation network companies that pick up/drop off users at the Project site. These users are commuters who regularly travel the same route. The frequency of the travel may vary, but there tend to be peaks—such as morning and evening rush hours and holidays. Transit user, like all travelers, are "particularly interested in project coherence. They are also interested in cultural order and natural harmony to the extent that it contributes to wayfinding" (FHWA 2015).
- Bicyclist/pedestrian travelers include those users on the pathways within the Project area. Similar to the local motorist, bicyclist/pedestrian users would be primarily focused on navigating the parking lot area to access the ferry termina or otherwise navigating their travel route. The bicyclist/pedestrian "have a slight preference for cultural order over natural harmony and Project coherence" (FHWA 2015).

3.1.2 Environmental Impacts and Mitigation Measures

3.1.2.1 Methodology

Impacts for the Build Alternatives are presented together unless they differ substantially among alternatives. The method for evaluating impacts is intended to satisfy the federal and state requirements, including CEQA. In accordance with CEQA requirements, an environmental impact report must include a description of the existing physical environmental conditions in the vicinity of the Project. Those conditions, in turn, "will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant" (14 California Code of Regulations 15125[a]).

The methodology for assessing visual impacts is based on the FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015). This guidance is designed to provide a systematic and objective approach to evaluating visual impacts from the Project. This aesthetic/visual analysis incorporates the four main phases defined in the FHWA 2015 guidance to qualitatively evaluate impacts. The resultant approach implements the four main phases in a stepwise process that is described in the following sections.

Establishment Phase

The Establishment Phase consisted of a desk assessment of available data about the Project and establishment of basic visual attributes of the Project and its surroundings. The Project's regulatory setting through a review of relevant federal, state, and local laws and local government plans and directives was completed. The regional location and setting, along with the local setting, were described. The Project's visual character identified the most common visual characteristics based on scale, form, and materials of elements and features. The AVE was established. Scenic and visual resources within the AVE were listed and described.

Inventory Phase

The Inventory Phase completes the existing conditions assessment and provides the baseline against which impacts can be evaluated. A site reconnaissance to photo-document the Project footprint and surrounding area was completed. The Project location's visual character and quality were described, along with light and glare. Potential viewpoints and key views were identified within the AVE. Potentially affected viewers were identified (neighbors and travelers).

Analysis Phase

The purpose of the Analysis Phase is to determine whether the visual change, combined with visual sensitivity, will result in beneficial, adverse, or neutral visual impacts and to what degree. Visual simulations at the key views were completed to illustrate the view if the Project were constructed. The aesthetic/visual analysis determined the Project's visual impact by evaluating visual change (as determined by visual compatibility and visual contrast) and combining it with visual sensitivity (as determined by the viewer and viewpoint sensitivity) as represented by key views. The anticipated degree of change to the visual character and quality at each key view was determined.

Mitigation Phase

This aesthetic/visual analysis considers potential mitigation measures that could be implemented to lessen the overall impact of the Project. While the three visual simulations do not show potential mitigation or aesthetic treatments, the District can use the mitigation considered in Section 3.1.2.4 to inform a range of mitigation strategies, including applicable avoidance, minimization, or compensation measures for specific visual features to offset any expected adverse impacts. An example of a compensation measure would be to replace vegetation that could not be avoided and, thus, was removed or damaged.

3.1.2.2 Photo Simulations

Photo simulations are spatially accurate and realistic visualizations of views of the Project from the key views. They depict existing visual conditions and illustrate how existing views from the key views would change with the Project in place. Photo simulations were developed with the following software: Bentley MicroStation for three-dimensional (3D) modeling and rendering, Bentley InRoads or OpenRoads Designer for terrain modeling, ArcPro for integrating GIS data with the 3D environment, and Adobe Photoshop for final graphics editing. While photo simulations present a reasonably accurate and realistic depiction of changes to the existing view at each key view, the Project design is currently considered preliminary and subject to change. Final design and possible refinements, including the development of landscaping and aesthetics treatments, would occur later.

The existing visual conditions at each selected key view were photographically documented using a digital single lens reflex camera set to take high-resolution photos with a focal length equivalent to a 35-millimeter digital camera using a 50-millimeter lens. This type of equipment and setting best approximates what the human eye perceives.

The viewer location was identified in the 3D model with the same geographical coordinates to approximate the assumed viewer eye level, adjusted 5 feet from the existing ground surface of the site model. The visible terrain and existing digital site model then were used to align the 3D model with the photograph as viewed from the viewer location. When the elements of the existing site model were aligned, the 3D model of the Project was displayed at the correct scale and orientation. With the Project correctly aligned, a computerized rendering was generated of what the major Project elements could look like. Colors and patterns were applied as needed to the rendering to give the Project elements a realistic final appearance. Finally, graphics editing techniques were used to blend the rendering of the Project elements into the photograph to create the completed visual simulation.

3.1.2.3 Thresholds of Significance

The following CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a Project could have significant impacts related to aesthetic resources and visual quality. Would the Project do the following (CAEP 2026):

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- In nonurbanized 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 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?
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

For purposes of this analysis and based on FHWA guidelines and the terrain around the Project, the following distance zones apply:

- Foreground consists of features that are between 0 and 0.25 mile from the key view.
- Middleground consists of features that are between 0.25 and 3 miles from the key view.
- Background consists of features that are beyond 3 miles from the key view.

Each of the following impact analyses first presents the existing conditions photograph and a photorealistic visual simulation, followed by a summary of the existing and proposed visual conditions to identify visual changes that could result from the Project. Visual changes are then analyzed to determine (1) their compatibility with the existing visual character, (2) viewer sensitivity to those visual changes, and (3) the analysis of changes to visual quality and viewers' experience of those changes by evaluating the compatibility of impacts of the Project to existing visual resources, evaluating viewer sensitivity to those impacts, and combining the results. When measured together, visual character compatibility and viewer sensitivity of the Project yield the overall visual quality change as adverse (highly adverse, moderately adverse, slightly adverse), neutral/no, or beneficial (slightly beneficial, moderately beneficial, highly beneficial).

Based on CEQA Guidelines Appendix G, the degree of impact is either a potentially significant impact, less-than-significant impact with mitigation incorporated, less-than-significant impact, or no impact (CAEP 2026).

3.1.2.4 Impacts

Project aesthetics impacts are substantively the same for both Alternative 1 and Alternative 2. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Would the Project have a Substantial Adverse Effect on a Scenic Vista?

Construction and Operation

Build Alternatives

As described in Section 3.1.1.2, there are no designated national scenic trails, national historic trails, national historic landmarks, national wild or scenic rivers, or national wildlife refuges within 2 miles of the Project (NPS 2026a; NPS 2026b; NPS 2026c; DOI 2026; USFWS 2026). There are no designated state wild or scenic rivers or state parks within 2 miles of the Project (California State Geoportal 2025; California State Parks 2026). The Corte Madera Marsh Ecological Reserve is approximately 0.15 mile south of the Project on land and in the waters of the San Francisco Bay. The Project is not anticipated to include activities that would directly affect this scenic resource. Because the preserve is not a designated scenic vista, ***no impacts*** would occur from the Project.

Other non-designated local visual resources within 1/2 mile of the Project include water features (San Francisco Bay and Corte Madera Creek), local/regional parks (Remillard Park, Miwok Park, Neighborhood Park, Cal Park Hill, Greenbrae School Park, Larkspur Lands Park, Niven Park, and Shorebird Marsh), and local trails/bicycle pathways (East-West Bikeway, Corte Madera Creek Path, Ferry Terminal Path, Cal Park Path, North-South Greenway, Corte Madera Creek Crossing, Redwood Highway Pathway, Sir Francis Drake Boulevard, Eliseo Drive, Doherty Drive Path, Redwood High Path, High Canal Path, Sandra Marker Trail, Tamal Vista Boulevard, Nellen Avenue Wormum Drive, and Nellen Avenue). Of these non-designated local visual resources, only the Ferry Terminal Path could be directly affected by the Project. The Ferry Terminal Path would remain open during construction. Because these visual resources are not a designated scenic vista, ***no impacts*** would occur from the Project.

Mitigation Measures

No mitigation required.

Would the Project Substantially Damage Scenic Resources, Including, but not Limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway?

Construction and Operation

Build Alternatives

As described in Section 3.1.1.2, there are no federal or state designated scenic highways within or near the Project area. The closest state designated scenic highway is State Route 1 (Pacific Coast Highway), which is approximately 4.5 miles south of the Project (FHWA 2026; Caltrans 2019). Therefore, ***no impacts*** would occur.

Mitigation Measures

No mitigation required.

Would the Project in Nonurbanized 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 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?

The cities of Larkspur, Mill Valley, and San Rafael are collectively under 100,000 persons, which does not meet the threshold of.an urbanized area under CEQA regulations (Public Resources Code Section 21071[a][1] – [2]). Even though the Project is in a nonurbanized area, the new parking garages have been designed to be compatible with applicable Marin County regulations governing scenic quality (Policy BIO-4.7, Goal DES-4, Policy DES-4.1, Implementing Program DES-4a, Implementing Program DES-4b, Implementing Program DEC 4c, Goal DES-5, and Policy DES-5.1) and City of Larkspur regulations governing scenic quality (Policy CHAR-1.3, Action Program CHAR-1.3.a, Goal LU-10, Policy LU-10.1, Goal CIR-6, Policy CIR-6.7, Action Program CIR-6.7.a, Goal ENV-2, Policy ENV-2.3, and Goal ENV-5). Because the Project is in a nonurbanized area, changes to existing visual character and quality of public views of the site and its surroundings are analyzed as follows.

Construction

Build Alternatives

Construction activities would introduce heavy equipment and associated vehicles, including cranes, backhoes, bulldozers, and trucks into the viewshed over the course of the anticipated 18 month construction schedule at the North Lot (Phase 1) and the anticipated 36 month construction schedule (Phase II) for the Main Lot. Residential neighbors to the south, east, and west have direct line-of-sight views to the Project and are generally considered to be most sensitive to construction activities. Recreational neighbors on San Francisco Bay and Corte Madera Creek to the south and east have direct line-of-sight views to the Project and are also sensitive construction viewers. Given the anticipated 54-month total construction schedule, construction activities would not be considered temporary and could alter the visible landscape at the sites with heavy equipment, bright colors, material staging, and other construction elements over an extended period. Construction activities could also result in an invaded sense of privacy and disruptive views. Therefore, construction activities would result in a ***potentially significant impact*** for neighbors and recreationalists. Implementation of **MM-AES-CNST-1** would reduce visual impacts from construction by requiring visual screening of disruptive construction activities near sensitive viewers, which would also help maintain privacy but not reduce to a less-than-significant level. Thus, construction activity impacts from changes to existing visual character and quality of public views of the site and its surroundings, remains ***potentially significant***.

Operation Key View 1 Daytime

Figure 3.1-4a and Figure 3.1-4b illustrate potential daytime visual changes resulting from the Project.



Figure 3.1-4a. Key View 1 Greenbrae Boardwalk Daytime Looking North/Northeast—Existing Condition



Figure 3.1-4b. Key View 1 Greenbrae Boardwalk Daytime Looking North/Northeast—Simulation

Existing Condition—Figure 3.1-4a presents existing Key View 1 (Viewpoint 11) during day hours on the Greenbrae Boardwalk, approximately 0.15 mile south/southwest of the Project. This viewpoint represents what residential neighbors would see when facing north/northeast.

The smooth, blue-gray, tan, and green tidal tributary of Corte Madera Creek that flows from the Corte Madera Marsh Ecological Reserve is seen in the bottom middle portion of the view and extends away from view (north) in the immediate foreground. This tributary is flanked by short green and tan grass and exposed dark brown soil. One story, white rectangular, single-family homes flank the tributary. Short, brown wood channel stabilization posts are visible near each residential building, as are brown wood support columns underneath each building in shadow. Brown wood dock facilities are visible for each building and extend into the blue-gray, tan, and green Corte Madera Creek that appears as a horizontal band that runs left to right across the middle of the view. On the north side of Corte Madera Creek is a flat marsh area with short green and tan grass and exposed brown soil, along with a row of varying heights of rounded, green mature trees along the perimeter of the Main Lot. The middle of the foreground contains the existing flat, horizontal Main Lot with parked vehicles; light gray monopole safety lights; and directional signage of various shapes, sizes, and colors. A white, two-story office building and white, three-story, open-air canopy terminal building are seen on the middle right portion of the of the view. One ferry boat, which is white, light blue, and dark blue, is parked at the ferry terminal and is mostly obscured by the mature green trees. Also, in the middle of the foreground and beyond the Main Lot are the buildings associated with the Larkspur Landing shopping center, with angular gray roof lines most visible among the mature trees. At the back of the foreground are additional mature green trees and residential homes in the Larkspur Landing area at the base of the Southern Heights Ridge on the middle left portion of the view and exposed dark gray rock on the middle right portion of the view. Southern Heights Ridge is mostly covered with green and tan grasses and has an intermittent row of rounded, dark green, mature trees of varying heights along the top of the ridge at the rear of the foreground. Single-family homes in the Greenbrae subdivision are seen on the far left side of the view over the white single-family home among a dense cluster of rounded, dark green, mature trees on the hillside. A narrow glimpse of a dark green ridgeline or peak is seen on the left side of the view in the middleground. Views to the background are not visible.

The landscape is defined by a noticeable water feature and broad, flat terrain in the immediate and middle portions of the foreground with a visually distinctive natural ridgeline in the rear of the foreground. A bright blue sky extends across the entire top of the view. Overall, this view consists of natural and built environment features that have moderate natural harmony and moderate cultural order. For these reasons, the landscape composition and vividness of Key View 1 is moderate.

Proposed Condition—Figure 3.1-4b presents a photo simulation of Key View 1 and shows the Project replacing the existing Main Lot with a five-story parking garage with angled gray solar-shade panels on the roof at the left and middle portions of the view. While the tan garage mimics the green and tan grass in the immediate foreground and rear of the foreground, it is a new, highly noticeable, built environment feature because of its size and massing that fully obscures views to the Larkspur Landing area and a portion of the Southern Heights Ridge on the left and middle portions of the view. A new thin, horizontal line that is associated with covered vehicle parking is also noticeable behind the row of rounded, mature, green trees of varying heights along the perimeter of the existing Main Lot. The residential homes along the Greenbrae Boardwalk would have a direct line-of-site to the Project and would notice the Project's visual character change from the existing landscape. The narrow view to the ridgeline in the middleground is now substantially obscured by the height of the new garage and angled gray solar-shade panels on the roof, but views of the Greenbrae subdivision on the far left side of the view are generally unaffected.

For Key View 1, the Project exhibits low to moderate Project coherence because the parking garage is visible on the left and middle portions of the view but not in the right portion of the view, and there are reduced views of the Southern Heights Ridge on the left and middle portions of the view. Although some visual clutter from the Main Lot features, ferry, buildings associated with the Larkspur Landing shopping center, and residential homes in the Larkspur Landing area are eliminated, the flat terrain is replaced with a highly noticeable, newly built feature that obscures the view to Southern Heights Ridge. Views of Corte Madera Creek are unaffected. In this view, the Project becomes a major focal point because the eye is drawn to the newly built feature in the landscape.

Visual Character Compatibility—The scale, form, and materials of the Project would not be consistent with other parking facilities within the AVE because no such comparable facility exists. Thus, the Project would have low character compatibility with the existing natural and cultural environments at Key View 1. However, there are similar parking garage facilities found throughout the North San Franciso Bay Area, resulting in a comparable visual character found in the larger region.

Viewer Sensitivity—There are approximately 45 residential homes along the Greenbrae Boardwalk that would have a direct line-of-sight view to the Project, which is a moderate number of viewers. The view duration for residential neighbors to the Project would be high. Thus, viewer exposure for residential neighbors is also assumed to be high. The residential neighbors are assumed to have high viewer awareness of the Project because of the short distance to the new parking garage and their familiarity with the landscape. The nearby waters of San Francisco Bay and Corte Madera Creek are unaffected and may help to somewhat offset the view changes resulting from the Project. Neighbors at Key View 1 are anticipated to have high sensitivity to visual changes.

Visual Quality Change—Implementation of the Project is anticipated to change the existing moderate natural harmony of the view because views to the Southern Heights Ridge and mature trees are partially obscured. The natural harmony does change because the Project is partially obscuring views to nearby hills and mature vegetation, but the natural harmony remains low to moderate. The existing moderate cultural order of the view is also changed because of the new highly noticeable parking garage, but the cultural order remains moderate. The Project would have low to moderate compatibility with the existing visual character of the natural and cultural environments, and the memorability or vividness of the landscape would be reduced at Key View 1. Because the Project has low to moderate compatibility with the existing visual character and high sensitivity to visual changes at Key View 1, the resulting visual quality change is considered to be moderately adverse for the residential neighbors.

Degree of Visual Impact—Based on the findings of a low to moderate visual character compatibility, high viewer sensitivity, and moderately adverse visual quality change, the Project is anticipated to result in a ***potentially significant impact*** for neighbors at Key View 1. There is no feasible mitigation to reduce the mass of the new parking garages; however, during final design, when determining the exact building-related surface texture treatments that would make the garage more visually appealing the District/Design Team will solicit public input via workshop or a similar method. Examples could include surface texture treatments such as a fin-fractured finish or using colored concrete to help mimic the visual attributes of the surrounding hillsides on the exterior of the new parking garages. Architectural treatments (for example, color, surface texture, and other treatments) would be consistent with the character and architectural treatments in the Project vicinity and make the parking garage more visually appealing. However, the visual impacts of the Project would not be reduced to a less-than-significant level. Thus, the impact from changes to existing visual character and quality of public views of the site and its surroundings, as viewed from Key View 1 during daytime, remains ***potentially significant***.

Operation Key View 1 Nighttime

Figure 3.1-5a and Figure 3.1-5b illustrate potential nighttime visual changes resulting from the Project.



Figure 3.1-5a. Key View 1 Greenbrae Boardwalk Nighttime Looking North/Northeast—Existing Condition



Figure 3.1-5b. Key View 1 Greenbrae Boardwalk Nighttime Looking North/Northeast—Simulation

Existing Condition—Figure 3.1-5a presents existing Key View 1 (Viewpoint 11) during dusk on the Greenbrae Boardwalk approximately 0.15 mile south/southwest of the Project. This viewpoint represents what residential neighbors would see when facing north/northeast.

The tidal tributary of Corte Madera Creek that flows from the Corte Madera Marsh Ecological Reserve seen in the bottom middle portion of the view and extending north in the immediate foreground appears to be dark gray and reflects the lights from the exiting Main Lot and open-air canopy terminal building. The grass and exposed soil areas that flank the tributary appear to be black. The two single-family homes that flank the tributary appear to be gray, with amber-colored interior lighting visible on the home on the left side of the view. The wood channel stabilization posts near each residential building and brown wood support columns underneath each building are fully in shadow. The dock facilities are silhouetted against the dark waters of Corte Madera Creek that run left to right across the middle of the view. On the north side of Corte Madera Creek, the grass and exposed soil areas also appear to be black, and the row of rounded, mature trees of varying heights along the Main Lot perimeter are silhouetted against the Main Lot and open-air canopy terminal building lights in the middle of the foreground. The lights on the existing Main Lot, two-story office building, and three-story open-air canopy terminal building are not shielded or directed toward the ground and are highly noticeable in the dusk landscape in the middle of the foreground. Lights associated with the Larkspur Landing shopping center are also visible beyond the Main Lot, but the vegetation and roof lines appear to be black. The residential homes in the Larkspur Landing area at the base of the Southern Heights Ridge on the middle left portion of the view are faintly seen, while the exposed rock on the middle right portion of the view are not visible. The silhouette of the Southern Heights Ridge is seen across the view against the pale blue sky and dark gray clouds. The single-family homes in the Greenbrae subdivision are no longer discernible on the far left side of the view over the gray single-family home. The narrow glimpse of the ridgeline in the middleground is hard to distinguish from the Southern Heights Ridge on the left side of the view. Views to the background are not visible.

The landscape is defined by a noticeable water feature and broad, flat terrain in the immediate and middle portions of the foreground with a visually distinctive natural ridgeline in the rear of the foreground. There is a pale blue sky with dark and light gray clouds extending across the entire top portion of the view. Overall, this view consists of natural and built environment features that have moderate natural harmony and moderate cultural order. For these reasons, the landscape composition and vividness of Key View 1 is moderate.

Proposed Condition—Figure 3.1-5b presents a photo simulation of Key View 1 and shows the Project replacing the existing Main Lot with a five-story parking garage with angled gray solar-shade panels on the roof toward the left and middle portions of the view. The parking garage appears dark gray, with visible vehicle navigation lights on each floor. The second garage floor appears brighter to simulate pedestrian or vehicular activity, while the other garage floors appear less bright to simulate no pedestrian or vehicular activity. Even during dusk, the parking garage is a new, highly noticeable, built environment feature because of its size and massing, which fully obscures views to the Larkspur Landing area and the portion of the Southern Heights Ridge on the left and middle portions of the view. The residential homes along the Greenbrae Boardwalk would have a direct line-of-site to the Project and would notice the Project's visual character change to the existing landscape. A beneficial impact of the Project is that the existing non-shielded Main Lot lights are replaced with modern shielded lights that are directed toward only those areas requiring illumination, which reduces light trespass and glare on adjacent properties.

For Key View 1, the Project exhibits low to moderate Project coherence because the parking garage is visible on the left and middle portions of the view but not the right portion of the view, and there are reduced views of the Southern Heights Ridge on the left and middle portions of the view. The flat terrain is replaced with a highly noticeable, newly built feature that obscures the view to Southern Heights Ridge,

but views of Corte Madera Creek are unaffected. In this view, the Project becomes a major focal point because the eye is drawn to the newly built feature in the landscape.

Visual Character Compatibility—The scale, form, and materials of the Project would not be consistent with other parking facilities within the AVE because no such comparable facility exists. Thus, the Project would have low character compatibility with the existing natural and cultural environments at Key View 1. However, there are similar parking garage facilities found throughout the North San Franciso Bay Area, resulting in a comparable visual character found in the larger region.

Viewer Sensitivity—There are approximately 45 residential homes along the Greenbrae Boardwalk that would have a direct line-of-sight view to the Project, which is a moderate number of viewers. The view duration for residential neighbors to the Project would be high. Thus, viewer exposure for residential neighbors is also assumed to be high. The residential neighbors are assumed to have high viewer awareness of the Project because of the short distance to the new parking garage and their familiarity with the landscape. The nearby waters of San Francisco Bay and Corte Madera Creek are unaffected and may help to somewhat offset the view changes resulting from the Project. Neighbors at Key View 1 are anticipated to have high sensitivity to visual changes.

Visual Quality Change—Implementation of the Project is anticipated to change the existing moderate natural harmony of the view because views to the Southern Heights Ridge are partially obscured. The existing moderate cultural order of the view is also changed because of the new highly noticeable parking garage, but the cultural order remains moderate. The Project would have low to moderate compatibility with the existing visual character of the natural and cultural environments, and the memorability or vividness of the landscape would be reduced at Key View 1. Because the Project has low to moderate compatibility with the existing visual character and high sensitivity to visual changes at Key View 1, the resulting visual quality change is considered to be moderately adverse for the residential neighbors.

Degree of Visual Impact—Based on the findings of a low to moderate visual character compatibility, high viewer sensitivity, and moderately adverse visual quality change, the Project is anticipated to result in a ***potentially significant impact*** for neighbors at Key View 1. There is no feasible mitigation to reduce the mass of the new parking garages; however, during final design, when determining the exact building-related surface texture treatments that would make the garage more visually appealing the District/Design Team will solicit public input via workshop or a similar method. Examples could include surface texture treatments such as a fin-fractured finish or using colored concrete to help mimic the visual attributes of the surrounding hillsides on the exterior of the new parking garages. Architectural treatments (for example, color, surface texture, and other treatments) would be consistent with the character and architectural treatments in the Project vicinity and make the parking garage more visually appealing. However, the visual impacts of the Project would not be reduced to a less-than-significant level. Thus, the impact from changes to existing visual character and quality of public views of the site and its surroundings, as viewed from Key View 1 at dusk, remains ***potentially significant***.

Operation Key View 2

Figure 3.1-6a and Figure 3.1-6b illustrate potential visual changes resulting from the Project.



Figure 3.1-6a. Via La Cumbre Looking Southeast—Existing Condition



Figure 3.1-6b. Via La Cumbre Looking Southeast—Simulation

Existing Condition—Figure 3.1-6a presents existing Key View 2 (Viewpoint 13) on Via la Cumbre in the Greenbrae residential subdivision approximately 0.13 mile northwest of the Project. This viewpoint represents what residential neighbors would see when facing southeast.

Green, yellow, and red ornamental landscaping is seen on the lower right corner of the view, while two single-family residential homes are visible across the entire portion of the bottom of the in the immediate foreground. One home is light gray with white accents on the doors and windows, while the other home is dark gray with white accents. Both homes have gray, angular roof lines, and the home on the right side of the view has visible, dark gray solar panels. A partial view of the existing Main Lot and full view of the two-story office building and three-story, open-air canopy terminal building are visible in the middle of the view at the edge of the foreground. Three white ferry boats with black and blue features are seen docked at the ferry terminal on the left side of the view. Green and tan grass and intermittent, rounded, dark green mature trees are visible around the perimeter of the Main Lot at the edge of the foreground. The blue-green waters of Corte Madera Creek are seen on the far (south) side of the existing Main Lot in the middleground, while the blue-green waters of San Francisco Bay are seen on the left and middle portions of the view and extend from the foreground to the background. A row of single-family residential homes is visible on the far (south) side of Corte Madera Creek in the middleground. One triangular-shaped lattice cellular tower is visible to the left of the homes and protrudes into the sky, while another triangular-shaped lattice cellular tower is visible in the Corte Madera Marsh Ecological Reserve near the beach and water line. Behind the homes on the south side of Corte Madera Creek is a flat expanse of green and tan grasses and exposed brown soil in the Corte Madera Marsh Ecological Reserve in the middle and right portions of the view (middleground). Ring Mountain is a scenic feature covered in green and tan grass and green trees in the middle and right portions of the view at the beginning of the background, while the green-tree-covered Tiburon Peninsula is visible behind Ring Mountain farther into the background. Non-discernible built features are seen on the hillsides in the background.

The landscape is defined by single-family homes perched on a hillside, flat terrain with built features, and noticeable water features in the foreground, with additional flat terrain and water features in the middleground. One visually distinctive mountain, natural peninsula ridgeline, and water features are seen in the background. A bright blue sky extends across the entire top of the view, with a layer of white and gray clouds in the background. Overall, this view consists of natural and built environment features that have moderate to high natural harmony and moderate cultural order. For these reasons, the landscape composition and vividness of Key View 2 is moderate to high.

Proposed Condition—Figure 3.1-6b presents a photo simulation of Key View 2 and shows the Project replacing the existing Main Lot with a five-story parking garage with angled gray solar-shade panels on the top floor in the middle of the view. The gray solar-shade panels are visually distinctive from the flat garage top floor. While the tan garage mimics the green and tan grasses in the surrounding area in the foreground, it is a new, highly noticeable, built environment feature because of its size and massing that partially obscures views Corte Madera Creek and the single-family homes on the south side of Corte Madera Creek. The two-story office building is fully obscured by the Project. The homes on Via la Cumbre in the Greenbrae residential subdivision would have a direct line-of-sight view to the Project and would notice the Project's visual character change to the existing landscape.

For Key View 2, the Project exhibits moderate Project coherence because the parking garage is visible in the middle of the view, but there are reduced views of Corte Madera Creek in this view. The flat terrain is replaced with a highly noticeable, newly built feature that partially obscures views to Corte Madera Creek. In this view, the Project does not become a focal point because the views to San Francisco Bay, Ring Mountain, and the Tiburon Peninsula are unaffected.

Visual Character Compatibility—The scale, form, and materials of the Project would not be consistent with other parking facilities within the AVE because no such comparable facility exists. Thus, the Project would have low character compatibility with the existing natural and cultural environments at Key View 2. However, there are similar parking garage facilities found throughout the North San Franciso Bay Area, resulting in a comparable visual character found in the larger region.

Viewer Sensitivity—There are approximately 40 residential homes along Via la Cumbre in the Greenbrae residential subdivision on the hillside overlooking the area that would have a direct line-of-sight view to the Project, which is a moderate number of viewers. The view duration for residential neighbors to the Project would be high. However, viewer exposure for residential neighbors is assumed to be moderate to high because many of the natural features are unaffected by the Project. The residential neighbors are assumed to have high viewer awareness of the Project because of the short distance to the new parking garage and their familiarity with the landscape. The nearby waters of San Francisco Bay, Ring Mountain, and the Tiburon Peninsula are unaffected and may help to somewhat offset the Project view changes. Neighbors at Key View 2 are anticipated to have moderate to high sensitivity to visual changes.

Visual Quality Change—Implementation of the Project is not anticipated to change the existing moderate to high natural harmony of the view because most views to these resources are unaffected. The natural harmony does change because the Project is partially obscuring views to Corte Madera Creek and Corte Madera Marsh Ecological Reserve, but the natural harmony remains low to moderate. The existing moderate cultural order of the view is changed because of the new highly noticeable parking garage, but the cultural order remains moderate. The Project would have low to moderate compatibility with the existing visual character of the natural and cultural environments, and the memorability or vividness of the landscape would be reduced at Key View 2. Because the Project has low to moderate compatibility with the existing visual character and moderate to high sensitivity to visual changes at Key View 2, the resulting visual quality change is considered to be slightly adverse for the residential neighbors.

Degree of Visual Impact—Based on the findings of a low to moderate visual character compatibility, moderate to high viewer sensitivity, and slightly adverse visual quality change, the Project is anticipated to result in a ***potentially significant impact*** for neighbors at Key View 2. There is no feasible mitigation to reduce the mass of the new parking garages; however, during final design, when determining the exact building-related surface texture treatments that would make the garage more visually appealing the District/Design Team will solicit public input via workshop or a similar method. Examples could include surface texture treatments such as a fin-fractured finish or using colored concrete to help mimic the visual attributes of the surrounding hillsides on the exterior of the new parking garages. Architectural treatments (for example, color, surface texture, and other treatments) would be consistent with the character and architectural treatments in the Project vicinity and make the parking garage more visually appealing. However, the visual impacts of the Project would not be reduced to a less-than-significant level. Thus, the impact from changes to existing visual character and quality of public views of the site and its surroundings, as viewed from Key View 2, remains ***potentially significant***.

Operation Key View 3

Figure 3.1-7a and Figure 3.1-7b illustrate potential visual changes resulting from the Project.



Figure 3.1-7a. Sir Francis Drake Boulevard Looking Northwest—Existing Condition



Figure 3.1-7b. Sir Francis Drake Boulevard Looking Northwest—Simulation

Existing Condition—Figure 3.1-7a presents existing Key View 3 (Viewpoint 18) on Sir Francis Drake Boulevard between the two new proposed parking garages. This viewpoint represents what local motorist, transit, and bicyclist/pedestrian travelers would see when facing northwest.

In the foreground, Sir Francis Drake Boulevard is a smooth, gray multilane roadway that extends across the bottom portion of the view. Larkspur Landing Circle is also a smooth, gray multilane roadway that extends away from view (north) before curving out of view behind a three-story gray and white commercial building on the right side of the view. White pavement markings and raised medians are visible on both roadways, with the Sir Francis Drake Boulevard median consisting of tan rock and the Larkspur Landing Circle median consisting of both tan rock and green bushes. Directional signage of various shapes, sizes,

and colors are visible at the Sir Francis Drake Boulevard/Larkspur Landing Circle intersection, as well as on Larkspur Landing Circle to the north. Vertical traffic signals are mounted on cylindrical metal poles and visible at the Sir Francis Drake Boulevard/Larkspur Landing Circle intersection. Taller overhead cobra head style street lights that also extend north on Larkspur Landing Circle are also visible. One pair of cobra head style street lights protrude into the skyline. Smooth, gray concrete sidewalks are visible along both Sir Francis Drake Boulevard and Larkspur Landing Circle. Ornamental landscaping of grass, shrubs, and trees are visible next to the sidewalks and flank each side of Larkspur Landing Circle. One three-story gray and white commercial building is partially visible on the right side of the view, and one three-story gray commercial building that is partially obscured by mature green trees is visible on the left side of the view. The existing north parking lot is visible in the middle of the view and has smooth, gray asphalt that gently rises from left to right in the middle of the foreground. Behind the parking lot is an obscured view of a small, green and tan grass hill and a vertical, brown, stone retaining wall associated with the SMART Larkspur Station. Above the train station is a short, gray vertical retaining wall next to US 101 in the middle of the view. Above US 101 is a raised hillside below the Greenbrae residential subdivision that is a mix of green and tan grass, exposed gray rock, and rounded, mature green trees and shrubs. On top of the hill is a row of two-story, single-family homes that are white, tan, and gray at the back of the foreground. Views to the middleground and background are not visible.

The landscape is defined mostly by built features that rise from the bottom of the view to the upper portion of the view. Both Sir Francis Drake Boulevard and Larkspur Landing Circle are visually dominant. A bright blue sky extends across the entire top of the view. Overall, this view consists of natural and built environment features that have low to moderate natural harmony and moderate cultural order. For these reasons, the landscape composition and vividness of Key View 3 is moderate.

Proposed Condition—Figure 3.1-7b presents a photo simulation of Key View 3 and shows the Project replacing the existing north parking lot with a tan, six-story parking garage with angled gray solar-shade panels on the top floor in the middle of the view. The new north parking garage is a highly noticeable built environment feature because of its size and massing that fully obscures views to the SMART Larkspur Station, hillside with mature trees and shrubs above US 101, and the row of single-family homes in the Greenbrae residential subdivision. Local motorists, transit users, and bicyclist/pedestrian travelers would have a direct line-of-site to the Project and would notice the Project's visual character change to the existing landscape. Views to the middleground and background are unaffected.

For Key View 3, the Project exhibits moderate Project coherence because the parking garage is visible in the middle of the view, but there are reduced views of the transit station, hillside with mature trees and shrubs above US 101, and the single-family homes in the Greenbrae residential subdivision in this view. The gently rising terrain of the existing north parking lot is replaced with a highly noticeable newly built feature that obscures the back of the foreground. In this view, the Project becomes a focal point because the eye is drawn to the newly built feature in the landscape.

Visual Character Compatibility—The scale, form, and materials of the Project would not be consistent with other parking facilities within the AVE because no such comparable facility exists. Thus, the Project would have low character compatibility with the existing natural and cultural environments at Key View 3. However, there are similar parking garage facilities found throughout the North San Franciso Bay Area, resulting in a comparable visual character found in the larger region.

Viewer Sensitivity—According to Marin County, Sir Francis Drake Boulevard had a 2016 weekday daily average of approximately 45,900 vehicles near Key View 3, which is a high number of local motorist travelers (Marin County 2016). No publicly available traffic count data were available from Marin County on Larkspur Landing Circle, but traffic count is expected to be less than the number of vehicles on Sir Francis Drake Boulevard, and there is assumed to be a moderate number of local motorist travelers. No

publicly available transit data was available for users on the District buses, Marin Transit buses, Muir Woods Shuttle buses, and transportation network companies that pick up/drop off users at the Project site, but there is assumed to be a moderate number of transit travelers. The same is also assumed for bicyclist/pedestrian travelers at the Project site. These local motorist, transit user, and bicyclist/pedestrian travelers would have a direct line-of-site to the Project, but their view duration would be fleeting as they move through the Project area. Thus, viewer exposure for these travelers is assumed to be low to moderate. In general, travelers are assumed to have low to moderate awareness of the Project because of their fleeting and narrow view to the new parking garage and their general focus on traveling. Travelers at Key View 3 are anticipated to have low to moderate sensitivity to visual changes.

Visual Quality Change—Implementation of the Project is not anticipated to change the existing low to moderate natural harmony of the view. The natural harmony does change because the Project is partially obscuring views to nearby hills and mature vegetation, but the natural harmony remains low to moderate. The existing moderate cultural order of the view is also changed because of the new highly noticeable parking garage, but the cultural order remains moderate. The Project would have low to moderate compatibility with the existing visual character of the natural and cultural environments, and the memorability or vividness of the landscape would be reduced at Key View 3. Because the Project has low to moderate compatibility with the existing visual character and low to moderate sensitivity to visual changes at Key View 3, the resulting visual quality change is considered to be slightly adverse for the travelers.

Degree of Visual Impact—Based on the findings of a low to moderate visual character compatibility, low to moderate viewer sensitivity, and slightly adverse visual quality change, the Project is anticipated to result in a ***potentially significant impact*** for neighbors at Key View 3. There is no feasible mitigation to reduce the mass of the new parking garages; however, during final design, when determining the exact building-related surface texture treatments that would make the garage more visually appealing the District/Design Team will solicit public input via workshop or a similar method. Examples could include surface texture treatments such as a fin-fractured finish or using colored concrete to help mimic the visual attributes of the surrounding hillsides on the exterior of the new parking garages. Architectural treatments (for example, color, surface texture, and other treatments) would be consistent with the character and architectural treatments in the Project vicinity and make the parking garage more visually appealing. However, the visual impacts of the Project would not be reduced to a less-than-significant level. Thus, the impact from changes to existing visual character and quality of public views of the site and its surroundings, as viewed from Key View 3, remains ***potentially significant***.

Operation Summary of Impacts for Key Views

Table 3.1-2 summarizes the Project's visual character compatibility, change, viewers sensitivity, visual quality change, and degree of visual impact by key view. Based on the overall findings regarding visual character compatibility, viewer sensitivity, and visual quality change, the Project would have a potentially significant impact for neighbors and travelers regarding the key views.

Table 3.1-2. Operation Summary of Impacts for Key Views

Key View Location	Visual Character Compatibility	Viewer Sensitivity	Visual Quality Change	Degree of Visual Impact
Key View 1, Daytime Greenbrae Boardwalk	Low	High	Moderately adverse	Potentially significant
Key View 1, Nighttime Greenbrae Boardwalk	Low	High	Moderately adverse	Potentially significant
Key View 2, Via La Cumbre (upper road)	Low	Moderate to high	Slightly adverse	Potentially significant
Key View 3, Sir Francis Drake Boulevard (near Main Lot)	Low	Low to moderate	Slightly adverse	Potentially significant
Total	**Low**	**High**	**Moderately adverse**	**Potentially significant**

Mitigation Measures

MM-AES-CNST-1: Install Visual Barriers Between Construction Work Areas and Sensitive Receptors—The Project proponent or its contractor(s) will install visual barriers between stationary construction work areas and sensitive viewers adjacent to the Project site to reduce the impact on these viewers from invasions of privacy and the change in existing visual quality. Barriers will be placed to obscure views of stationary work areas (for example, staging areas or areas of fixed construction) where construction activity and equipment would be disruptive and lower the existing visual quality. These efforts will include the following actions and performance standards:

- The Project proponent or its contractors(s) will install visual barriers to minimize sensitive views of construction work areas.
- The visual barriers will be placed around the south, east, and west sides of the Project site to protect sensitive viewers that are within one block of the construction site because these viewers would have an unobstructed view of the construction area.
- The visual barrier may be chain link fencing with privacy slats, fencing with windscreen material, wood barrier, or other similar barrier.
- The visual barrier will be a minimum of 6 feet high to help to maintain the privacy of sensitive viewers and block ground-level views toward stationary construction activities.

While the visual barriers would introduce a visual intrusion, they are anticipated to reduce the visual effects associated with visible construction activities and would protect privacy. These visual barriers are an effective means of reducing the visibility of active construction work areas, thereby minimizing the impact on existing localized visual quality.

Would the Project: Create a New Source of Substantial Light or Glare which would Adversely Affect Day or Nighttime Views in the Area?

Construction

Build Alternatives

Residential, commercial, local motorist/transit/bicyclist/pedestrian neighbors within the AVE to the north are largely obscured from the Project by existing mature vegetation and buildings. However, residential neighbors to the south, east, and west have direct line-of sight views to the Project. The same is also true for commercial neighbors to the northeast and west of the Project. Recreational neighbors on San Francisco Bay and Corte Madera Creek to the south and east have direct line-of sight views to the Project. Local motorists/bicyclists/pedestrians on Sir Francis Drake Boulevard, Larkspur Landing Circle, and US 101 would have fleeting views of the Project as they move through the Project area. Transit users at the SMART Larkspur Station would have a narrow but direct line of sight to the Project.

The construction duration is anticipated to be 18 months for the North Lot (Phase I) and 36 months for the Main Lot (Phase II). Construction hours are anticipated to be consistent with the construction noise hours for the City of Larkspur, which are Monday through Friday from 7:00 AM to 6:00 PM and Saturday from 9:00 AM to 5:00 PM. Temporary daytime glare could occur from construction equipment but is not anticipated to adversely affect daytime views in the Project area as glare impacts would be primarily confined to the Project site, resulting in ***no impacts***. Nighttime construction is not anticipated at this time, resulting in ***no impacts***.

Operation

Build Alternatives

Nighttime safety lighting has been in place for over 20 years at the two existing surface parking lots, with both lots having some type of safety lighting for nearly 50 years when the LFT first opened. Currently, most of this lighting is not shielded and directed toward the ground, which results in light trespass on adjacent properties and glare issues observed by nearby residential, commercial, recreational, and local motorist/transit/bicyclist/pedestrian neighbors. Nighttime safety lighting is also located adjacent to the pedestrian routes between the parking lots and the LFT building, vehicle access areas to the parking lots, and pickup/drop-off spaces near the LFT building for buses and transportation network companies. Some of this lighting is shielded and directed toward the ground but is not consistent, which also results in light trespass and glare issues. Existing mature vegetation near the Project helps diffuse some of the light trespass and glare issues.

The Project would replace two existing surface parking lots with one five-story parking garage at the Main Lot and one six-story parking garage at the North Lot, reconfigure pedestrian routes, reconfigure vehicle access areas, reconfigure pickup/drop-off spaces, and develop additional onsite facilities to encourage mode shift from drive and park to transit and active transportation modes (expanded bicycle parking facilities and Transportation Demand Management measures). New operational lighting associated with the Build Alternatives is discussed in detail in Section 2.3.3.4. Lighting for new parking garages would include the daylight adaption zone, which is the interior path of travel for vehicles adjacent to the entrance or exit, and the parking zone and ramps, which are used for parking and maneuvering vehicles. Lighting interior to the parking garages and exterior to the parking garages (near pedestrian routes, vehicle access areas, and pickup/drop-off spaces) is anticipated to be less than what is there today because most of the existing lighting is not shielded or directed to the ground. Therefore, a ***less-than-significant impact*** is anticipated regarding a new source of light and glare. No mitigation required. Implementation of

Avoidance and Minimization Measure AMM-AES-1 would further reduce light and glare impacts by employing measures to prevent light pollution and by preventing the use of blue-rich white light lamps. Landscaping, including trees, would also be installed as part of the Project, which would replace sources of shade as trees mature and help to filter nighttime lighting and reduce glare.

AMM-AES-1: Apply Minimum Lighting Standards—The artificial lighting interior to the parking garages and exterior to the parking garages will be designed in accordance with the City of Larkspur's current lighting standard, which follows the statewide *2025 Building Energy Efficiency Standards for Residential and Nonresidential Buildings* (City of Larkspur 2026). Subchapter 4 provides guidance on mandatory requirements for lighting systems and equipment and electrical power distribution systems, while Subchapter 5 provides guidance for performance and prescriptive compliance approaches for achieving energy efficiency (CEC 2025). Compliance with City of Larkspur's current lighting standard would be enforced through design review to reduce the potential for increases in light and glare resulting from the Project.

All lighting will use downcast, cut-off type fixtures that are shielded and direct the light only toward objects requiring illumination, where feasible. Lights will be installed at the lowest allowable height and cast low-angle illumination while minimizing incidental light spill onto adjacent properties or open spaces, or backscatter into the nighttime sky. The lowest allowable wattage will be used for all lighted areas, and the number of nighttime lights needed to light an area will be minimized to the highest degree possible. Lighting will be designed for energy efficiency, with daylight sensors or timers with an on/off program. Lights will provide good color rendering with natural light qualities, with the minimum intensity feasible for security, safety, and personnel access. Lighting, including light color rendering and fixture types, will be designed to be aesthetically pleasing.

LED lighting will avoid the use of blue-rich white light lamps and use a correlated color temperature that is no higher than 3,000 Kelvin, consistent with the International DarkSky Association's Fixture Seal of Approval Program (DarkSky International 2025). In addition, LED lights will use shielding to ensure that nuisance glare and light spill do not affect nearby sensitive residential viewers.

Mitigation Measures

No mitigation required.

3.2 Air Quality

This section describes the existing conditions, potential construction and operational air quality impacts that would result from implementation of the proposed Larkspur Ferry Service Expansion and Parking Project (Project). Where applicable, this section also identifies mitigation measures to reduce significant impacts. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project. This air quality analysis is based on assumptions related to construction equipment and schedule for construction emissions. Operational analysis is based on the Project Traffic Impact Analysis (Appendix G) and existing fleet and future Liwa-class vessel operation characteristics. Appendix B includes air emissions modeling files.

3.2.1 Existing Conditions

3.2.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District, as the owner of the Larkspur Ferry Terminal, is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Investigation Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts.

The federal Clean Air Act (CAA) and its subsequent amendments form the basis for the nation's air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA. A key element of the CAA is the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The CAA delegates enforcement of the NAAQS to the states. In California, the California Air Resources Board (CARB) is responsible for enforcing air pollution regulations and ensuring the NAAQS and California Ambient Air Quality Standards (CAAQS) are met. CARB, in turn, delegates regulatory authority for stationary sources and other air quality management responsibilities to local air agencies. The Bay Area Air District (BAAD), formerly the Bay Area Air Quality Management District (BAAQMD), is the local air agency for the Project area. The following sections provide more detailed information on federal, state, and local air quality regulations that apply to the proposed Project.

Federal

Clean Air Act and National Ambient Air Quality Standards

The CAA was first enacted in 1963 and has been amended in 1965, 1967, 1970, 1977, and 1990. The CAA establishes federal air quality standards, known as NAAQS, for six criteria pollutants including ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter with aerodynamic diameter less than or equal to 10 (PM_{10})/particulate matter with aerodynamic diameter less than or equal to 2.5 (PM2.5), sulfur dioxide (SO_2), and lead. The CAA also mandates that the states submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 CAA amendments identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. Table 3.2-1 shows the NAAQS currently in effect for each criteria pollutant and the CAAQS (discussed further as follows).

Table 3.2-1. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards[a]	
			Primary	Secondary
Ozone	1-hour	0.09 ppm	None	None
	8–hour	0.070 ppm	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Coarse Particulate Matter (PM_{10})	24-hour	50 µg/m^3	150 µg/m^3	150 µg/m^3
	Annual mean	20 µg/m^3	None	None
Fine Particulate Matter ($PM_{2.5}$)	24-hour	None	35 µg/m^3	35 µg/m^3
	Annual mean	12 µg/m^3	9.0 µg/m^3	15 µg/m^3
Nitrogen Dioxide (NO_2)	Annual mean	0.030 ppm	53 ppb	53 ppb
	1-hour	0.18 ppm	100 ppb	None
Sulfur Dioxide (SO_2)				
	24-hour	0.04 ppm	None	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	75 ppb	None
Lead	30-day average	1.5 µg/m^3	None	None
	3-month average	None	0.15 µg/m^3	0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	None	None
Visibility-Reducing Particles	8-hour	[b]	None	None
Hydrogen Sulfide	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

Source: CARB 2024

[a] National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

[b] CAAQS for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer, which is visibility of 10 miles or more because of particles when relative humidity is less than 70%.

ppb = part(s) per billion

ppm = part(s) per million

µg/m^3 = microgram(s) per cubic meter

Non-Road Diesel Rule

EPA has established a series of increasingly strict emission standards for new offroad diesel equipment, on-road diesel trucks, and locomotives. New equipment, including heavy-duty trucks and offroad construction, is required to comply with these emission standards (EPA 2026).

Corporate Average Fuel Economy Standards

The Corporate Average Fuel Economy Standards (CAFE) were first enacted in 1975 to improve the average fuel economy of cars and light-duty trucks. The National Highway Traffic Safety Administrative sets the CAFE standards, which are regularly updated to require additional improvements in fuel economy. The standards were last updated in October 2012 to apply to new passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2017 through 2025, and are equivalent to 54.5 miles per gallon. However, On August 2, 2018, National Highway Traffic Safety Administration and EPA proposed to amend the fuel efficiency standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026 by maintaining the current model year 2020 standards through 2026 in accordance with the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. On September 19, 2019, EPA and NHTSA issued a final action on the One National Program Rule, which is considered Part 1 of the SAFE Vehicles Rule and a precursor to the proposed fuel efficiency standards. The One National Program Rule enables EPA and NHTSA to provide nationwide uniform fuel economy and greenhouse gas (GHG) vehicle standards, specifically by (1) clarifying that federal law preempts state and local tailpipe GHG standards, (2) affirming NHTSA's statutory authority to set nationally applicable fuel economy standards, and (3) withdrawing California's CAA preemption waiver to set state-specific standards.

EPA and NHTSA published their decisions to withdraw California's waiver and finalize regulatory text related to the preemption on September 27, 2019, in Volume 84, Number 188 of the Federal Register, page 51310. The agencies also announced that they will later publish the second part of the SAFE Vehicles Rule (that is, the standards). California, 22 other states, the District of Columbia, and two cities filed suit against the proposed One National Program Rule on September 20, 2019.[1] The lawsuit requests a "permanent injunction prohibiting Defendants from implementing or relying on the Preemption Regulation," but does not stay its implementation during legal deliberations. Part 1 of the SAFE Vehicles Rule went into effect on November 26, 2019, and Part 2 went into effect on March 30, 2020. On December 5, 2025, the NHTSA published a notice of proposed rulemaking, entitled the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks" (SAFE III). The notice of proposed rulemaking proposes a "complete reset" of the CAFE program, first established by Congress in 1975. The U.S. Department of Transportation estimates that the proposed standards would reduce the "upfront cost" of a new vehicle by an average of approximately $900 in 2031, compared to the projected cost under existing standards.

State

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. The CCAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the CAA, the CCAA does not set precise attainment deadlines. Instead, the CCAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. Table 3.2-1 shows the CAAQS and NAAQS.

CARB and local air districts bear responsibility for meeting the CAAQS, which are to be achieved through district-level air quality management plans incorporated into a SIP. In California, EPA has delegated

[1] *California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, U.S. District Court for the District of Columbia

authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The CCAA substantially adds to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The CCAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution.

Air Toxic Control Measure

CARB developed multiple measures under its Air Toxic Control Measure to address specific mobile- and stationary-source categories that can have an impact on the public health of communities. The measures mainly focused on reducing public exposure to diesel particulate matter (DPM) and toxic air contaminant (TAC) emissions. Airborne Toxic Control Measure for Stationary Compression Ignition Engines (California Code of Regulations Title 17, § 93115) is aimed at reducing DPM and criteria pollutant emissions from stationary diesel-fueled compression ignition engines through fuel requirements, operational restrictions, and emission limits. The Air Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (California Code of Regulations Title 13, § 2485) required heavy-duty trucks with a gross vehicle weight rating greater than 10,000 pounds, including buses and sleeper berth-equipped trucks, to not idle the primary engine for more than 5 minutes at any given time or operate an auxiliary power system for more than 5 minutes within 100 feet of a restricted area.

Statewide Truck and Bus Regulation

CARB also focused its efforts to reduce DPM, oxides of nitrogen (NO_X), and other criteria pollutants from diesel-fueled vehicles by adopting the Truck and Bus Regulation in 2008. This regulation applied to any diesel-fueled, dual-fuel, or alternative diesel-fueled vehicle that would travel on public highways, yard trucks with on-road engines, yard trucks with offroad engines used for agricultural operations, school buses, and vehicles with a gross vehicle weight greater than 14,000 pounds. The purpose of the regulation is to require nearly all trucks and buses registered in the state to have a 2010 or newer model engine year by 2023. Compliance schedules have been established for lighter vehicles (14,000 to 26,000 gross vehicle weight rating) and heavier vehicles (over 26,001 gross vehicle weight rating) (CARB 2020a). Beginning January 1, 2020, only vehicles that meet the requirements of the Trucks and Bus Regulation will be allowed to register with the California Department of Motor Vehicles (CARB 2026a).

Commercial Harbor Craft Regulation

The original Commercial Harbor Craft Regulation was adopted in 2008 and amended in 2010. The regulation requires vessel owners to replace older engines with newer and cleaner engines to reduce the emissions of air pollutants. In 2022, a new set of amendments were adopted to expand the applicability of the regulation to more vessel types and require cleaner upgrades and newer technology. The 2022 Amendments require diesel engines on existing vessels to be replaced with Tier 3 or 4 engines and went into effect on January 1, 2023.

Air Toxic "Hot Spots" Act – California Health & Safety Code Sections 44300-44384

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("Hot Spots" Act).

The Air Toxics "Hot Spots" Information and Assessment Act requires the development of a statewide inventory of TAC emissions from stationary sources. The program requires affected facilities to: (1) prepare an emissions inventory plan that identifies relevant TACs and sources of TAC emissions; (2) prepare an emissions inventory report quantifying TAC emissions; and (3) prepare an health risk assessment (HRA), if necessary, to quantify the health risks to the exposed public. Facilities with significant health risks must notify the exposed population and, in some instances, must implement risk management plans to reduce the associated health risks.

Local

Bay Area Air District

At the local level, responsibilities of air quality districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by the CEQA. The air quality districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and for ensuring that NAAQS and CAAQS are met.

The proposed Project falls under the jurisdiction of BAAD. BAAD has local air quality jurisdiction over projects in the San Francisco Bay Area Air Basin (SFBAAB), including Marin County. BAAD developed advisory emission thresholds to assist CEQA lead agencies in determining the level of significance of a project's emissions, which are outlined in its CEQA Air Quality Guidelines (BAAQMD 2022a). BAAD has also adopted air quality plans to improve air quality, protect public health, and protect the climate, including the 2017 Clean Air Plan: Spare the Air, Cool the Climate (BAAQMD 2017a).

The 2017 Clean Air Plan was adopted by BAAD on April 19, 2017. The 2017 Clean Air Plan updates the prior 2010 Bay Area ozone (O_3) plan and outlines feasible measures to reduce O_3; provides a control strategy to reduce particulate matter (PM), air toxics, and GHGs in a single, integrated plan; and establishes emission control measures to be adopted or implemented. The 2017 Clean Air Plan contains the following primary goals; consistency with these goals is evaluated in this section:

- Protect Air Quality and Health at the Regional and Local Scale: Attain all state and national air quality standards and eliminate disparities among Bay Area communities in cancer health risk from TACs.
- Protect the Climate: Reduce Bay Area GHG emissions to 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The 2017 Clean Air Plan is the most current applicable air quality plan for the air basin, and consistency with this plan is the basis for determining whether the proposed Project would conflict with or obstruct implementation of an air quality plan.

In addition to air quality plans, BAAD adopts rules and regulations to improve existing and future air quality. The proposed Project may be subject to the following rules:

- Regulation 2, Rule 5 (New Source Review of Toxic Air Contaminants): This regulation outlines guidance for evaluating TAC emissions and their potential health risks.
- Regulation 6, Rule 1 (PM): This regulation restricts emissions of PM darker than a 1 on the Ringlemann Chart to less than 3 minutes in any 1 hour.
- Regulation 7 (Odorous Substances): This regulation establishes general odor limitations on odorous substances and specific emission limitations on certain odorous compounds.
- Regulation 8, Rule 3 (Architectural Coatings): This regulation limits the quantity of reactive organic gas (ROG) in architectural coatings.

- Regulation 11, Rule (Hazardous Pollutants – Asbestos Demolition, Renovation, and Manufacturing): This regulation, which incorporates EPA's asbestos National Emissions Standards for Hazardous Air Pollutants regulations, controls emissions of asbestos to the atmosphere during demolition, renovation, and transport activities.

City of Larkspur

The City of Larkspur 2040 General Plan was adopted in 2024. The Community Health & Safety, Goals, Policies, and Action Programs outline goals and policies that will improve air quality in the City of Larkspur. The relevant policies are as follows (City of Larkspur 2024):

Goal SAF-9 Improved Air Quality in Larkspur

- Policy SAF-9.1: Seek to comply with state and federal Ambient Air Quality Standards.
- Policy SAF-9.2 Seek to reduce auto travel and, thereby, the pollutants from auto emissions.
- Policy SAT-9.3: Ensure that construction activity and traffic generated by new development does not lead to nonattainment of state and federal ambient air quality standards in Marin County.
- Policy SAF-9.4: Ensure sufficient buffers between sensitive land uses (e.g., residential, schools, and public facilities) and sources of air pollution.

3.2.1.2 Environmental Setting

The Project area is within the SFBAAB. Ambient air quality is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. The following sections summarize how air pollution moves through the air, water, and soil within the air basin and how it is chemically changed in the presence of other chemicals and particles. This section also summarizes regional and local climate conditions, existing air quality conditions, and sensitive receptors that may be affected by Project-generated emissions.

Pollutants of Concern

Criteria Pollutants

The federal and state governments have established ambient air quality standards for six criteria pollutants. Pollutants such as CO, NO_2, SO_2, and lead are considered local pollutants that tend to accumulate in the air locally. PM_{10} and $PM_{2.5}$ are both regional and local pollutants. O_3 is treated as regional pollutants. The primary pollutants that would be generated by the Project are O_3 precursors (that is, NO_X and ROGs), CO, PM_{10}, and $PM_{2.5}$.

Criteria pollutants have potential human health effects at elevated concentrations. The ambient air quality standards for these pollutants are set to protect public health and the environment with an adequate margin of safety (CAA Section 109). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants and form the scientific basis for new and revised ambient air quality standards.

The principal characteristics and possible health and environmental effects from exposure to the primary criteria pollutants generated by the Project are discussed as follows.

Ozone (O_3) is photochemical oxidant that is formed when ROGs and NO_x (both byproducts of the internal combustion engine) react with sunlight. ROGs are compounds made up primarily of hydrogen and carbon

atoms. Internal combustion associated with motor vehicle use is the major source of hydrocarbons. Other sources of ROGs are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. The two major forms of NO_x are nitric oxide and NO_2. Nitric oxide is a colorless, odorless gas that forms from atmospheric nitrogen and oxygen when combustion takes place under high temperature or high pressure. NO_2 is a reddish-brown, irritating gas formed by the combination of nitric oxide and oxygen. In addition to serving as an integral participant in O_3 formation, the NO_2 component of NOx also acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

O_3 poses a higher risk to those who already suffer from respiratory diseases (such as asthma), children, older adults, and people who are active outdoors. Exposure to O_3 at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggravate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term O_3 exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to O_3 may increase the risk of respiratory-related deaths (EPA 2020). The concentration of O_3 at which health effects are observed depends on an individual's sensitivity, level of exertion (that is, breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding that for individuals exposed to 400 ppb of O_3 for 2 hours, including 1 hour of heavy exercise, the least responsive individual experienced no symptoms or lung function changes while the most sensitive individual experienced a 50% reduction in forced expiratory volume along with severe coughing and shortness of breath (EPA 2016). Although the results vary, evidence suggests that sensitive populations (for example, asthmatics) may be affected on days when the 8-hour maximum O_3 concentration reaches 80 ppb (EPA 2016). The average background level of O_3 in the Bay Area is approximately 45 ppb (BAAQMD 2017a).

In addition to human health effects, O_3 has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage, such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless toxic gas produced by incomplete combustion of hydrocarbons, such as gasoline or diesel fuel. High CO levels are of greatest concern during the winter when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects of CO at or near existing background CO levels (CARB 2020b).

PM consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of particulates are now generally considered: inhalable coarse particles, or PM_{10}, and inhalable fine particles, or $PM_{2.5}$. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading.

Particulate pollution can be transported over long distances and may adversely affect humans, especially people who are naturally sensitive or susceptible to breathing problems.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and

increased respiratory symptoms. For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the U.S. and worldwide, based on the World Health Organization's Global Burden of Disease Project. Long-term (months to years) exposure to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children (CARB 2026a).

Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality (CARB 2026a)

Depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (EPA 2020).

Toxic Air Contaminants

Although ambient air quality standards have been established for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). The primary TACs of concern associated with the proposed Project are asbestos and DPM.

Asbestos is the name given to several naturally occurring fibrous silicate minerals. Before the adverse health effects of asbestos were identified, asbestos was widely used as insulation and fireproofing in buildings, and it can still be found in some older buildings. It is also found in its natural state in rock or soil. The inhalation of asbestos fibers into the lungs can result in a variety of adverse health effects, including inflammation of the lungs, respiratory ailments (such as asbestosis, which is scarring of lung tissue that results in constricted breathing), and cancer (including lung cancer and mesothelioma, which is cancer of the linings of the lungs and abdomen).

DPM is generated by diesel-fueled equipment and vehicles. Within the Bay Area, BAAD has found that of all controlled TACs, emissions of DPM are responsible for about 82% of the total ambient cancer risk (BAAQMD 2017a). Short-term exposure to DPM can cause acute irritation (for example, eye, throat, and bronchial), neurophysiological symptoms (such as lightheadedness and nausea), and respiratory symptoms (such as cough and phlegm). EPA has determined that diesel exhaust is "likely to be carcinogenic to humans by inhalation" (EPA 2003).

Odors

Offensive odors can be unpleasant and lead to citizen complaints to local governments and air districts. According to CARB's *Air Quality and Land Use Handbook,* land uses associated with odor complaints

typically include sewage treatment plants, landfills, recycling facilities, manufacturing facilities, and agricultural activities (CARB 2005). CARB provides recommended screening distances for siting new receptors near existing odor sources.

Climate and Meteorology

Although the primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those sources, meteorological conditions and topography are also important factors. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. Unique geographic features throughout the state define 15 air basins with distinctive regional climates. The air quality study area is in the Marin County Basin portion of the SFBAAB.

Marin County is bounded on the west by the Pacific Ocean, on the east by San Pablo Bay, on the south by the Golden Gate Bridge, and on the north by the Petaluma Gap. Most of Marin County's population lives in the eastern part of the county in small, sheltered valleys (BAAQMD 2017b).

Although there are a few mountains above 1,500 feet in height, most of the terrain is only 800 to 1,000 feet high, which usually is not high enough to block the marine layer. Because of the wedge shape of the county, northeast Marin County is farther from the ocean than is the southeastern section. This extra distance from the ocean allows the marine air to be moderated by Bayside conditions as it travels to northeastern Marin County. In southern Marin County, the distance from the ocean is short, and elevations are lower, resulting in higher incidence of maritime air in that area (BAAQMD 2017b).

Wind speeds are highest along the west coast of Marin County, averaging about 8 to 10 miles per hour. The complex terrain in central Marin County creates sufficient friction to slow the air flow. At Hamilton Air Force Base, in Novato, the annual average wind speeds are only 5 miles per hour. The prevailing wind directions throughout Marin County are generally from the northwest (BAAQMD 2017b).

In the summer months, areas along the coast are usually subject to onshore movement of cool marine air. In the winter, proximity to the ocean keeps the coastal regions relatively warm, with temperatures varying little throughout the year. Coastal temperatures are usually in the high 50s in the winter and the low 60s in the summer. The warmest months are September and October (BAAQMD 2017b).

The eastern side of Marin County has warmer weather than the western side because of its distance from the ocean and because the hills that separate the eastern portion of the county from western portion occasionally block the flow of the marine air. The temperatures of cities next to the Bay are moderated by the cooling effect of the Bay in the summer and the warming effect of the Bay in the winter. For example, San Rafael experiences average maximum summer temperatures in the low 80s and average minimum winter temperatures in the low 40s. Inland towns such as Kentfield experience average maximum temperatures that are 2 degrees cooler in the winter and 2 degrees warmer in the summer (BAAQMD 2017b).

Air pollution potential is highest in eastern Marin County, where most of the population is in semi-sheltered valleys. In the southeast, the influence of marine air keeps pollution levels low. As development moves farther north, there is greater potential for air pollution to build up because the valleys are more sheltered from the sea breeze. While Marin County does not have many polluting industries, the air quality on its eastern side—especially along the United States Highway 101 (US 101) corridor—may be affected by emissions from increasing motor vehicle use within and through the county (BAAQMD 2017b).

Existing Air Quality Conditions

Ambient Criteria Pollutant Concentrations

Several ambient air quality monitoring stations are in the SFBAAB to monitor progress toward air quality standards attainment of the NAAQS and CAAQS. The NAAQS and CAAQS are discussed further under Section 3.2.1.1, Regulatory Setting. The nearest monitoring station to the proposed Project is CARB's San Rafael monitoring station, which is within 1.7 miles of the Project area. This monitoring station reported data for all pollutants except CO. CO data for Marin County were obtained using EPA monitoring data. Data for 2025 are not currently available from CARB or EPA database; therefore, monitoring data of 2022 to 2024 are used for this Project.

Table 3.2-2 summarizes data for criteria air pollutant concentration levels from the San Rafael Station for 2022 to 2024 and shows that there have been no exceedances to the NAAQS or CAAQS for all pollutants in 2022 to 2024.

Table 3.2-2. Ambient Air Quality Data at the San Rafael Monitoring Station (2022 to 2024)

Pollutant and Standards	2022	2023	2024
Ozone (O_3)			
Maximum 1-Hour Concentration (ppm)	0.074	0.066	0.045
Maximum 8-Hour Concentration (ppm)	0.066	0.053	0.043
Number of Days Standard Exceeded[a]			
CAAQS 1-Hour (>0.09 ppm)	0	0	0
CAAQS 8-Hour (>0.070 ppm)	0	0	0
NAAQS 8-Hour (>0.070 ppm)	0	0	0
Carbon Monoxide (CO)			
Maximum 8-Hour Concentration (ppm)	0.8	0.8	0.7
Maximum 1-Hour Concentration (ppm)	1.3	1.4	1.0
Number of Days Standard Exceeded[a]			
NAAQS 8-Hour (>9 ppm)	0	0	0
CAAQS 8-Hour (>9.0 ppm)	0	0	0
NAAQS 1-Hour (>35 ppm)	0	0	0
CAAQS 1-Hour (>20 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
National Maximum 1-Hour Concentration (ppb)[b]	35.3	29.9	25.9
State Maximum 1-Hour Concentration (ppb)[c]	35	39	25
Annual Average Concentration (ppb)	6	5	NA
Number of Days Standard Exceeded[a]			
CAAQS 1-Hour (>180 ppb)	0	0	0
CAAQS Annual (>30 ppb)	0	0	0

Pollutant and Standards	2022	2023	2024
NAAQS 1-Hour (>100 ppb)	0	0	0
NAAQS Annual (>53 ppb)	0	0	0
Particulate Matter (PM_{10})			
National Maximum 24-Hour Concentration (µg/m^3)	38.2	41.9	NA
State Maximum 24-Hour Concentration (µg/m^3)	40	43,1	NA
State Annual Average Concentration (µg/m^3)	13.7	12.7	NA
Number of Days Standard Exceeded[a]			
NAAQS 24-Hour (>150 µg/m^3)	0	0	0
CAAQS 24-Hour (>50 µg/m^3)	0	0	0
CAAQS Annual (>20 µg/m^3)	0	0	0
Fine Particulate Matter ($PM_{2.5}$)			
National Maximum 24-Hour Concentration (µg/m^3)	30.8	34.7	27.8
State Maximum 24-Hour Concentration (µg/m^3)	30.8	34.7	27.8
National Annual Average Concentration (µg/m^3)	6.8	5.3	5.0
State Annual Average Concentration (µg/m^3)	6.9	5.4	5.0
Number of Days Standard Exceeded[a]			
NAAQS 24-Hour (>35 µg/m^3)	0	0	0
NAAQS Annual (>9.0 µg/m^3)	0	0	0
CAAQS Annual (>12.0 µg/m^3)	0	0	0

Sources: CARB 2026b; EPA 2026

[a] An exceedance of a standard is not necessarily a violation because of the regulatory definition of a violation.

[b] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[c] State statistics are based on California approved samplers.

NA = not available

Existing TAC Sources and Health Risks

BAAQMD maintains an inventory of health risks associated with all permitted stationary sources within the SFBAAB. The inventory was last updated in 2025 and is publicly available online. There are no existing stationary TAC sources within 1,000 feet of the Project area, as shown in BAAD's Stationary Source Screening Map (BAAD 2025).

Aside from stationary sources, emissions of TACs around the Project area are also generated from mobile sources and railways. US 101 is to the west of the Project site. Vehicles traveling on US 101 would cause mobile source air toxics emissions near the Project area.

Regional Attainment Status

Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the ambient air quality standards. The four designations are defined as follows:

- Attainment: Assigned to areas where pollutant concentrations meet the air quality standard
- Nonattainment: Assigned to areas where monitored pollutant concentrations consistently violate the air quality standard
- Maintenance: Assigned to areas that were previously designated as nonattainment but has been redesignated to attainment under a maintenance plan
- Unclassified: Assigned to areas where data are insufficient to determine whether a pollutant is violating the standards, generally treated as in attainment

Table 3.2-3 summarizes the attainment status of Marin County.

Table 3.2-3. Federal and State Attainment Status for Marin County Portion of the San Francisco Bay Area Air Basin

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hour)	Marginal Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment/Maintenance	Attainment
Particulate Matter (PM_{10})	Attainment/Unclassified	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Moderate Nonattainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment/Unclassified	Attainment
Sulfur Dioxide (SO_2)	Attainment/Unclassified	Attainment
Lead	Attainment/Unclassified	Attainment
Sulfates	(No Federal Standard)	Attainment
Hydrogen Sulfide	(No Federal Standard)	Unclassified
Visibility-Reducing Particles	(No Federal Standard)	Unclassified

Sources: CARB 2026c; EPA 2026

P = portion of the county

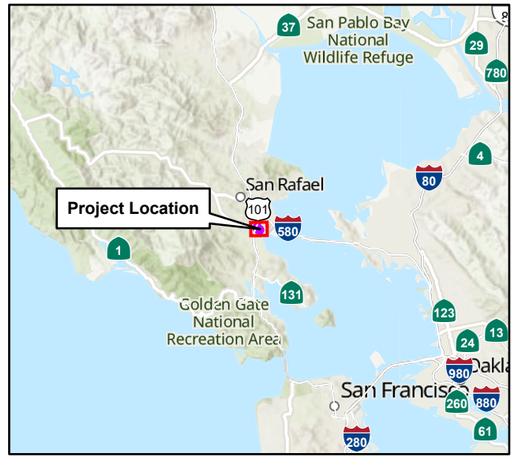
Locations of Sensitive Receptors

Sensitive land uses are defined as locations where human populations, especially children, seniors, and sick persons, are present and where there is reasonable expectation of continuous human exposure according to the averaging period for the air quality standards (that is, 24-hour, 8-hour, or 1- hour). According to BAAD, typical sensitive land uses are residences, hospitals, and schools. Parks and playgrounds where sensitive receptors (such as children and seniors) are present are also considered sensitive land uses (BAAQMD 2022a). Places of employment (such as commercial/industrial uses) are not considered sensitive land uses because health-sensitive individuals (including children and seniors) are not present.

The Project is in an area with mixed residential and commercial land use. Single-family housing areas are approximately 500 feet to the northwest of the Project site across US 101. Residential units are also approximately 550 feet south of the Project site.

Figure 3.2-1 illustrates sensitive receptors within 1/4 mile of the Project area.





LEGEND

- Project Footprint (13.70 acres)
- Parking Structure
- 1/4 Mile from Project

Sensitive Receptors

- Residential
- Commercial

Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Bing Maps Hybrid: © 2026 Microsoft Corporation © Maxar ©CNES (2026) Distribution Airbus DS © Mapbox © 2026 TomTom
World Hillshade: Esri, CGIAR, USGS

N

0 450 900

Feet

Figure 3.2-1
Land Use and Sensitive Receptors Near the Project Site
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\NOISE\LARKSPUR_NOISE_2026\LARKSPUR_NOISE_2026.APRX Figure 3.2-1 Land Use and Sensitive Receptors

3.2.2 Environmental Impacts

The air quality impacts were evaluated for the No-Build and Build Alternatives.

3.2.2.1 Methodology

Construction Emissions

This analysis is conducted following BAAD's CEQA guidance (BAAQMD 2022a). Short-term construction emissions of ROG, CO, NO_x, PM_{10}, $PM_{2.5}$, and SO_2 were evaluated. Project construction would result in exhaust emissions (from fuel combustion in offroad construction equipment and vehicles) and fugitive dust emissions (from earthmoving activities and vehicle travel on paved and unpaved roads). Construction emissions were estimated using CalEEMod Version 2022.1 (CAPCOA 2022). Construction emissions modeled include those from the following sources:

- Exhaust emissions of ROG, NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$ from offroad construction equipment
- Exhaust emissions of ROG, NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$ from on-road vehicle trips, including worker commutes, concrete truck trips, haul truck trips, and other miscellaneous offsite travel
- Fugitive dust emissions of PM_{10} and $PM_{2.5}$ from onsite earthmoving activities and offsite vehicle travel on paved and unpaved roads

The construction of the Project would occur in two phases. Construction on the North Lot would occur from 2033 and 2034, and the construction of the Main Lot would occur from 2037 to 2040. Construction at the Main Lot includes two scenarios—H-Pile (HP) and Auger Cast Pile (ACP). Project-specific information on the construction schedule, equipment types, and daily usage rates for each activity during the Project construction was used in the CalEEMod modeling based on the current Project design. Default settings in CalEEMod were used when Project-specific information was not available. The Project will implement a mitigation measure to use Tier 4 offroad construction equipment whenever feasible and practical. Therefore, both unmitigated and mitigated construction emissions were calculated for the construction phases. Tier 4 emission standards were used in CalEEMod to calculate the mitigated emissions. Emissions summaries are in Appendix B-1, Construction and Operation Emission Summaries, and CalEEMod output files are in Appendix B-2, CalEEMod Output Files.

Operational Emissions

Operation emissions from the Project include the air pollutants emitted from the diesel engines on the ferries and the emissions from the vehicles driven by the passengers to and from the ferry terminals. For the No-Build Alternative, vehicle trips made by passengers that have to drive to San Fransico because of ferry operation capacity limit are also included. Maintenance activities are anticipated to be similar to existing conditions; therefore, emissions changes because of maintenance activities changes would be negligible and are not evaluated further.

Ferry Operation

Ferry operation emissions were calculated for the existing conditions and the No-Build and Build Alternatives for 2035 and 2050. Emissions were estimated using the engine emission factors, anticipated engine working load factors, and engine operating hours.

Existing engines on ferries ranged from model years 1990 to 2010, which covers Pre-Tier 1 to Tier 2 engines. For the emission calculations, emission factors of a Tier 1 engine were used as an average for the

existing condition. Engines used on ferries in 2035 and 2050 would meet marine engine Tier 4 plus diesel particulate filter emission standards, complying with CARB's Commercial Harbor Craft Rule.

Ferry trip information was based on the number of daily crossings of a typical weekday and the crossing of large event special service. The maximum number of anticipated daily crossing was used for each alternative to be conservative.

For comparison purposes, engine sizes of the existing and future engines are assumed to have the same horsepower rating. A load factor of 0.42 was applied according to EPA's Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions (EPA 2022). In addition, a 36% fuel reduction was applied to future engine fuel consumption rate to account for the improved ferry performance in future year because of implementation of newer technologies and optimization of ferry operation conditions (Gray 2024).

Vehicle Trips

Operation emissions from vehicle trips to and from the port are estimated for the existing and future No-Build and Build Alternatives. Vehicle trips include those made by ferry passengers, as well as trips by transit buses. For the No-Build Alternative, non-ferry driving trips for the unmet demand because of ferry capacity or parking constraints are also included. For the non-ferry trips, it is assumed these riders would have to drive to San Francisco instead of taking the ferry. Emissions from vehicle trips were modeled using Caltrans CT-EMFAC2021.

Local Risks and Hazards Assessment

In addition to the emission thresholds, BAAD have also developed Local Risks and Hazard thresholds for TACs and $PM_{2.5}$.

Given that the proposed Project would introduce DPM and $PM_{2.5}$ emissions to an area near existing sensitive receptors, a screening level air dispersion modeling and HRA were performed. The screening modeling used EPA's AERSCREE dispersion model (EPA 2021). The HRA analysis follows the OEHHA Air Toxics Hot Spots Program Guidance Manual (OEHHA 2015) and BAAD *California Environmental Quality Act Air Quality Guidelines Appendix E: Recommended Methods For Screening and Modeling Local Risks and Hazards* (BAAQMD 2022b). DPM was used as a surrogate for the HRA following the OEHHA guidance (OEHHA 2015).

The HRA analyzes health risks at nearby sensitive receptors because of onsite DPM emissions from construction activities. Increases of DPM emissions are not expected during Project operation, as discussed in Section 3.2.2.3, Impacts. Therefore, the HRA was not conducted for operation emissions. Details of the HRA are described as follows.

DPM and $PM_{2.5}$ Emissions

The local risks and hazards assessment were performed for the DPM and $PM_{2.5}$ from onsite construction equipment and vehicles. The onsite DPM emissions associated with construction activities were assumed to be equal to the PM_{10} exhaust emissions from the construction equipment and onsite vehicles. For the $PM_{2.5}$ hazard analysis, the emissions included the exhaust emissions from the onsite equipment and vehicles, as well as the fugitive dust emissions from the material handling and earthmoving activities, in accordance with BAAD CEQA Guidance (BAAQMD 2022b).

Screening Air Dispersion Modeling

The HRA uses EPA's screening level air dispersion model, AERSCREEN, to estimate the worst-case ground level concentrations of the pollutants. AERSCREEN is an EPA-recommended air dispersion model screening tool that is used to provide conservative, worst-case concentration estimates from a single source without requiring site-specific location information and meteorological data. The North Lot and the Main Lot were modeled as two separate area sources. Key modeling parameters used in the AERSCREEN are described as follows:

- Source Type: Area source
- Source Parameters: Release height is 1.3 meters above the ground represented onsite exhaust emissions and fugitive dust emissions for non-truck sources. Initial vertical dimension is 1.21 meters, which is from the default parameters in BAAD's CEQA guidance for non-truck construction emission sources.
- Ambient air temperatures were included in the models based on weather data for Larkspur, California.
- Average windspeed, anemometer height, and moisture were used in the modeling.
- Flagpole receptors were included in the models at a height of 1.5 meters, in accordance with BAAD guidance.
- Both sites were modeled assuming urban land use, with an estimated population of 12,620 (U.S. Census Bureau 2025).

Unit emission rate (1 gram per second) was used for modeling. AERSCREEN outputs are the 1-hour maximum concentration. This 1-hour concentration was converted to annual average concentration using a persistent factor of 0.1, in accordance with BAAD CEQA Guidance. Appendix B-4 presents AERSCREEN output files.

Cancer and Chronic Risk Calculations

Cancer and non-cancer chronic risks were analyzed following the OEHHA 2015 HRA guidance (OEHAA 2015) and BAAD HRA guidance (BAAQMD 2022b). The modeled DPM concentrations from AERSCREEN were used to estimate the ground-level concentrations of the pollutants. The cancer risk calculations incorporate OEHHA's age-specific factors that account for increased sensitivity to carcinogens during early-in-life exposure. The approach for estimating cancer risk from long-term inhalation, with exposure to carcinogens, requires calculating a range of potential doses and multiplying by cancer potency factors in units corresponding to the inverse dose to obtain a range of cancer risks. For cancer risk, the risk for each age group is calculated using the appropriate daily breathing rates, age sensitivity factors, and exposure durations following the OEHHA and BAAD guidance. The cancer risks calculated for individual age groups are summed over the construction duration to estimate the cancer risk for each receptor. Cancer risks assume a 2-year exposure for the North Lot construction and a 4-year exposure for the Main Lot construction. Chronic risks were calculated using Reference Exposure Level of DPM. DPM does not have approved acute risk values; therefore, acute risks were not analyzed for the Project.

Carbon Monoxide Hot Spots Modeling

The analysis of CO impacts was conducted using BAAD's CO screening criteria in its CEQA guideline (BAAQMD 2022a), which is based on intersection traffic volumes and conditions.

3.2.2.2 Thresholds of Significance

The following State CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to air quality.

Would the proposed Project:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard?
- Expose sensitive receptors to substantial pollutant concentrations?
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The primary pollutants of concern generated by the proposed Project are O_3 precursors (ROG and NO_X), CO, PM, and TACs. The following sections discuss thresholds and analysis considerations for regional and local Project-generated criteria pollutants with respect to their human health implications. Thresholds and guidance for evaluating potential odors associated with the project area also presented.

Regional Project-Generated Criteria Pollutant Emissions (Ozone Precursors and Regional Particulate Matter)

This analysis evaluates the impacts of regional emissions generated by the proposed Project using a two-tiered approach that considers guidance recommended by BAAD in its *California Environmental Quality Act Air Quality Guidelines* (BAAQMD 2022a).

This analysis considers whether the proposed Project would conflict with the most recent air quality plan (BAAQMD 2022a) and compares emissions to BAAD's Project-level emission thresholds. Table 3.2-4 summarizes BAAD's CEQA thresholds. These thresholds are recommended by the air district to evaluate the significance of a project's regional criteria pollutant emissions (BAAQMD 2022a). According to BAAD, projects with emissions exceeding thresholds shown in Table 3.2-4 would be expected to have a significant impact on regional air quality because an exceedance of the thresholds is anticipated to contribute to CAAQS and NAAQS violations.

Table 3.2-4. Bay Area Air Quality Management District Project-Level Regional Criteria Pollutant Emission Thresholds

Analysis	Thresholds
Regional Criteria Pollutants (Construction)	ROG: 54 lb/day NO_x: 54 lb/day PM_{10}: 82 lb/day(exhaust only); dust $PM_{2.5}$: 54 lb/day(exhaust only) PM_{10} and $PM_{2.5}$ fugitive dust: Best management practices
Regional Criteria Pollutants (Operations)	ROG: 54 lb/day NO_x: 54 lb/day PM_{10}: 82 lb/day $PM_{2.5}$: 54 lb/day

Source: BAAQMD 2017a

lb/day = pound(s) per day

Health-Based Thresholds for Project-Generated Pollutants of Human Health Concern

The California Supreme Court's decision in *Sierra Club v. County of Fresno* (6 Cal. 5th 502) (hereafter referred to as the Friant Ranch Decision) reviewed the long-term, regional air quality analysis contained in the Environmental Investigation Report for the proposed Community Plan Update and Friant Ranch Specific Plan. The Friant Ranch Specific Plan project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in nonattainment under the NAAQS and CAAQS for O_3 and $PM_{2.5}$. The Court found that the Environmental Investigation Report's air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that environmental documents must attempt to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional PM)

Adverse health effects induced by regional criteria pollutant emissions generated by the proposed Project (O_3 precursors and PM) are highly dependent on a multitude of interconnected variables (such as cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [for example, age, gender]). For these reasons, O_3 precursors (ROG and NO_X) contribute to the formation of ground-level O_3 on a regional scale. Emissions of ROG and NO_X generated in one area may not equate to a specific O_3 concentration in that same area. Similarly, some types of particulate pollutant may be transported over long distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased O_3 or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. While there are models capable of quantifying O_3 and secondary PM formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating Project-generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment is not possible with any degree of accuracy.

Technical limitations of existing models to correlate Project-level regional emissions to specific health consequences are recognized by air quality management districts throughout the state, including the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast Air Quality Management District (SCAQMD), which provided amici curiae briefs for the Friant Ranch legal proceedings.[2] In its brief, SJVAPCD acknowledges that while health risk assessments for localized air toxics, such as DPM, are commonly prepared, "it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task" (SJVAPCD 2015). SJVAPCD further notes that emissions solely from the Friant Ranch Specific Plan project (which equate to less than one-tenth of 1% of the total NO_X and volatile organic compounds in the valley) are not likely to yield valid information, and that any such information should not be "accurate when applied at the local level."

SCAQMD (2015) presents similar information in its brief, stating that "it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels."

[2] The amicus curiae briefs for Friant Ranch are available at: https://www.courts.ca.gov/41312.htm.

As discussed, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is a cumulative problem, air districts typically consider impacts from projects that generate criteria pollutant and O_3 precursor emissions below these thresholds to be minor in nature and to not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the proposed Project could increase photochemical reactions and the formation of tropospheric O_3 and secondary PM, which, at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with O_3 and particulate pollution, the effects are a result of cumulative and regional emissions. Therefore, the proposed Project's incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis. There are no numerical thresholds related to specific health outcomes from regional emissions; however, Project-generated emissions are analyzed as follows.

Localized Project-Generated Criteria Pollutant Emissions (Carbon Monoxide and Particulate Matter) and Air Toxics (Diesel Particulate Matter)

Localized pollutants generated by a project can potentially affect populations near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts on adjacent sensitive receptors. The localized pollutants of concern that would be generated by the proposed Project are CO, PM, and DPM. The applicable thresholds for each pollutant are described as follows.

Carbon Monoxide

Heavy traffic congestion can contribute to high levels of CO, and individuals exposed to such hot spots may have a greater likelihood of developing adverse health effects. BAAD has adopted screening criteria that provide a conservative indication of whether project-generated traffic would cause a potential CO hot spot. If the screening criteria are not met, a quantitative analysis through site-specific dispersion modeling of project-related CO concentrations would not be necessary, and the proposed Project would not cause localized violations of the CAAQS for CO. BAAQMD's CO screening criteria are summarized as follows (BAAQMD 2022a):

- The Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical or horizontal mixing is substantially limited (for example, tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

BAAQMD does not consider construction-generated CO a significant pollutant of concern because construction activities typically do not generate substantial quantities of this pollutant (BAAQMD 2022a).

Particulate Matter

BAAQMD adopted an incremental $PM_{2.5}$ concentration-based significance threshold in which a "substantial" contribution at the project level for an individual source is defined as total (that is, exhaust and fugitive) $PM_{2.5}$ concentrations exceeding 0.3 μg/m³. In addition, BAAD considers projects to have a cumulatively considerate $PM_{2.5}$ impact if sensitive receptors are exposed to $PM_{2.5}$ concentrations from local sources within 1,000 feet, including existing sources, project-related sources, and reasonably foreseeable future sources, that exceed 0.8 μg/m³ (BAAQMD 2022a).

BAAQMD has not established PM_{10} thresholds of significance. BAAD's $PM_{2.5}$ thresholds apply to both new receptors and new sources. However, BAAD considers fugitive PM_{10} from earthmoving activities to be less than significant with application of BAAQMD's Basic Construction Mitigation Measures (BAAQMD 2022a).

Diesel Particle Matter

DPM has been identified as a TAC and is particularly concerning because long-term exposure can lead to cancer, birth defects, and damage to the brain and nervous systems. BAAQMD has adopted incremental cancer and hazard thresholds to evaluate receptor exposure to single sources of DPM emissions. The "substantial" DPM threshold defined by BAAQMD is exposure of a sensitive receptor to an individual emissions source, resulting in an excess cancer risk level of more than 10 in 1 million or a non-cancer (that is, chronic or acute) hazard index greater than 1.0 (BAAQMD 2022a). The air district also considers projects to have a cumulatively considerable DPM impact if they contribute to DPM emissions that, when combined with cumulative sources within 1,000 feet of sensitive receptors, result in excess cancer risk levels of more than 100 in 1 million or a hazard index greater than 10.0. BAAQMD considers a project to have a significant cumulative impact if it introduces new receptors at a location where the combined exposure of all cumulative sources within 1,000 feet exceeds cumulative thresholds (BAAQMD 2022a).

Lead and Asbestos

BAAQMD considers a project to have a significant impact if it does not comply with the applicable regulatory requirements for lead and asbestos outlined in BAAQMD's Regulation 11, Rules 1 and 2. However, the Project would not involve demolition or renovation of old structures.

Odors

BAAQMD and CARB have identified several types of land uses as being commonly associated with odors, such as landfills, wastewater treatment facilities, and animal processing centers (BAAQMD 2022a; CARB 2005). BAAQMD's *California Environmental Quality Act Air Quality Guidelines* recommend that project analyses identify the location of existing and planned odor sources and include policies to reduce potential odor impacts in the Project area.

3.2.2.3 Impacts

Within this section, Alternative 1 and Alternative 2 impacts are discussed together as the Build Alternatives when the associated impacts are substantively the same. Where necessary to differentiate between Build Alternatives, the impact analysis is separated by Build Alternative.

Conflict with or Obstruct Implementation of the Applicable Air Quality Plan?

Construction and Operations

Build Alternatives

The CAA requires that a SIP or an air quality control plan be prepared for areas with air quality violating the NAAQS. The SIP sets forth the strategies and pollution control measures that states will use to attain the NAAQS. The CCAA requires attainment plans to demonstrate a 5% per year reduction in nonattainment air pollutants or their precursors, averaged every consecutive 3-year period, unless an approved alternative measure of progress is developed. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date. The current air quality attainment plan for the SFBAAB is the 2017 Clean Air Plan (BAAQMD 2017a).

Air quality plans provide an overview of the region's air quality and identify the pollution control measures needed to expeditiously attain and maintain air quality standards. These air quality plans propose emission-reduction measures that are designed to bring the region into attainment of the CAAQS and NAAQS. Federal, state, and regional air quality regulations and rules were developed by incorporating the requirements from the air quality plans to ensure the implementation of these plans. The Project will comply with applicable federal, state, and local regulations, as further discussed in the following paragraphs. Because the regional air regulations and rules are developed to ensure the implementation of the regional air quality plans, compliance with these regulations indicates that the Project's activities will not obstruct implementation of the air quality plans of the region.

In addition to the air quality regulations and rules, BAAD adopted emission thresholds for CEQA evaluation to ensure that the Project emissions will not conflict with or hinder the implementation of the air quality plans. Therefore, consistency with the air quality plans and standards is also analyzed by evaluating whether the Project's emissions will exceed BAAD's CEQA significance thresholds.

As discussed in the following sections, construction emissions of criteria pollutants would be less than the BAAD CEQA significance thresholds (Table 3.2-5a and Table 3.2-5b). Health risks and hazard impacts from DPM and $PM_{2.5}$ emissions at nearby offsite workers and residents would be lower than the BAAD CEQA thresholds with implementation of MM-AQ-CNST-1. Operational criteria pollutant emissions would have a net decrease compared to the existing condition. The Project would have long-term benefits to regional air quality during operation. The Project would not conflict with or obstruct implementation of the applicable air quality plan with mitigation to reduce the impacts to local health and hazard because of $PM_{2.5}$ and DPM emissions.

Therefore, with implementation of MM-AQ-CNST-1, the Project will not conflict with or obstruct implementation of the applicable air quality plan, and the impact is ***less-than-significant with mitigation.***

Mitigation Measures

Refer to MM-AQ-CNST-1.

Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is a Nonattainment Area for an Applicable Federal or State Ambient Air Quality Standard?

Under federal standards, SFBAAB has been designated by the EPA as nonattainment for O_3 and $PM_{2.5}$. Under state standards, the area is designated by CARB as nonattainment for O_3 and PM_{10}. In its CEQA Guidelines, the BAAD has provided project-level thresholds of significance for criteria pollutants for which the SFBAAB is in nonattainment. These are the levels at which the BAAD has determined that an individual

project's contribution to the cumulative impact (nonattainment) is cumulatively considerable (BAAQMD 2022a). In other words, if an individual project's contribution (even with incorporation of all feasible mitigation measures) exceeds the thresholds, the Project will have a significant and adverse impact. Alternately, if an individual project's contribution is less than the Project-level thresholds of significance, the Project will have a less-than-significant impact.

Construction

Alternative 1

Construction of the North Lot could occur as early as 2033 and 2034. The Main Lot would be constructed second, potentially starting in 2037 and completing in 2040. Construction of the Project Build Alternatives would generate criteria pollutant emissions from the following activities: demolition, site preparation, grading, construction workers and heavy-duty trucks traveling to and from the Project site, fuel combustion by onsite construction equipment, the application of architectural coatings, and paving activities. These construction activities have the potential to temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The unmitigated criteria air pollutant emissions that would be generated during construction for Alternative 1 are presented in Tables 3.2-5a and 3.2-5b. Emission summaries and CalEEMod output files are in Appendix B-1, Construction and Operation Emission Summaries and Appendix B-2, CalEEMod Output Files, respectively.

As shown in Table 3.2-5a, construction emissions of Alternative 1 would be less than the BAAD significance thresholds for all criteria pollutants. Therefore, construction emissions of Alternative 1 would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is a nonattainment area for an applicable federal or state ambient air quality standard, and impacts would be ***less than significant.*** No mitigation required. In addition, the Project would implement MM-AQ-CNST-1 to mitigate local health risk and hazard impacts. The mitigated emissions are shown in Table 3.2-5b and show additional reduction of criteria pollutants.

Table 3.2-5a. Daily Construction Emissions: Unmitigated

Location	Estimated Construction Year	Average Daily Emissions (lb/day)						
		ROG	NO_x	CO	PM_{10} Exhaust	PM_{10} Dust	$PM_{2.5}$ Exhaust	$PM_{2.5}$ Dust
North Lot Construction	2033	0.365	3.316	5.256	0.072	3.598	0.067	0.527
	2034	5.222	4.615	8.340	0.084	3.108	0.078	0.432
Main Lot - H Pile Construction Scenario	2037	1.445	13.532	18.242	0.322	11.999	0.302	1.834
	2038	1.076	9.376	15.412	0.234	5.525	0.219	0.909
	2039	21.827	7.211	12.215	0.113	3.644	0.105	0.644
	2040	4.396	0.985	1.723	0.010	0.423	0.010	0.081
Main Lot – Auger Cast Pile	2037	1.208	11.240	15.907	0.255	12.511	0.240	1.785
	2038	1.006	8.346	14.585	0.211	5.142	0.197	0.814
	2039	21.824	7.042	12.124	0.111	3.421	0.103	0.610

Location	Estimated Construction Year	Average Daily Emissions (lb/day)						
		ROG	NO_x	CO	PM_{10} Exhaust	PM_{10} Dust	$PM_{2.5}$ Exhaust	$PM_{2.5}$ Dust
Construction Scenario	2040	4.396	0.983	1.722	0.010	0.420	0.010	0.081
BAAQMD CEQA Thresholds		**54**	**54**	**NA**	**82**	**Best management practices**	**84**	**Best management practices**
Exceeding Threshold?		**No**	**No**	**NA**	**No**	**No**	**No**	**No**

Table 3.2-5b. Daily Construction Emissions: Mitigated

Location	Estimated Construction Year	Average Daily Emissions (lb/day)						
		ROG	NO_x	CO	PM_{10} Exhaust	PM_{10} Dust	$PM_{2.5}$ Exhaust	$PM_{2.5}$ Dust
North Lot Construction	2033	0.23	2.07	6.59	0.03	3.60	0.03	0.53
	2034	5.05	2.62	10.27	0.04	3.11	0.04	0.43
Main Lot – H Pile Construction Scenario	2037	0.892	9.951	26.088	0.164	11.999	0.162	1.834
	2038	0.648	6.504	21.070	0.115	5.525	0.113	0.909
	2039	21.630	5.603	17.472	0.068	3.644	0.067	0.644
	2040	4.377	0.816	2.556	0.008	0.423	0.008	0.081
Main Lot – Auger Cast Pile Construction Scenario	2037	0.769	8.788	22.966	0.149	12.511	0.147	1.785
	2038	0.608	5.772	20.022	0.105	5.142	0.103	0.814
	2039	21.628	5.434	17.381	0.066	3.421	0.065	0.610
	2040	4.377	0.814	2.555	0.008	0.420	0.008	0.081
BAAQMD CEQA Threshold		**54**	**54**	**NA**	**82**	**Best management practices**	**84**	**Best management practices**
Exceeding Threshold?		**No**	**No**	**NA**	**No**	**No**	**No**	**No**

Alternative 2

Alternative 2 construction involves less construction activities and shorter construction duration compared to Alternative 1. Therefore, Alternative 2 is expected to have lower emissions than the unmitigated

emissions shown in Table 3.2-5a for Alternative 1. Therefore, construction emissions for Alternative 2 also would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is a nonattainment area for an applicable federal or state ambient air quality standard, and impacts would be ***less than significant.*** No mitigation required. Similarly, implement MM-AQ-CNST-1 to mitigate local health risk, and hazard impacts criteria pollutants would be further reduced.

Operations

Build Alternatives

Criteria pollutant emissions from the proposed Project include the vehicle emissions from trips to and from the ferry terminal and the engine exhaust emissions from the ferry operation, as discussed in Section 3.2.2.1, Methodology. Ferry trips will remain unchanged in 2035 between the No-Build Alternative and Build Alternatives. In 2050, ferry trips would increase under the Build Alternatives compared to the No-Build Alternative. Trip numbers are the same among all Build Alternatives. Emissions from ferry operation in each analysis year are shown in Table 3.2-6. Detailed operation emission calculations are shown in Appendix B-1, Construction and Operation Emission Summaries, and CT-EMFAC modeling files are in Appendix B-3, CT-EMFAC Output Files.

Vehicle trips include those made by personal vehicles and the transit shuttle. In addition, emission evaluation also included the vehicle trips to San Francisco made by the passengers that have to drive instead of using the ferry service because of limited capacity under the No-Build Alternative. Emissions from vehicle trips are shown in Table 3.2-7.

Total operation emissions and the net emission increase during Project operation are in Table 3.2-8 and Table 3.2-9, respectively. As shown in Table 3.2-9, operational emissions in future years of all Project Build Alternatives would be lower than the baseline existing conditions, resulting in net operational emissions decreases. Therefore, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is a nonattainment area for an applicable federal or state ambient air quality standard, and Project impacts would be ***less than significant***. No mitigation required.

Table 3.2-6. Daily Operations Emissions from Ferry Operation

Year/Alternative	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day
2025 Existing	313.88	2,165.74	2,667.94	125.55	125.55
2035 No Build	28.12	261.14	749.28	1.00	1.00
2035 Alternative 1	28.12	261.14	749.28	1.00	1.00
2035 Alternative 2	28.12	261.14	749.28	1.00	1.00
2050 No Build	28.12	261.14	749.28	1.00	1.00
2050 Alternative 1	47.63	442.26	1,268.95	1.70	1.70
2050 Alternative 2	47.63	442.26	1,268.95	1.70	1.70

Table 3.2-7. Daily Operations Emissions from Vehicle Trips

Year/Alternative	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day
2025 Existing	4.56	6.74	81.54	14.26	2.51
2035 No Build	7.01	7.31	122.12	31.07	5.35
2035 Alternative 1	5.62	5.16	106.14	30.48	5.20
2035 Alternative 2	6.70	7.03	116.71	29.76	5.13
2050 No Build	18.39	16.88	347.82	99.65	17.00
2050 Alternative 1	14.01	12.86	265.00	75.92	12.95
2050 Alternative 2	12.07	11.09	226.74	65.72	11.24

Table 3.2-8. Total Daily Operations Emissions from Ferry Operation and Vehicle Trips

Year/Alternative	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day
2025 Existing	318.43	2,172.48	2,749.48	139.81	128.06
2035 No Build	35.13	268.46	871.40	32.07	6.36
2035 Alternative 1	33.74	266.30	855.42	31.49	6.21
2035 Alternative 2	34.83	268.18	865.99	30.76	6.14
2050 No Build	46.51	278.02	1,097.10	100.65	18.01
2050 Alternative 1	61.64	455.12	1,533.95	77.62	14.65
2050 Alternative 2	59.69	453.35	1,495.68	67.42	12.94

Table 3.2-9. Net Emission Change of Daily Operations Emissions from Existing Conditions

General	ROG	NO_x	CO	PM_{10}	$PM^{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day
2035 No Build	-283.30	-1,904.02	-1,878.08	-107.74	-121.70
2035 Alternative 1	-284.69	-1,906.17	-1,894.06	-108.33	-121.85
2035 Alternative 2	-283.60	-1,904.30	-1,883.49	-109.05	-121.93
2050 No Build	-271.92	-1,894.45	-1,652.38	-39.16	-110.06
2050 Alternative 1	-256.79	-1,717.36	-1,215.53	-62.19	-113.41
2050 Alternative 2	-258.74	-1,719.13	-1,253.80	-72.39	-115.12

General	ROG	NO_x	CO	PM_{10}	$PM^{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day
BAAQMD CEQA Thresholds	54	54	NA	82	54
Exceeding Threshold?	No	No	No	No	No

Mitigation Measures

No mitigation required.

Expose Sensitive Receptors to Substantial Pollutant Concentrations?

Construction and Operations

Build Alternatives

Carbon Monoxide Hotspots

The Project's Build Alternatives would involve increased ferry trips and the expanded parking facilities at the Project site. Based on intersection volumes from the Transportation Impact Analysis for the proposed Project, maximum peak-hour intersection volume would be 5,932 vehicles at Sir Francis Drake Boulevard and US 101 northbound on/off-ramps. Given this amount is substantially less than BAAD's hourly screening level of 44,000 vehicles per hour, the vehicle trips of the Project would not result in a CO hotspot, and impacts would be ***less than significant***.

DPM/$PM_{2.5}$

DPM is a carcinogen emitted by diesel internal combustion engines. Construction activities would generate DPM that could expose adjacent receptors and onsite receptors for 2 years during North Lot construction and 4 years during Main Lot construction. For the HRA, DPM emissions were assumed to be the same as PM_{10} exhaust emissions from diesel construction equipment and onsite vehicles.

Health impacts from DPM include cancer risk and chronic non-cancer risk. The HRA results also included evaluation of annual concentrations of $PM_{2.5}$ from exhaust and fugitive dust sources. Cancer risk was evaluated for Project construction only because the Project is not anticipated to have substantial amount of DPM emissions from passenger vehicles travel to the ferry terminal parking garages. Tables 3.2-10 present the unmitigated health risks for the maximum exposed offsite residential and worker receptors. The cancer risks are the cumulative health risks from the North Lot construction and the Main Lot construction. HRA risk calculation files are in Appendix B-4, Health Risk Assessment and $PM_{2.5}$ Concentrations Evaluation.

As shown in Table 3.2-10, DPM emissions from the Project would exceed the cancer risk threshold for both construction options. Therefore, health risk impacts would be ***significant without mitigation***.

Table 3.2-10. Health Risk Results: Unmitigated

Activity	Cancer Risk Resident (cumulative North and Main Lots)	Cancer Risk Worker (cumulative North and Main Lots)	Chronic HI (maximum North and Main Lots)
Construction with HP Option	16.67	1.33	0.023
Construction with ACP Option	14.33	1.05	0.023
BAAQMD Threshold	10	10	1
Exceed Threshold?	Yes	No	No

Annual $PM_{2.5}$ concentrations were modeled for each construction year doing the North and Main Lot construction. Table 3.2-11 summarizes the maximum modeled concentrations among all construction years. The maximum $PM_{2.5}$ annual concentrations would be less than the threshold without mitigation, as shown in Table 3.2-11.

Table 3.2-11. Maximum Annual $PM_{2.5}$ Concentrations: Unmitigated

Activity	$PM_{2.5}$ ($\mu g/m^3$) Maximum of all construction years
Construction North Lot	0.26
Construction Main Lot with HP	0.19
Construction Main Lot with ACP	0.16
BAAQMD Threshold	0.3

Because the cancer risk would exceed the BAAD health risk threshold, the following mitigation measure will be implemented to reduce the health risk from DPM emissions:

MM-AQ-CNST-1: Use Clean Diesel-Powered Equipment during Construction to Control Construction-Related Emissions

The Project sponsor will ensure that all offroad diesel-powered equipment over 50 horsepower used during construction meets the EPA Tier 4 Final emission standards to reduce DPM. The construction contractor shall submit evidence of the use of equipment meeting the Tier 4 Final emission standards for project construction to the District before the commencement of construction activities.

In case a Tier 4 engine is not available for a particular equipment, the District or its delegates shall approve an exception of the Tier 4 requirements if the following conditions are met:

- A good faith effort to the satisfaction of the District or its delegates to demonstrate that such Tier 4 engine is not available. The good faith effort shall be documented with signed written correspondence by the appropriate construction contractors along with documented correspondence with at least two construction equipment rental firms.
- The equipment shall meet Tier 3 emission standards unless using such engine is deemed not practical for certain engine types. For purpose of this condition, "not practical" means that there are no available engines or retrofit control device that has been verified by EPA or CARB to control the engine in questions to Tier 3 emissions levels and the highest level of available control is meeting Tier 2 standards, or, the construction equipment is intended to be onsite for 10 working days or less.

Health risks and annual $PM_{2.5}$ concentrations after implementing MM-AQ-CNST-1 are shown in Tables 3.2-12 and 3.2-13, respectively.

Table 3.2-12 shows the health risk results for the Project construction with implementation of MM-AQ-CNST-1. As shown in Table 3.2-12, cancer risk would be reduced to levels less than BAAD health risk thresholds. Annual $PM_{2.5}$ concentrations remain less than the threshold with the mitigation. Therefore, the Project would not expose sensitive receptors to substantial pollution concentrations and impacts would be ***less than significant with mitigation***.

Table 3.2-12. Health Risk Results: Mitigated

	Cancer Risk Resident (cumulative North and Main Lots)	Cancer Risk Worker (cumulative North and Main Lots)	Chronic Hazard Index (maximum North and Main Lots)
Construction with HP	6.70	0.40	0.0083
Construction with ACP	6.42	0.30	0.0083
BAAQMD Threshold	10	10	1
Exceeding Threshold?	No	No	No

Table 3.2-13. Annual $PM_{2.5}$ Concentrations: Mitigated

	$PM_{2.5}$ ($\mu g/m^3$) Maximum of all construction years
Construction North Lot	0.20
Construction Main Lot with HP	0.14
Construction Main Lot with ACP	0.13
BAAQMD Threshold	0.3
Exceeding Threshold?	No

Mitigation Measures

MM-AQ-CNST-1: Use Clean Diesel-Powered Equipment during Construction to Control Construction Related Emissions

The Project sponsor will ensure that all offroad diesel-powered equipment over 50 horsepower used during construction meets the EPA Tier 4 Final emission standards to reduce DPM. The construction contractor shall submit evidence of the use of equipment meeting the Tier 4 Final emission standards for project construction to the District before the commencement of construction activities.

In case a Tier 4 engine is not available for a particular equipment, the District or its delegates shall approve an exception of the Tier 4 requirements if the following conditions are met:

- A good faith effort to the satisfaction of the District or its delegates to demonstrate that such Tier 4 engine is not available. The good faith effort shall be documented with signed written correspondence by the appropriate construction contractors along with documented correspondence with at least two construction equipment rental firms.

- The equipment shall meet Tier 3 emission standards unless using such engine is deemed not practical for certain engine types. For purpose of this condition, "not practical" means that there are no available engines or retrofit control device that has been verified by EPA or CARB to control the engine in questions to Tier 3 emissions levels and the highest level of available control is meeting Tier 2 standards, or, the construction equipment is intended to be onsite for 10 working days or less.

Result in Other Emissions (Such as those Leading to Odors) Adversely Affecting a Substantial Number of People?

Construction and Operations

Build Alternatives

BAAD and CARB have identified the following types of land uses as being commonly associated with odors; although this list is not exhaustive, it is intended to help lead agencies recognize the types of facilities where more analysis may be warranted:

- Sewage treatment plants
- Coffee roasters
- Asphalt plants
- Metal smelters
- Landfills
- Recycling facilities
- Waste transfer stations
- Petroleum refineries
- Biomass operations
- Auto body shops
- Coating operations
- Fiberglass manufacturers
- Foundries
- Rendering plants
- Livestock operations

There are sensitive receptors within 1,000 feet of the Project area. Potential odor emitters during construction activities include diesel exhaust, asphalt paving, and the use of architectural coatings and solvents. Construction-related activities would be temporary, and construction activities would not be likely to result in nuisance odors that would violate BAAD Regulation 7. Odors during operation could emanate from vehicle exhaust. These odors would be limited to areas adjacent to the Project area. Although such brief exhaust odors may be considered adverse, they would not affect a substantial number of people.

Additionally, the proposed Project is not associated with any of the land uses listed and would not result in odorous emissions. Odors from diesel exhaust currently exist in the Project area.

Passenger vehicles travel near the Project, and the ferry operation are not expected to cause odor to affect the nearby residents or workers. Mandatory compliance with BAAD regulations ensures no construction or operational activities proposed would create a level of objectionable odors that would adversely affect a substantial number of people, and impacts would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

3.3 Biological Resources

This section describes the biological resources that have the potential to be impacted by the proposed Larkspur Ferry Service Expansion and Parking Project (Project), as documented in the Natural Environment Study (NES) (Appendix C). It also provides an overview of federal, state, and local regulations that impact the management of biological resources and an analysis of how the biological resources will be impacted by the proposed Project's Build Alternatives. Chapter 5 discusses impacts related to the No-Project Alternative.

3.3.1 Existing Conditions

3.3.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal, is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report (DEIR) to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

Endangered Species Act

The federal Endangered Species Act (FESA) and subsequent amendments provide regulations for the conservation of endangered and threatened species and the ecosystems on which they depend (16 United States Code [U.S.C.] §1531-1544). The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over plants, wildlife, and resident fish, and the National Marine Fisheries Service (NMFS) has jurisdiction over anadromous and marine fish and marine mammals. Both USFWS and NMFS oversee the implementation of the FESA.

Section 7 mandates all federal agencies to consult with USFWS and/or NMFS if they determine a proposed action or project may affect a listed species or its habitat. Section 9 prohibits take of any fish or wildlife species listed as endangered or threatened, including the destruction of habitat that prevents the species' recovery. Section 10(a)(1)(B) allows nonfederal entities to obtain permits for incidental taking of threatened or endangered species through consultation with USFWS and/or NMFS (16 U.S.C. §1539).

Critical habitat is required to support the recovery of species listed as threatened or endangered under the FESA. It can be designated by USFWS or NMFS. Critical habitat for species under USFWS jurisdiction is defined as the specific areas within the geographic area occupied by the species, at the time it was listed, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protections (16 U.S.C. §1532). It may also contain specific areas outside the geographical area occupied by the species during the time it is listed essential for the conservation of the species. Critical habitat for species managed my NMFS is defined as specific areas within the geographical area occupied by the species at the time of listing that contain physical or biological features essential to their conservation and that may require specific management considerations or protections and specific areas outside the geographical area occupied by a species if the agency determines it is essential for conservation.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act requires federal agencies to consult with NMFS on all actions that may adversely affect Essential Fish Habitat (EFH). EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802[10]). EFH waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish. For Pacific coast species, EFH is described under four fishery management plans covering groundfish, coastal pelagic species, highly migratory species, and Pacific coast salmon. Habitat areas of particular concern are a subset of EFH (for example, estuaries).

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) (16 U.S.C. 31 Sections 1361–1362, 1371-1389, 1401-1407, 1411-1418, 1421-1421h, and 1423-1423h) established a national policy to prevent marine mammal species and population stocks from declining beyond the point where they ceased to be significant functioning elements of the ecosystems of which they are a part. With certain exceptions, it prohibits take (defined under statute to include harassment) of marine mammals in the nation's waters and the high seas. Congress amended the MMPA, under the incidental take program, and the FESA in 1986 to authorize incidental takings of depleted, endangered, or threatened marine mammals, provided the taking (defined under statute as actions that are or may be lethal, injurious, or harassing) was small in number and had a negligible impact on marine mammal populations.

Under MMPA Section 101(a)(5)(D), an Incidental Hazard Assessment can be granted by NMFS if it finds that incidental take will have a negligible impact on the species or stock or will not have an unmitigable adverse impact on the availability of the species or stock for subsistence uses (where applicable). NMFS defines negligible impact as "an impact resulting from the specified activity that cannot be reasonably expected to, and will not be reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival" (50 Code of Federal Regulations [CFR] § 18.27). Incidental Harassment Authorizations include permissible methods of taking and requirements for mitigation and monitoring to confirm that takings result in the lowest practicable adverse impacts on affected marine mammal species or stocks.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations. These treaties are devised to protect migratory birds and any of their parts, eggs, and nests from activities including hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collection, special purposes (such as rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. Regulations governing migratory bird permits can be found in 50 CFR 13, General Permit Procedures; and 50 CFR 21, Migratory Bird Permits. Applicable measures will be implemented to avoid take of species covered under the MBTA.

Clean Water Act

The Clean Water Act (CWA) serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. Aquatic resources (that is, wetlands, ponds, streams, and territorial seas) are

regulated by the U.S. Army Corps of Engineers per the CWA and/or a Regional Water Quality Control Board (RWQCB) per the CWA and/or the state's Porter-Cologne Water Quality Control Act. The following sections provide additional details on specific sections of the CWA.

Permits for Fill Placement in Waters and Wetlands (Section 404/401)

Applicants must obtain a Section 404 permit from U.S. Army Corps of Engineers for all discharges of dredged or fill material into waters of the U.S., including adjacent wetlands, before proceeding with a proposed activity. Pursuant to CWA Section 401, an applicant for a Section 404 permit to conduct any activity that may result in discharge into waters of the U.S. must provide a certification from the RWQCB that such discharge will comply with state water quality standards.

An aquatic resource delineation was performed for the proposed Project in July 2021. Wetlands and waters were found within the Biological Study Area (BSA); however, all Project work will occur on existing hardscape. No impacts to wetlands or waters are anticipated to result from the proposed Project; therefore, no permits under CWA Sections 404 or 401 are required.

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, which is administered by the U.S. Environmental Protection Agency. In the Project area, the San Francisco Bay RWQCB is authorized by the U.S. Environmental Protection Agency to oversee the NPDES program. NPDES permits are required for projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent to discharge stormwater and prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), which includes the best management practices that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources.

The proposed Project would disturb more than 1 acre of land and would therefore be required to prepare a SWPPP and implement best management practices to control sediment and minimize erosion in accordance with the California General Construction Permit (refer to Section 3.9, Hydrology and Water Quality).

Executive Order 11990: Protection of Wetlands

Executive Order 11990, signed May 24, 1977, requires federal agencies to prepare wetland assessments for proposed actions in or affecting wetlands. Agencies must avoid undertaking new construction in wetlands unless no practicable alternative is available and the proposed action includes all practicable measures to minimize harm to wetlands.

Executive Order 13112: Prevention and Control of Invasive Species

Executive Order 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. This executive order established the National Invasive Species Council, which consists of federal agencies and departments, and a supporting Invasive Species Advisory Committee, which consists of state, local, and private entities. In 2016, the National Invasive Species Council released an updated national invasive species management plan that recommends objectives and measures to implement the executive order and prevent the introduction and spread of invasive species (National Invasive Species Council 2016). The executive order requires consideration of invasive species in National Environmental Policy Act analyses,

including their identification and distribution, their potential effects, and measures to prevent or eradicate them.

State

California Endangered Species Act

The California Endangered Species Act (CESA) establishes state policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. Under CESA, California Department of Fish and Wildlife (CDFW) has responsibility for maintaining a list of endangered and threatened species. State-listed species are fully protected under the mandates of CESA. Take of protected species, incidental to otherwise lawful management activities, may be authorized under *California Fish and Game Code* Section 206.591. Authorization from CDFW is in the form of an Incidental Take Permit. No Incidental Take Permits are expected for the proposed Project.

Porter-Cologne Water Quality Control Act

The California Water Code addresses the full range of water issues in the state and includes Division 7, known as the Porter-Cologne Water Quality Control Act (California Water Code Sections 13000–16104). Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the State to file a report of discharge (an application for waste discharge requirements)" with the appropriate RWQCB. Under this act, each of the nine RWQCBs must prepare and periodically update Water Quality Control Basin Plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. Projects that affect waters of the State must meet the waste discharge requirements of the RWQCB.

Section 13050 of the Porter-Cologne Water Quality Control Act authorizes the California State Water Resources Control Board and the relevant RWQCB to regulate biological pollutants. The California Water Code generally regulates more substances contained in discharges and defines discharges to receiving waters more broadly than does the CWA. In 2019, the California State Water Resources Control Board adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, which revised and clarified the regulation of state wetlands and procedures for permitting impacts on wetlands. The procedures took effect on May 28, 2020.

No impacts on wetlands or waters are anticipated to result from the proposed Project; therefore, an application for waste discharge requirements is not required.

California Fish and Game Code Section 1600: Streambed Alteration Agreements

CDFW regulates activities that would interfere with the natural flow—or substantially alter the channel, bed, or bank—of a lake, river, or stream. These activities are regulated under California Fish and Game Code Sections 1600–1616 and require a streambed alteration agreement if they would substantially adversely affect an existing fish or wildlife resource. Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. CDFW may require avoidance or minimization of vegetation removal, use of standard erosion-control measures, limitations on the use of heavy equipment, limitations on work periods to avoid impacts on fish and wildlife, and restoration of degraded sites or compensation for permanent habitat losses, among other conditions.

Aquatic resources are not present in the Project footprint; therefore, a streambed alteration agreement would not be required.

McAteer-Petris Act

The McAteer-Petris Act is the state law that created the Bay Area Coastal Development Commission (BCDC) and assigned responsibility to the BCDC to limit fill in the Bay, promote public access to the Bay, prepare for rising sea levels, conduct planning, and issue permits. A permit is required for projects in San Francisco Bay and projects within the first 100 feet inland from the shoreline band.

Major construction work associated with the construction of the parking garage on the Main Lot would be located outside of the shoreline band. Anticipated work within the shoreline band would be limited primarily to restriping the remaining surface lot to accommodate the new circulation and remaining surface parking within the lot, landscape improvements, and drainage tie-ins as applicable. Project components within the shoreline band would be coordinated with the BCDC, and as applicable, an amendment to the District's BCDC permit would be obtained.

Local

Golden Gate Ferry's Whale Aware Procedures

Ferries operated by the District currently follow procedures developed with the Marine Mammal Center and the U.S. Coast Guard to minimize collision risk with whales and other marine mammals (District 2026b). These procedures include the following:

- Monitoring: The District monitors whale reports for recent sightings and adjusts ferry routes to steer clear of whales.
- Observers: Vessel staff look out for signs of all marine mammals on each trip. The captain reduces speed if a whale is spotted and changes course if needed. The captain also makes an announcement to passengers, offering them an opportunity to see and admire whales from a distance and raise awareness.
- Reporting: Staff report whale sightings with precise timing and location to local authorities.

The proposed Project will continue adhering to these practices.

City of Larkspur Tree Ordinance

The City of Larkspur code, Chapter 12.16, Trees, requires approval for removing, pruning beyond the best practices guidelines, or materially changing any mature or "heritage" trees within the City of Larkspur. When construction occurs within the drip line of a heritage tree, actions may be required to protect the tree.

City of Larkspur 2040 General Plan

The following environmental goals for biological resources from *The City of Larkspur 2040 General Plan* (City of Larkspur 2024) are applicable to the proposed Project:

- **Goal ENV-1. Native Habitat Protection.** Protected native habitats, particularly those providing habitat for state and federally listed special-status species.
- **Goal ENV-2. Water Resources Protection.** Protected water and riparian resources.
- **Goal ENV-3. Open Space.** Designated open space areas that are preserved and enhanced.
- **Goal ENV-4. Open Space.** Sufficient open space to meet the health and safety needs of Larkspur residents.

- **Goal ENV-5. Public Access.** Reasonable visual and physical public access to natural resources without adversely impacting natural habitats.
- **Goal ENV-6. Resource Consumption.** Reduced use of natural resources.

Marin Countywide Plan

The following policies for biological resources from the *Marin Countywide Plan* (Marin County Community Development Agency 2023) are applicable to the proposed Project.

BIO-1.1. Protect Wetlands, Habitat for Special-Status Species, Sensitive Natural Communities, and Important Wildlife Nursery Areas and Movement Corridors. Protect sensitive biological resources, wetlands, migratory species of the Pacific flyway, and wildlife movement corridors through careful environmental review of proposed development applications, including consideration of cumulative impacts, participation in comprehensive habitat management programs with other local and resource agencies, and continued acquisition and management of open space lands that provide for permanent protection of important natural habitats.

BIO-1.5. Promote Use of Native Plant Species. Encourage use of a variety of native or compatible non-native, non-invasive plant species indigenous to the site vicinity as part of Project landscaping to improve wildlife habitat values.

BIO-1.6. Control Spread of Invasive Exotic Plants. Prohibit use of invasive species in required landscaping as part of the discretionary review of proposed development. Work with landowners, landscapers, the Marin County Open Space District, nurseries, and the multi-agency Weed Management Area to remove and prevent the spread of highly invasive and noxious weeds. Invasive plants are those plants listed in the State's Noxious Weed List, the California Invasive Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California," and other priority species identified by the agricultural commissioner and California Department of Agriculture. Species of particular concern include the following: barbed goatgrass (*Aegilops triuncialis*), giant reed (*Arundo donax*), Italian thistle (*Carduus pycnocephalus*), distaff thistle (*Carthamus lanatus*), purple starthistle (*Centaurea calcitrapa*), yellow starthistle (*Centaurea solstitialis*), pampas grass (*Cortaderia selloana*), Scotch broom (*Cytisus scoparius*), Cape ivy (*Delairea odorata*), oblong spurge (*Euphorbia oblongata*), fennel (*Foeniculum vulgare*), French broom (*Genista monspessulana*), salt-water cord grass (*Spartina alternifolia*), Spanish broom (*Spartium junceum*), medusahead (*Taeniatherum caput-medusae*), gorse (*Ulex europaeus*), and periwinkle (*Vinca major*), among others.

BIO-1.9. Control Spread of Non-Native Invasive Animal Species. Work with landowners, the Marin County Open Space District, the California Department of Fish and Game, the U.S. Fish and Wildlife Service, NMFS, the National Invasive Species Council, Point Reyes National Seashore, and other agencies and organizations to control and prevent the spread of non-native, invasive animal species.

BIO-2.1. Include Resource Preservation in Environmental Review. Require environmental review pursuant to CEQA of development applications to assess the impact of proposed development on native species and habitat diversity, particularly special-status species, sensitive natural communities, wetlands, and important wildlife nursery areas and movement corridors. Require adequate mitigation measures for ensuring the protection of any sensitive resources and achieving "no net loss" of sensitive habitat acreage, values, and function.

BIO-2.2. Limit Development Impacts. Restrict or modify proposed development in areas that contain essential habitat for special-status species, sensitive natural communities, wetlands, baylands and coastal habitat, and riparian habitats, as necessary, to ensure the continued health and survival of these species and sensitive areas. Development projects should preferably be modified to avoid impacts on sensitive resources or to adequately mitigate impacts by providing onsite or (as a lowest priority) offsite replacement at a higher ratio.

BIO-2.4. Protect Wildlife Nursery Areas and Movement Corridors. Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits, including consideration of cumulative impacts. Features of particular importance to wildlife for movement may include riparian corridors, shorelines of the coast and bay, and ridgelines. Linkages and corridors shall be provided that connect sensitive habitat areas, such as woodlands, forests, wetlands, and essential habitat for special-status species, including an assessment of cumulative impacts

BIO-2.5. Restrict Disturbance in Sensitive Habitat During Nesting Season. Limit construction and other sources of potential disturbance in sensitive riparian corridors, wetlands, and baylands to protect bird nesting activities. Disturbance should generally be set back from sensitive habitat during the nesting season from March 1 through August 1 to protect bird nesting, rearing, and fledging activities. Pre-construction surveys should be conducted by a qualified professional where development is proposed in sensitive habitat areas during the nesting season, and appropriate restrictions should be defined to protect nests in active use and ensure that any young have fledged before construction proceeds.

BIO-2.6. Identify Opportunities for Safe Wildlife Movement. Ensure that existing stream channels and riparian corridors continue to provide for wildlife movement at roadway crossings, preferably through the use of bridges, or through over-sized culverts, while maintaining or restoring a natural channel bottom. Consider the need for wildlife movement in designing and expanding major roadways and other barriers in the county. Of particular concern is the possible widening of United States Highway 101 north of Novato to the county line, where maintenance of movement opportunities for terrestrial wildlife between the undeveloped habitat on Mount Burdell and the marshlands along the Petaluma River is critical.

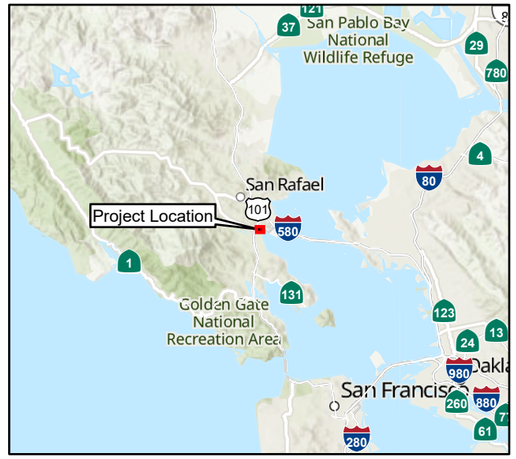
BIO-2.a. Require Site Assessments. Require site assessment by a qualified professional for development applications that may adversely affect sensitive biological or wetland resources, including jurisdictional wetlands, occurrences of special-status species, occurrences of sensitive natural communities, and important wildlife nursery areas and movement corridors. The assessment should determine the presence or absence of any sensitive resources that could be affected by development, evaluate the potential impacts, and identify measures for protecting the resource and surrounding habitat. Require the assessment to be conducted by a qualified professional paid for by the applicant. Unless waived, the qualified professional should be hired directly by Marin County.

3.3.2 Environmental Setting

This section describes the existing biological conditions to be considered in the impact analysis. The following terms are used to describe the Project:

- Project Footprint: The Project footprint consists of the areas of the Project's permanent and temporary direct impacts, including construction access, staging, and laydown areas (Figure 3.3-1).





LEGEND

- Biological Study Area (44.45 acres)
- Project Footprint (13.70 acres)
- Parking Structure
- ADA Parking
- Bike Parking
- Pickup and Drop off Stalls
- Ramp
- Elevator
- Pedestrian Access

Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Google Maps Sat: Google Maps
World Hillshade: Esri, CGIAR, USGS

N

0 200 400
Feet

Figure 3.3-1
Biological Study Area and Project Footprint
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\EIR\LARKSPUR_EIR_2026.APRX Fig3.3.1_BSA_ProjectFootprint

- Biological Study Area (BSA): Encompasses the biological study area within the Project footprint and a 350-foot-wide buffer, as shown on Figure 3.3-1. The BSA consists of a 44.45-acre area that encompasses the proposed parking structure footprints, bike parking, pedestrian improvements, the North Lot, adjacent marshes including Triangle Marsh (a small saltmarsh marsh immediately adjacent to the ferry terminal), landscaped areas, oak woodlands, and portions of Corte Madera Creek and San Francisco Bay.
- Ferry Route: The corridor from the Larkspur to Downtown San Francisco Terminals. The ferry route was considered to address operational impacts of the Project on marine mammals.

3.3.2.1 Desktop Review

A literature review was completed to identify the potential presence of sensitive resources, special-status species, and critical habitats within the BSA and along the ferry route. The desktop review included the following:

- A species list from the USFWS Sacramento Office was generated on March 6, 2026. It approximately covers the Project footprint and BSA (USFWS 2026).
- The California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California database was searched on March 6, 2026, for the U.S. Geological Survey (USGS) 7.5-minute San Rafael map and the surrounding eight quadrangles (CNPS n.d.).
- A CDFW California Natural Diversity Database (CNDDB) was queried for all occurrence records within 2 miles on March 6, 2026 (CDFW 2026).
- An official NMFS List was generated on March 6, 2026, for the USGS 7.5-minute San Rafael map (NMFS 2026).
- The NMFS California Species List Tool was queried for the USGS 7.5-minute San Rafael, San Quentin, and San Francisco North maps (NMFS 2026).
- iNaturalist was reviewed for marine mammal occurrences.
- The National Wetlands Inventory database (USFWS 2026) was reviewed to identify the presence of waters and wetlands and to identify potential habitat for special-status aquatic species.
- The Natural Resources Conservation Service Web Soil Survey (and maps were created [NRCS 2026]) was reviewed for the wetlands analysis and identifying potential habitat for special-status plant species.
- The California State Clearinghouse CEQAnet database was reviewed for projects in the City of Larkspur between March 2026 and March 2027 to guide the cumulative impact analysis.

3.3.2.2 Field Surveys and Technical Studies

The field surveys and technical studies conducted to identify existing conditions include the following:

- **Natural Environmental Study (NES):** Provides technical information to determine the extent to which the Project may impact plants, animals, and natural communities (Appendix C).
- **Aquatic Resource Delineation:** A delineation was conducted for a 43.69-acre study area, which encompasses the Project footprint, including potential work locations, staging areas, and access routes. The Aquatic Resource Delineation Report is presented as Appendix B in the NES.
- **Habitat Assessment and Plant Inventory:** A habitat assessment and plant inventory was conducted on July 2, 2021, and March 18, 2026. All plant species encountered during site visits were identified to the extent necessary to determine whether they met the criteria as a federally or state-listed rare,

threatened, or endangered species under FESA, CESA, CNPS, or CEQA. The observed plant list is presented as Appendix C in the NES.

- **Ferry Wake Wash and Shoreline Erosion Analysis:** The effects of the existing ferry wakes on shoreline erosion were analyzed using numerical simulations validated by field measurements recorded from July 8 to 14, 2021 (Jacobs 2022) and again between March 19 and June 11, 2025 (Jacobs 2026). The area of interest consisted of the Corte Madera Channel, the mudflat and tidal marsh (Corte Madera Ecological Reserve) to the southwest, the shoreline to the northeast of the Corte Madera Channel, docking facilities at the Greenbrae Boardwalk Community, and the Paradise Cay Yacht Harbor. This report is presented as Appendix D in the NES.

3.3.2.3 Existing Conditions and Biological Resources

This section provides an overview of the field surveys, technical studies, and the desktop review.

Environmental Setting

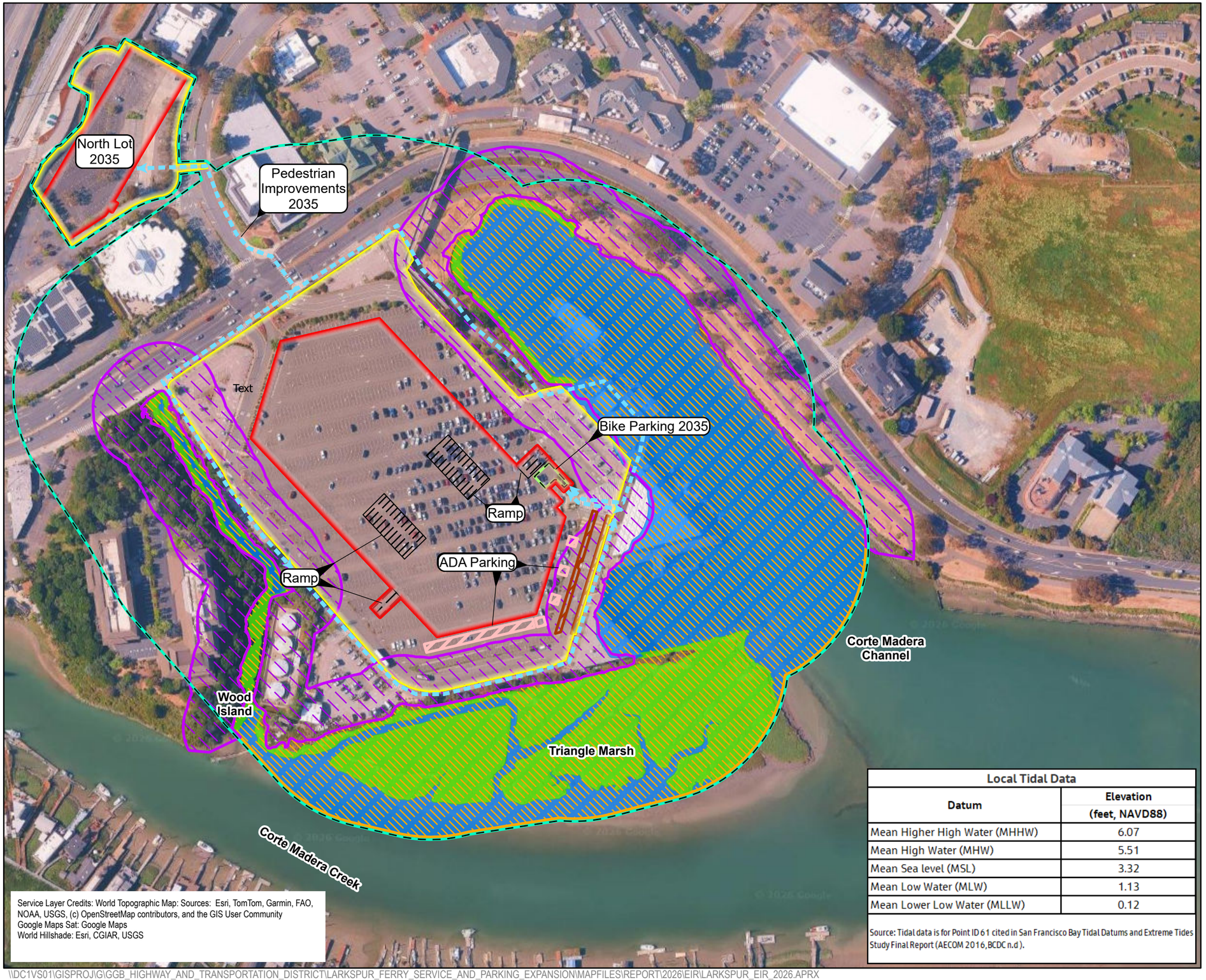
The proposed Project is on the eastern flank of Marin County along the northern San Francisco Bay, bordered by a mix of transportation, commercial, and open-space. The largely urban area has cool, wet winters and warm, dry summers, with oak woodland, mixed evergreen forest, chaparral, and coastal scrub on upland slopes, transitioning to tidal marsh, riparian corridors, and bay shoreline habitats at lower elevations. The elevations in the BSA range from approximately -15 feet in the channel to 45 feet above sea level on Wood Island. The mouth of Corte Madera Creek and the Corte Madera Channel are along the western and southern boundaries.

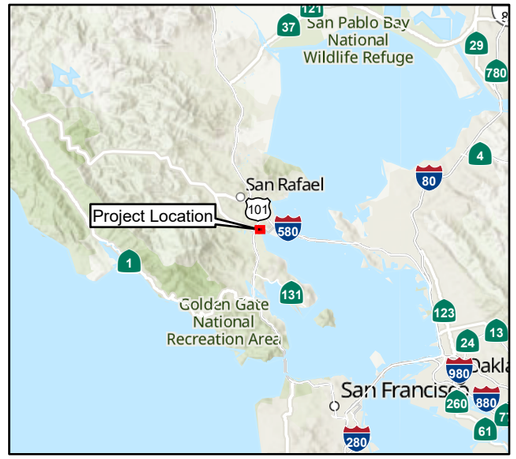
Land Cover and Vegetation Types

Outside of the developed parking lots and roadways with patches of landscaped vegetation, the natural areas of the BSA consist of patches of coast live oak (*Quercus agrifolia*), rock and sparsely vegetated tidal zones, ruderal vegetation, the estuarine waters of the San Francisco Bay, and marshland consisting of *Sarcocornia pacifica* and *Distichlis spicata* (Figure 3.3-2).

Ruderal and developed/landscaped cover types are not considered sensitive natural communities and are not protected by regulatory agencies. The tidal zones, marshland, and estuarine waters of the Bay are waters of the U.S. and State that would be subject to federal and state regulations that protect aquatic resources. There are two marshes near the proposed Project. These include the following:

- Triangle Marsh—A small saltmarsh immediately adjacent to the ferry terminal, located in the southern portion of the BSA
- Corte Madera Marsh—Across from Corte Madera Creek; the mouth of Corte Madera Creek and Corte Madera Channel are along the western and southern boundaries of the BSA





LEGEND

- Biological Study Area
- Project Footprint
- Parking Structure
- BCDC Bay Jurisdiction
- BCDC Shoreline Band

Aquatic Resources

- Waters/Tidelands
- Wetlands/Marshlands

Local Tidal Data

Datum	Elevation (feet, NAVD88)
Mean Higher High Water (MHHW)	6.07
Mean High Water (MHW)	5.51
Mean Sea level (MSL)	3.32
Mean Low Water (MLW)	1.13
Mean Lower Low Water (MLLW)	0.12

Source: Tidal data is for Point ID 61 cited in San Francisco Bay Tidal Datums and Extreme Tides Study Final Report (AECOM 2016, BCDC n.d.).

Notes:

BCDC's Bay Jurisdiction in marshlands (i.e., wetlands) includes the marshlands between Mean High Tide and five feet above Mean Sea Level. Mean Sea Level at the project site is 3.3 feet, NAVD88 (AECOM 2016, BCDC n.d.). The land-side limits of BCDC's Bay Jurisdiction in marshlands are mapped at the 8-foot NAVD88 contour, which is approximately five feet above Mean Sea Level. All areas below Mean Sea Level are also included in BCDC's Bay Jurisdiction.

BCDC's Bay Jurisdiction in tidelands (i.e., areas without marshlands) includes the land lying between Mean High Tide and Mean Low Tide. Mean High Tide is equivalent to the Mean High Water tidal datum. Mean High Water at the project site is 5.51 feet, NAVD88 (AECOM 2016, BCDC n.d.). The land-side limits of BCDC's Bay Jurisdiction in tidelands are mapped at the 6-foot NAVD88 contour, which is an approximation of Mean High Tide. Areas below Mean Low Tide (i.e., submerged lands) are also included in BCDC's Bay Jurisdiction.

BCDC's Shoreline Band is offset 100 feet from the land-side limits of Bay Jurisdiction.

References:

BCDC. no date. SF Bay Tidal Datums Web Application. Accessed on January 12, 2026 at: https://data-bcdc.opendata.arcgis.com/apps/BCDC:sf-bay-tidal-datums-web-application/explore

AECOM. 2016. San Francisco Bay Tidal Datums and Extreme Tides Study. Final Report. February.

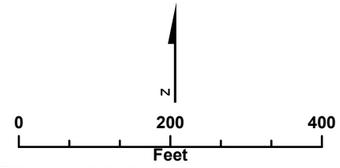


Figure 3.3-2
Aquatic Resoruces
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\EIR\LARKSPUR_EIR_2026.APRX

Sensitive Natural Communities

Natural communities are evaluated by CDFW's Vegetation Classification and Mapping Program using NatureServe's Heritage Methodology of ranking their rarity and threats (VegCAMP 2026).

Within the BSA, the marsh, which is characterized as a *Sarcocornia pacifica - Distichlis spicata* alliance, is a California sensitive natural community. The *Ferry Wake Wash and Shoreline Erosion Analysis* (Jacobs 2022; Jacobs 2025; provided in Appendix D of the NES, which is Appendix C of this DEIR) evaluated baseline (existing) conditions associated with ferry operations. The analysis concluded the existing ferry wakes do not have an impact on marsh habitat, including Corte Madera Marsh, and wind waves reaching the marsh are generally higher, last longer, and would otherwise have a greater impact than the existing ferry wakes or increase background levels of turbidity in mudflat waters. Additionally, based on modeling completed for the future Liwa-class vessels, when compared to the existing fleet, wake height would be smaller and wake energy at both 10 and 30 knots arrival and departure speeds would have up to 18% and 30% less energy, respectively. in addition, as discussed in detail in Section 3.9, Hydrology and Water Quality, the new Liwa-class vessel design has a shallower 20-degree jet angle, and the distance the jets must travel to reach the bottom is increased, thus reducing the disturbance per departure resulting in a decrease in the turbidity compared with the legacy fleet. The impact of ferry departure maneuvering on upstream sedimentation and turbidity in the lower reach of the Corte Madera Creek and in the Corte Madera Bay is negligible, and Liwa-class vessels will disturb the bottom and the water column less, even with incrementally increasing the daily departures from 21 (current) up to 38 in 2050 and beyond.

- The existing wake-generated shear stress is not conducive to bottom sediment erosion and would not increase background levels of turbidity in mudflat waters. Consequently, benthic organisms would not be impacted.

This analysis is available in Appendix D of the NES and Section 3.9, Hydrology and Water Quality.

Special-Status Species

Special-status species are plants and animals that are legally protected under the FESA, CESA, or other regulations and are species that are considered sufficiently rare by the scientific community to qualify for such listing. For the purposes of this DEIR, special-status species fall into the following categories:

- Species listed or proposed for listing as threatened or endangered under the Endangered Species Act (ESA) (50 CFR, Parts 17.11 [listed animals] and 17.12 [listed plants], and various notices in the Federal Register [proposed species])
- Species that are candidates for possible future listing as threatened or endangered under the ESA (84 Federal Register 54732 October 10, 2019)
- Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 California Code of Regulations Section 670.5)
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380)
- Animals listed as California species of special concern on CDFW's *Special Animals List* (CNDDB 2026)
- Animals that are fully protected in California under the California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians])
- Species protected by the MMPA (16 U.S.C. 31 Sections 1361–1362, 1371-1389, 1401-1407, 1411-1418, 1421-1421h, and 1423-1423h)

- Bats identified as medium or high priority on the Western Bat Working Group regional priority species matrix (http://wbwg.org/matrices/)
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.)
- Plants considered by CDFW and the CNPS to be "rare, threatened, or endangered in California" (Rare Plant Ranks 1B and 2) (CNPS 2020)
- Marine mammals covered by the MMPA

Special-Status Plants

A special-status plant species was determined to have potential to occur in the BSA if (1) it historically occurred within or adjacent to the BSA, as documented in the CNDDB (CDFW 2026b) or Biogeographic Information and Observation System (CDFW 2026a); (2) its known or expected geographic range is within the vicinity of the Project location; or (3) its known or expected habitat is present within or near the BSA. As discussed in detail in the NES (Appendix C), the following species were determined to have a moderate or greater potential to occur in the BSA:

- Humboldt Bay owl's clover (*Castilleja ambiguia* var. *humboldtiensis*) – California Rare Plant Rank (CRPR) 1B.2 (rare, threatened, or endangered in California and elsewhere – moderately threatened in California)
- North coast semaphore grass (*Pleuopogon hooverianus*) – CRPR 1B.1 (rare, threatened, or endangered in California and elsewhere – seriously threatened in California)
- Point Reyes salty bird's beak (*Chloropyron maritimum* ssp. *Palustre*) – CRPR 1B.2
- Soft bird's beak (*Cordylanthus mollis* ssp. *mollis*) – CRPR 1B.1

Additional information on these plants is available in Table 3-2 and Section 4.3, Special-Status Plants in the NES, which is Appendix C of this DEIR. A complete list of special-status species for the region is also presented as Appendix A of the NES.

There is no critical habitat for plants in the BSA. During the habitat assessment and plant inventory, one rare (1B.2) plant, Point Reyes bird's beak (*Cordylanthus maritimus ssp. Palustris*) was observed within Triangle Marsh during the 2021 survey. Therefore, the marsh was determined to be occupied habitat for this species. However, no federally or state-listed plant species or any other species of special concern were identified during the 2026 survey.

Special-Status Wildlife

Special-status wildlife species were evaluated for their potential to occur within the BSA (and along the ferry route, for marine reptiles and mammals) based on (1) habitat suitability and (2) the current species' range. As discussed in detail in the NES, the following special-status birds and mammals were determined to have a moderate or greater potential to occur in the BSA:

- California Ridgway's rail (*Rallus longirostris obsoletus*) – Federally and state endangered, fully protected (FP)
- California black rail (*Laterallus jamaicensis coturniculus*) – State threatened, FP
- Salt marsh harvest mouse (*Reithrodontomys raviventris*) – Federally and state endangered, FP

Note, the salt marsh harvest mouse were determined to have a low potential to occur, in part because the habitat quality is low quality. However, given their listing status and that presence in the BSA cannot be ruled out, salt marsh harvest mouse are included in the analysis.

The following special-status marine mammals were determined to have a moderate or greater potential to occur in the BSA or along the ferry route:

- California sea lion (*Zalphus californianus*) – Protected under the MMPA
- Common bottlenose dolphin (*Tursiops truncatus*) – Protected under the MMPA
- Gray whale (*Eschrichtius robustus*) – Federally delisted and protected under the MMPA
- Harbor porpoise (*Phocoena phocoena*) – Protected under the MMPA
- Humpback whale (Central America Distinct Population Segment [DPS]; *Megaptera novaengliae*) – Federally endangered and protected under the MMPA
- Humpback whale (Mexico DPS) – Federally threatened and protected under the MMPA
- Pacific harbor seal (*Phoca vitulina richardii*) – Protected under the MMPA

The following special-status fish were determined to have a moderate or greater potential to occur in the BSA or along the ferry route:

- Steelhead (*Oncorhynchus mykiss*; Central Valley DPS) – Federally threatened; ESA-critical habitat overlaps with the BSA
- Steelhead (Central California Coast DPS) – Federally threatened; ESA-critical habitat overlaps with the BSA
- North American green sturgeon (*Acipenser medirostris*; Southern DPS) – Federally threatened and a California Species of Special Concern; ESA-critical habitat overlaps with the BSA
- White sturgeon (*Acipenser transmontanus*) – State candidate species

Additional information on the species listed above is available in Tables 3-4 and 3-5 and Section 4 of the NES, which is Appendix C of this DEIR.

EFH designated by the Pacific Fishery Management Council is also present within the BSA and ferry route, including habitats supporting groundfish, coastal pelagic species, and finfish.

Migratory Birds

Non-special-status migratory birds could nest in trees, shrubs, and ground vegetation in the BSA. The breeding season for most birds is generally from February 15 to September 15. The occupied nests and eggs of migratory birds are protected by federal and state laws, including the MBTA (50 CFR 10.13) and California Fish and Game Code Sections 3503 and 3503.5. USFWS is responsible for overseeing compliance with the MBTA, and CDFW is responsible for overseeing compliance with the California Fish and Game Code and making recommendations on nesting bird protection. Migratory birds that are likely to nest in the vicinity of the Project are those that are common and highly adapted to human disturbance, such as killdeer (*Charadrius vociferus*).

Invasive Plant Species

Invasive plant species are species designated as federal noxious weeds by the U.S. Department of Agriculture, species listed by the California Department of Food and Agriculture, and invasive plants

identified by the California Invasive Plant Council. Invasive plants displace native species, change ecosystem processes, alter plant community structure, and reduce wildlife habitat quality. Invasive plant species occur in ruderal vegetation and marsh land cover types in the Project's BSA. The infestation of the Project footprint by these species is generally limited because construction activities will occur in developed portions of the BSA.

3.3.3 General Avoidance and Minimization Measures

The following avoidance and minimization measures (AMM) are commonly used at construction sites and will be implemented to reduce impacts on biological resources.

AMM-BIO-1. Pre-Construction Surveys

A qualified biologist will perform clearance surveys before construction.

AMM-BIO-2 Migratory Bird Protection

To protect migratory birds and their nests, the following will be implemented:

- During the February 15 to September 15 nesting season, no more than 3 days before construction or any vegetation clearing, the Project area will be surveyed for migratory birds and their nests. If any active nest is found, appropriate buffers will be applied.
- No work will occur within 50 feet of nesting passerine birds or 300 feet of non-listed nesting raptors.
- Any nesting migratory birds or nongame birds near the Project footprint will be regularly monitored for signs of disturbance; work will be avoided in these areas until all birds have fledged.

AMM-BIO-3: Conduct Environmental Awareness Training for Construction Employees

All construction personnel will attend an environmental education program delivered by an agency-approved biologist before working on the Project site. The program will include an explanation of how to best avoid the incidental take of listed species known from the region with potential to occur in the BSA. This field meeting will include topics on species identification, life history, descriptions, and habitat requirements during various life stages. Emphasis will be placed on the importance of the habitat and life-stage requirements within the context of Project maps that show areas where AMMs will be implemented. The program will include an explanation of applicable federal and state laws protecting listed species, and the importance of compliance with various resource agency conditions.

AMM-BIO-4. Dust Control

Dust control measures will be implemented. These measures will consist of regular truck watering of construction access areas and disturbed soil areas, including using organic soil stabilizers, if required, to minimize airborne dust and soil particles generated from graded areas. Regular truck watering will be a requirement of the construction contract. In addition, for disturbed soil areas, the use of an organic tackifier will be included in the construction contract to control dust emissions blowing off the right- of- way or out of the construction area during construction. Watering guidelines will be established to avoid excessive runoff that may flow into contiguous areas. Material stockpiles will be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion. Dust control will be addressed during the environmental education session as well.

AMM-BIO-5. Trash Removal

All food-related trash items, such as wrappers, cans, bottles, and food scraps, will be disposed of in closed containers and removed at least once daily from the Project footprint.

AMM-BIO-6. Fueling Practices

Dedicated fueling and refueling practices will be designated as part of the approved SWPPP. Dedicated fueling areas will be protected from stormwater run-on and will be located at least 50 feet from downslope drainage facilities and water courses. Fueling must be performed on level-grade areas. Onsite fueling will only be used when and where it is impractical to send vehicles and equipment offsite for fueling. When fueling must occur onsite, the contractor will designate an area to be used, subject to the approval of the resident engineer. Drip pans or absorbent pads will be used during onsite vehicle and equipment fueling.

AMM-BIO-7. Storage of Waste

All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and a minimum of 150 feet from any aquatic habitat, culvert, or drainage feature.

AMM-BIO-8. Disposal of Temporary Construction Materials

All surplus material resulting from construction activities must be properly disposed of offsite. Material will either be reused and fully contained within the Project limits or properly disposed of offsite.

AMM-BIO-9. Noise Abatement

To reduce the potential for noise effects resulting from Project construction activities, the following measures will be implemented during all phases of construction activities:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. All equipment must be equipped with sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.
- Prohibit unnecessary idling (that is, greater than 5 minutes in duration) of internal combustion engines within 50 feet of residences.
- Locate all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems, as far as practical from noise-sensitive receptors.
- Use “quiet” air compressors and other “quiet” equipment where such technology exists.

AMM-BIO-10. Noise Blanket

During construction, the contractor will install a noise blanket or other comparable noise reduction measures along the construction work limits nearest to the marsh area.

AMM-BIO-11. Construction Lighting

Construction lighting will be directed down toward the immediate vicinity of the active work area and will avoid light trespassing into the adjacent natural areas through directional lighting, shielding, or other measures as needed.

3.3.4 Environmental Impacts

3.3.4.1 Methodology

The impact analysis evaluated the potential effects on special-status species and other biological resources that could result from Project implementation (including construction and operations). Potential effects on biological resources at the Project were based on the likelihood that construction or operation of the proposed Project would directly or indirectly affect these resources. The following assumptions were made:

- Potential construction-related effects include noise and ground disturbance caused by grading, pile installation, and other construction activities.
- Other than small areas of landscaping, no vegetation would be removed. The developed nature of the proposed Project surroundings currently limits wildlife habitation and wildlife movement through the project footprint and surrounding areas.

Additional assumptions regarding the wake analysis and ferry operations were also made. As described in Section 3.3.2.3, Existing Conditions and Biological Resources of this DEIR, the existing ferry wakes do not have an impact on marsh habitat, erode mudflats, or increase background levels of turbidity in mudflat waters (Jacobs 2022, 2025). It is anticipated that changes in fleet composition and an increase in trips would not substantially modify these conditions to the extent that significant impacts would occur. In fact, modeling of the Liwa-class fleet demonstrate they generate lower wake energy and wave height than the current fleet because of advanced hull design (Jacobs 2026) and would result in less turbidity even when incrementally increasing the daily departures from 21 (current) up to 38 in 2050 and beyond. It should be noted that future operations would include only Liwa-class vessels, and the following impact analysis assumes the future operations would be an improvement over the existing fleet.

3.3.4.2 Thresholds of Significance

The following CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to biological resources.

Would the proposed Project:

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

- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

3.3.4.3 Impacts

Alternative 1 and Alternative 2 require the same construction activities within the same footprint. Project biological resource impacts are substantively the same for both Alternative 1 and Alternative 2. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

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

Section 3.3.2.3 identifies special-status species with moderate or greater potential to occur in the BSA and where applicable, along the ferry route. The impacts of the proposed Project on these species are evaluated as follows.

Construction

Build Alternatives

Special-Status Plants

No federally or state-listed plant species or any other species of special concern were identified within the BSA during the 2026 habitat assessment and plant inventory. One rare (1B.2) plant, Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *Palustris)*, was observed within Triangle Marsh during the 2021 survey of the BSA. The preferred habitat for Point Reyes bird's beak is coastal salt marshes. Because construction activities would occur on existing hardscape, there will be no habitat modifications to coastal salt marsh (or other vegetative communities). Therefore, there will be ***no impact*** on special-status plant species.

California Ridgway's and Black Rail

The California Ridgway's rail and California black rail are typically found in the intertidal zone and sloughs of brackish marshes dominated by pickleweed, Pacific cordgrass (*Spartina foliosa*), gumplant (*Grindelia* sp.), saltgrass, jaumea (*Jaumea carnosa*), and adjacent upland refugia.

There are known populations and suitable nesting salt marsh habitat in the Corte Madera Marsh approximately 1,000 feet south of the Project across Corte Madera Creek (Corte Madera Marsh lies outside of the BSA, across from Corte Madera Creek, whose mouth and channel are on the west and south borders the BSA, as shown on Figure 3.3-1). Given the lack of suitable dense vegetation, it is unlikely that California Ridgway's rail or California black rail would be nesting within the BSA. There may be individuals foraging within Triangle Marsh, having dispersed from the nearby Corte Madera Marsh across Corte Madera Creek. Additional background information on their habitat associations is described in Section 4.4.1, California Ridgway's Rail and California Black Rail, in the NES, which is Appendix C of this DEIR.

USFWS considers California Ridgway's rail and California black rail to be sensitive to disturbance and seeks to minimize human intrusion into occupied marshes, particularly during the breeding season. There will be no direct impacts on rail habitat; however, their normal behavior may be disrupted if exposed to noise levels that exceed 80 to 85 decibels (dB) (USFWS 2013), and several pieces of construction equipment have a measured maximum noise level greater than 80 dB. Therefore, mitigation measure MM-BIO-1 will

be implemented to avoid disturbing any potential nesting rails. California Ridgway's rail and California black rail nests may not be detected during standard pre-construction bird surveys; therefore, the surveys prescribed by MM-BIO-1 will follow the latest agency-recommended protocols for detecting these specific species, and the biologist will be experienced with surveying for rails. Because of the sensitive nature of these species, which are listed per the ESA, noisy construction within 700 feet of an active nest could result in nest abandonment, or "take" as it is defined by the federal and state ESA. Therefore, although the vegetation in Triangle Marsh is not as high quality for rails as that in Corte Madera Marsh, MM-BIO-CNST-1 is prescribed in an abundance of caution to avoid take of listed species.

- **MM-BIO-CNST-1:** Conduct a California Ridgway's rail and California black rail pre-construction survey within 700 feet of pile installation activities, annually. If either of these species is detected within 700 feet of pile installation activities, the project will coordinate with regulatory agencies.

With the implementation of MM-BIO-CNST-1, impacts on California Ridgway's rail or California black rail would be ***less than significant with mitigation***.

Salt Marsh Harvest Mouse

Detailed information on the salt marsh harvest mouse, including its habitat and records of occurrence, is available in Section 4.4.2, Salt Marsh Harvest Mouse within the NES, which is Appendix C of this DEIR. In summary, the available habitat for the salt marsh harvest mouse in the BSA is low quality, but presence cannot be ruled out.

Their habitat would not be directly impacted by the proposed Project. The potential impacts would be from construction noise producing elevated sound levels in adjacent salt marsh habitat. The hearing range of mice is reported to be between 1,000 to 91,000 hertz at 60 dB (Heffner and Heffner 2007; Rasmussen et al. 2009). The majority of sound energy from impact pile driving is low energy at frequencies below 500 hertz (McKenzie Maxon 2000; DOSITS 2015). Thus, much of the sound generated from pile driving or drilling would likely be inaudible to mice. As a result, noise generated by Project construction, including pile driving, would have ***less than significant impacts*** on the salt marsh harvest mouse. No mitigation required. The noise abatement measures (AMM-BIO-7 and AMM-BIO-8) will further reduce potential effects on the mouse.

Special-Status Marine Mammals

The primary potential impact on marine mammals during construction would be from pile installation; a detailed description on how noise could impact marine mammals is provided in Section 4.5.8, Construction, within the NES provided in Appendix C. However, no meaningful transmission of underwater sound to adjacent waters is expected to occur during construction.

California sea lions and harbor seals were determined to have a high potential to occur along the ferry route (that is, central San Francisco Bay at a distance from the ferry terminals) as foragers and in transit and within the BSA. Because there is no meaningful transmission of underwater sound to adjacent waters and there are no haul-out areas where these species would be exposed to airborne noise, construction for the proposed Project would have ***no impact*** on California sea lions or harbor seals.

Common bottlenose dolphins, gray and humpback whales, and harbor porpoises were determined to have a moderate potential to occur as foragers or in transit in central portions of the ferry route (that is, central San Francisco Bay at a distance from the ferry terminals); however, habitat for these species in the BSA and near the Larkspur and San Francisco Ferry Terminals is marginal or absent, and they are not expected to occur. Therefore, construction for the proposed Project would have ***no impact*** on dolphins, whales, or porpoises.

Special-Status Fish

As described previously, several special-status fishes have moderate or greater potential to occur in the BSA. Fish may be subject to direct and indirect impacts from construction (for example, noise from pile driving can deter them from entering previously occupied habitats). For the proposed Project, H-piles or auger cast piles are expected to be impact-driven or drilled on land within the existing ferry terminal parking area, approximately 100 feet or more from the nearest waters. Based on the pile types and the distance from the Bay, pile driving or drilling associated with this Project is not expected to result in meaningful transmission of underwater sound to adjacent waters. Therefore, there would be ***no impact*** on special-status fish from construction.

Operations

Build Alternatives

Operational impacts from the proposed Project on special-status marine mammals are described herein. Operational impacts on other special-status wildlife are not assessed because they are already accustomed to the existing ferry operations, and in certain cases (depending on ferry arrival/departure speed), the proposed Project would be an improvement over the existing fleet. Operational impacts on special-status plants are also not addressed because no special-status plant habitat overlaps with the ferry route.

Currently, the Larkspur ferry has up to 42 ferry revenue trips per weekday, which aligns with the approved service levels. There are also up to four special event crossings to serve Oracle Park or Chase Center events, and up to six deadhead trips that include runs returning to Larkspur in the morning and heading to San Francisco in the afternoon to support peak revenue services. The operating ferries have drafts of up to 6 feet, 6 inches and transit at a maximum service speed of 36 knots (District 2026a). Ferry service would increase incrementally based on demand from 42 revenue trips up to a maximum of 76 revenue trips per day in 2050 and beyond. The vessels in the replacement fleet (Liwa-class vessels) have a draft of 4 feet 3 inches (District 2024) and transit at the same service speed as the existing ferries.

The incremental increase in ferry operations expected through 2050 could impact marine mammals directly because of increased collision risk (vessel-strike) or indirectly through behavioral disturbance. A detailed description of these impacts and how they compare to existing conditions is available in Section 4.5.9, Operational Impacts within the NES, which is Appendix C of this DEIR. A summary is provided as follows:

Collision Risk: Project impacts from collision exist along the ferry route and depend on multiple factors. Of the species potentially present, harbor porpoises, common bottlenose dolphins, and pinnipeds are generally at lower risk because they are more agile and capable of maneuvering away from the vessel and spend less time at the surface. In contrast, cetaceans (gray and humpback whales) are bigger, slower, and less agile and spend longer periods of time at or near the surface. They are also more likely to be observed foraging in central San Francisco Bay, which makes them less likely to detect and avoid an approaching vessel.

The Larkspur–San Francisco ferry route is a high-use, mixed traffic environment and ferry route goes through one of the most heavily trafficked portions of central San Francisco Bay. Marine mammals are already exposed to continuous vessel traffic, including high-speed ferries. The increase in traffic from the increased ferry service is minimal compared to existing conditions, and the operations would not substantially increase collision risk to a level that threatens population statuses. Additionally, the protocols the ferries follow to avoid and minimize impacts on marine mammals, detailed in the *Golden*

Gate Ferry's Whale Aware Procedures subsection under Section 3.3.1.3, would continue to be followed. These procedures sufficiently reduce collision risk such that the resulting collision-risk impacts on marine mammals would be ***less than significant***. No mitigation required.

Behavioral Impacts: Increased ferry operations also lead to indirect, behavioral disturbances associated with increased wake activity: Ferry wakes may resuspend sediment in shallow areas and impact species ability to locate prey. Because Liwa-class vessels would generate wake energy and wave heights less than those in the existing fleet because of advanced hull design and ferry operators would continue to follow established marine mammal-related protocols, potential behavioral impacts on foraging marine mammals would be ***less than significant.*** No mitigation required.

Additionally, vessel noise can lead to temporary, near-immediate avoidance of an area. Given the baseline soundscape in San Francisco Bay and *Golden Gate Ferry's Whale Aware Procedures* under Section 3.3.1.3 that would be followed, behavioral impacts from vessel noise on marine mammals would be ***less than significant***. No mitigation required.

Mitigation Measures

MM-BIO-CNST-1: Conduct a California Ridgway's rail and California black rail pre-construction survey within 700 feet of pile installation activities, annually.

If either of these species is detected within 700 feet of pile installation activities, the Project will coordinate with regulatory agencies.

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

Construction and Operation

Build Alternatives

Designated critical habitat for a selection of federally listed fish species overlaps with the BSA and along the ferry route. There is also EFH and estuaries, habitat areas of particular concern under the Magnuson-Stevens Fishery Conservation and Management Act, that overlap with the BSA and the ferry route. These habitats support important life history functions, such as migration, foraging, rearing, and breeding. The proposed Project does not include in-water construction or activities that would alter aquatic habitat; there is ***no impact*** on critical habitat, EFH, and estuarine habitats. Additionally, proposed Project operations are not expected to impact marsh habitat, erode mudflats, or increase background levels of turbidity in mudflat waters; proposed Project operations would be an improvement over existing conditions (based off preliminary models for the Liwa-class fleet). Therefore, indirect operational impacts on critical habitat, EFH, and estuarine habitats are ***less than significant.*** No mitigation required.

Marshes are also sensitive natural community, and Triangle Marsh is immediately adjacent to the ferry terminal in the southern portion of the BSA. Given that ferry operations for the proposed Project are expected to be an improvement over existing operations, the impacts on marshes would be ***less than significant.*** No mitigation required.

Mitigation Measures

No mitigation required.

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

Construction

Build Alternatives

The proposed Project would not directly remove or fill any state or federally protected wetland, including the estuarine waters and marsh habitat identified during the desktop study, or other water. Anticipated work within the BCDC's shoreline band would be limited primarily to restriping the remaining surface lot to accommodate the new circulation and remaining surface parking within the lot, landscape improvements and drainage tie-ins, as applicable. Therefore, the Build Alternatives will have ***no impact*** on state or federally protected wetlands.

Mitigation Measures

No mitigation required.

Operation

Build Alternatives

As previously described, existing ferry wakes do not have an impact on marsh habitat (including Corte Madera Marsh), erode mudflats, or increase background levels of turbidity in mudflat waters (Appendix D within the NES and Section 3.9, Hydrology and Water Quality). Future operational conditions would not substantially modify these conditions. The Build Alternatives will have ***no impact*** on state or federally protected wetlands.

Mitigation Measures

No mitigation required.

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

Construction and Operations

Build Alternatives

The proposed Project would have no impact on the movement of migratory fish within the BSA or along the ferry route for reasons described previously in the analysis for the first significance threshold within this section.

Native wildlife nursery sites in the BSA consist of landscape trees, shrubs, and ground vegetation that may provide nesting habitat for migratory birds. Construction would result in the removal or trimming of landscape trees. Pre-construction surveys during the nesting season of migratory birds would avoid the injury or mortality of nesting birds during vegetation removal. Because the proposed Project is in an area with high human disturbance, construction noise and visual disturbance during the nesting season are not anticipated to affect birds nesting in vegetation near the Project. However, protective buffers would be implemented around active bird nests if the biologist determines it is needed to avoid disturbance.

Removal or destruction of nests would not occur, and construction disturbance during the breeding season that could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment would also be avoided and impacts would be less than significant. No mitigation required. Implementation of AMM-BIO-1 and AMM-BIO-2 will avoid impacts on nesting migratory birds, and impacts would be ***less than significant.*** No mitigation required.

Gray and humpback whales were determined to have moderate potential to occur along the ferry route in transit as they migrate from their breeding to wintering grounds. Additional information related to these species migratory patterns are available in Section 4.5.3, Gray Whale, and Section 4.5.6, Humpback Whale, within the NES, which is Appendix C of this DEIR. For reasons described in question under the first threshold of significance, the proposed Project would have ***less than significant*** impacts on the movement of gray and humpback whales. No mitigation required.

Mitigation Measures

No mitigation required.

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

Construction and Operation

Build Alternatives

Construction and operation of the proposed Project would not conflict with any local policies or ordinances protecting biological resources, and there would be ***no impact***.

Mitigation Measures

No mitigation required.

Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan

Construction and Operation

Build Alternatives

Marin County does not have a habitat conservation plan or natural community conservation plan, and there are no regionwide habitat conservation plans or natural community conservation plans that encompass the Project footprint. Therefore, there would be ***no impact*** from the construction or operation of the proposed Project.

Mitigation Measures

No mitigation required.

3.4 Cultural Resources

The term *cultural resources* refers to sites, objects, buildings, structures, burials, districts, and landscapes. In this section, buildings, structures, districts, and landscapes will be referred to as *built-environment resources* and sites, objects, and burials as *archaeological resources*. Some archaeological sites may also be considered tribal cultural resources. Tribal cultural resources are discussed in Section 3.15. A *historical resource* is defined in California Environmental Quality Act (CEQA) Section 21084.1 and State CEQA Guidelines Section 15064.5 as one that meets at least one of the following criteria:

- A resource listed in or determined by the State Historical Resources Commission to be eligible for listing in the California Register of Historical Resources (CRHR) shall be considered to be historically significant (California Public Resources Code [PRC] Section 5024.1, Title 14 California Code of Regulations [CCR], Section 4850 et seq.).
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g) shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852).

A lead agency is allowed to determine that a resource may be a historical resource, as defined in PRC Sections 5020.1(j) or 5024.1, even if it is not listed in, or determined to be eligible for listing in, the CRHR; not included in a local register of historical resources, pursuant to PRC Section 5020.1(k); or identified in a historical resources survey meeting the criteria of PRC Section 5024.1(g).

3.4.1 Existing Conditions

3.4.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal (LFT), is the CEQA Lead Agency for the Larkspur Ferry Service Expansion and Parking Project (Project) and has prepared this Draft Environmental Impact Report (DEIR) to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

Although the proposed Project is not anticipated to require compliance with Section 106 of the National Historic Preservation Act at this time, the National Register of Historic Places (NRHP) and federal guidelines related to the treatment of cultural resources are relevant for the purposes of determining whether cultural resources, as defined under CEQA, are present and guiding the treatment of such resources. The following sections summarize the relevant federal regulations and guidelines.

National Historic Preservation Act and National Register of Historic Places

Built-environment and archaeological resources are protected through the National Historic Preservation Act (16 United States Code [U.S.C.] 470f). The National Historic Preservation Act requires project review for effects on historic properties only when projects involve federal funding or permitting or occur on federal land; therefore, it is not applicable to discretionary actions at the municipal level. However, the National Historic Preservation Act establishes the NRHP, which provides a framework for resource evaluation and informs the process of determining impacts on historical resources under CEQA.

The NRHP is the nation's official comprehensive inventory of historic resources. Administered by the National Park Service, the NRHP includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. Typically, a resource that is more than 50 years of age is eligible for listing in the NRHP if it meets any one of the four eligibility criteria and retains sufficient historical integrity. A resource less than 50 years old may be eligible if it can be demonstrated that it is of "exceptional importance" or a contributor to a historic district. NRHP criteria are defined in *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (NPS 1997).

Properties that are listed in the NRHP, as well as properties that are formally determined to be eligible for listing in the NRHP, are automatically listed in the CRHR and therefore considered historical resources under CEQA.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (16 U.S.C. 470aa et seq.) was enacted in 1979 to provide more effective law enforcement to protect public archaeological sites. The Archaeological Resources Protection Act provides detailed descriptions of the prohibited activities and larger financial and incarceration penalties for convicted violators.

Archaeological and Historic Preservation Act

The Archaeological and Historic Preservation Act (16 U.S.C. Sections 469–469[c]-2) provides for preserving significant historic or archaeological data that may otherwise be irreparably lost or destroyed by construction of a project by a federal agency or under a federally licensed activity or program. This includes relics and specimens.

State

California Environmental Quality Act

CEQA, as codified in PRC Section 21000 et seq. and implemented by the State CEQA Guidelines (14 CCR Section 15000 et seq.), is the principal statute governing environmental review of projects in California. CEQA defines a historical resource as a property listed in, or eligible for listing in, the CRHR; included in a qualifying local register; or determined by a lead agency to be historically significant. To be considered a historical resource, a property must generally be at least 50 years old. Section 21084.1 of the PRC and Section 15064.5 of the State CEQA Guidelines define a historical resource for purposes of CEQA.

CEQA requires lead agencies to determine whether a proposed project would have a significant effect on important historical resources or unique archaeological resources. If a resource is neither a unique archaeological resource nor a historical resource, the State CEQA Guidelines note that the effects of the project on that resource shall not be considered a significant effect on the environment (State CEQA

Guidelines Section 15064.5[c][4]). In addition, projects that comply with the secretary's standards benefit from a regulatory presumption under CEQA that they would have a less-than-significant impact on a historical resource (14 CCR 15126.4[b][1]). Projects that do not comply with the secretary's standards may or may not cause a substantial adverse change in the significance of a historical resource and must be subject to further analysis to assess whether they would result in material impairment of a historical resource's significance.

Under CEQA, a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter the physical characteristics that convey the property's historical significance and qualify it for inclusion in the CRHR, the NRHP, or in a local register or survey that meets the requirements of PRC Sections 5020.1(k) and 5024.1(g).

California Register of Historical Resources

The CRHR is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and indicating which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The CRHR criteria are based on the NRHP criteria (PRC Section 5024.1[b]). Certain resources are determined by CEQA to be automatically included in the CRHR, including California properties formally eligible for or listed in the NRHP. To be eligible for the CRHR as a historical resource, a resource must be significant at the local, state, or federal level under one or more of the following evaluative criteria, as defined in PRC Section 5024.1(c):

1. The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. The resource is associated with the lives of persons important in our past.
3. The resource embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. The resource has yielded, or may be likely to yield, information important in prehistory or history.

As with the NRHP, a significant historical resource must possess integrity in addition to meeting the significance criteria to be considered eligible for listing in the CRHR. Consideration of integrity for evaluation of CRHR eligibility follows the definitions and criteria from the National Park Service's *National Register Bulletin Number 15* (NPS 1997).

Assembly Bill 52

Tribal cultural resources were identified as a distinct CEQA environmental category with the adoption of Assembly Bill (AB) 52 in September 2014. Tribal cultural resources impacts and mitigation measures are discussed in Section 3.15. Cultural resources, in particular precontact Native American archaeological sites such as shellmounds commonly found in the San Francisco Bay Area, may also be considered tribal cultural resources by California Native American tribes. For all projects subject to CEQA that received a notice of preparation, notice of negative declaration, or mitigated negative declaration on or after July 1, 2015, AB 52 requires the lead agency on a proposed project to consult with the geographically affiliated California Native American tribes. The legislation creates a broad new category of environmental resources, tribal cultural resources, which must be considered under CEQA. AB 52 requires a lead agency

to not only consider the resource's scientific and historical value but also whether it is culturally important to a California Native American tribe.

AB 52 defines tribal cultural resources as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are included or determined to be eligible for inclusion in the CRHR; included in a local register of historical resources, as defined in PRC Section 5020.1(k); or determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria of PRC Section 5024.1(c) (CEQA Section 21074).

AB 52 also sets up an expanded consultation process. For projects initiated after July 1, 2015, lead agencies are required to provide notice of the proposed projects to any tribe that is traditionally and culturally affiliated with the geographic area that requested to be informed by the lead agency, following PRC Section 21018.3.1(b). If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include discussion of the type of review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (1) the parties agree to mitigation measures or (2) any party concludes, after a good-faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation or to otherwise assist in identifying mitigation measures during the consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change to a tribal cultural resource.

Assembly Bill 168

AB 168, adopted in September 2020, provides additional protection for tribal cultural resources as defined in AB 52. This bill applies in situations where a developer seeks to streamline approval under Senate Bill (SB) 35 and, in doing so, bypasses CEQA requirements. AB 168 rectifies a loophole in SB 35 that allowed developers to apply for fast-tracked approval without notifying Native American tribes affiliated with the project area. Instead, under AB 168 projects would be ineligible for SB 35 and subject to CEQA if (1) the site of the proposed development is a tribal cultural resource that is on a national, state, tribal, or local historic register list, (2) the local government and the California Native American tribe do not agree that no potential tribal cultural resource would be affected by the proposed development, or (3) the local government and California Native American tribe find that a potential tribal cultural resource could be affected by the proposed development and the parties do not document an enforceable agreement regarding the methods, measures, and conditions for treatment of those tribal cultural resources, as provided.

Local

Marin County Ordinance 1589

The Marin County Code of Ordinances includes Ordinance 1589, which outlines procedures related to protecting archaeological resources in the county. Such protection procedures include the following:

- Requirement of a permit to excavate an Indian midden (Section 5.32.020)
- Designation of a liaison agency between institutions of higher learning or an association and the department of public works for the purpose of the study of Indian relics of archaeological significance (Section 5.32.030)

- Requirement of permits to excavate Indian middens to follow formats approved by the director of public works and to note that the excavation is for either archaeological or nonarchaeological purposes (Section 5.32.040)
- Requirement for the director of public works or designee to send the application for excavation to the liaison agency and, within 5 days of receipt, for the liaison agency to inform the director of public works if the midden is of archaeological significance; only nonarchaeological midden sites will be issued a permit (Section 5.32.050)
- If the midden requesting permit for excavation is certified to have archaeological significance, allowance for the director of public works to issue a permit with certain conditions (Section 5.32.060)
- Requirement for actions done under an issued permit to follow the permit's terms and conditions (Section 5.32.070)
- Requirement that persons in violation of the chapter's provisions are guilty of a misdemeanor and shall incur punishments as listed under Section 1.04.270; violations that occur on multiple days will each be considered as separate violations per day (Section 5.32.090)

The conditions of Section 5.32.050 are as follows:

A. Prior to nonarchaeological excavation or removal of materials from the middens, the permittee shall not excavate for a period of sixty days to allow archaeological excavation of the site.

B. The permittee or owner of the property shall be required to grant a license for the excavation, identification, and classification of artifacts and proper scientific analysis of materials having historical or archaeological significance to recognized institutions of higher learning or associations having as their major purpose the study of Indian relics and other sites having archaeological value. The terms of the license shall be such as are agreed to by the prospective licensee and property owner (Ord. 1825 § 2, 1971: Ord. 1589 § 6, 1967).

Larkspur Municipal Code

The City of Larkspur's Municipal Code outlines the duties of the Planning Commission, which oversees the implementation of two ordinances regarding cultural resources.

Chapter 18.19 of the Municipal Code, Heritage Preservation

The Larkspur Municipal Code includes Chapter 18.19, which states the purpose of the City of Larkspur's historic preservation Municipal Code and reasons for the protection of historic resources. The purpose of the chapter is to provide for the health, safety, and general welfare through preservation of historic resources. The intent is to provide for the review, evaluation, enhancement, protection, and preservation of natural phenomena, structures, sites, and areas that possess unique character, special architectural appearance, or historical value or which generate special aesthetic or cultural interest. The quality of life within the community will be enhanced through the development and maintenance of appropriate settings and environments for historic resources. (Ord. 1030 § 2[12], 2018; Ord. 975 § 3, 2011; Ord. 592 § 5 [part], 1978).

The Municipal Code defines a historic resource as a structure, site, area, or natural feature that has significance because of its association with important historical events or persons, distinctive architectural characteristics, or its contribution to the overall historic character of an area. Examples include properties representing a particular architectural style, period, or method of construction or those possessing unique aesthetic or cultural qualities. These locally defined historic resources are generally consistent with the

concept of historical resources under CEQA. (Ord. 1030 § 2[12], 2018; Ord. 975 § 3, 2011; Ord. 592 § 5 [part], 1978)

The City of Larkspur maintains an official Historic Resources Inventory adopted by City Council resolution. Properties listed on the inventory are recognized as historically significant and are subject to the requirements of the Heritage Preservation Ordinance. Projects affecting listed properties typically require discretionary review, including building, grading, or demolition permits. For purposes of CEQA, the inventory functions as a local register of historical resources.

The Municipal Code establishes a combining Heritage Preservation zoning district that may be applied to properties or areas determined to have historic value. The Heritage Preservation overlay provides additional regulatory controls to ensure that development and alterations are compatible with historic character and do not adversely affect designated resources or districts. (Ord. 1030 § 2[12], 2018; Ord. 975 § 3, 2011; Ord. 592 § 5 [part], 1978).

Projects involving the alteration, relocation, or demolition of historic resources or properties within designated districts are subject to review under Chapter 18.19. The ordinance requires discretionary review of such projects to ensure consistency with preservation standards and policies.

Chapter 18.19.035 also specifies projects subject to Historic Preservation Review. Except for work that meets the provisions of Larkspur Municipal Code Sections 18.19.025 and 18.19.060, a discretionary land use permit, building permit, grading or demolition permit for properties listed on the official Historic Resources Inventory, determined to be eligible for inclusion on the Historic Resources Inventory, or located within the Heritage Preservation zoning district shall be subject to the requirements of this chapter (Ord. 1030 § 2[12], 2018; Ord. 975 § 3, 2011).

Chapter 18.19.040 requires the Heritage Preservation Board to review the exterior modifications or demolition of all projects subject to Chapter 18.19.035.

In reviewing proposals, the Heritage Preservation Board evaluates whether the project would do the following:

- Be compatible with the architectural character of the historic resource and surrounding context.
- Maintain the integrity of the resource.
- Avoid adverse effects on the historic, architectural, or aesthetic character of the resource or neighborhood.
- Comply with applicable federal, state, and local preservation standards.

For demolition requests involving historic resources, the Heritage Preservation Board may delay approval to allow for completion of environmental review under CEQA and to evaluate alternatives to demolition, such as relocation, adaptive reuse, or identification of a preservation-minded purchaser (Ord. 1030 § 2[12], 2018; Ord. 975 § 3, 2011; Ord. 953 § 1[22], 2007; Ord. 857 § 5 [part], 1993; Ord. 782 § 1, 1989; Ord. 592 § 5 [part], 1978).

Following review by the Heritage Preservation Board, the Planning Commission or Zoning Administrator acts on project applications, considering the Heritage Preservation Board's recommendations. This discretionary review process provides a mechanism to avoid or minimize impacts to historic resources through project modifications or conditions of approval.

Chapter 15.42 of the Municipal Code, Archaeological Resources

Chapter 15.42 (Archaeological Resources) establishes procedures to study, preserve, and protect archaeological resources within the City of Larkspur. The ordinance recognizes that subsurface materials, such as shell deposits, bone, and artifacts associated with early inhabitants, may provide critical information about the area's history and that uncontrolled disturbance could result in irreversible loss of scientific and cultural data. Protection of archaeological integrity is therefore considered to be in the public interest.

The Municipal Code defines an "archaeological resource" as any evidence of human occupation or activity, including sites, features, artifacts, environmental data, and physical remains predating approximately 1860. The ordinance distinguishes between recorded resources identified in state or federal inventories and unrecorded resources that may be encountered during ground-disturbing activities. This definition is consistent with CEQA's treatment of archaeological resources as a category of historical resources under CEQA Guidelines Section 15064.5. (Ord. 1094 § 15, 2026; Ord. 571 § 1 [part], 1977).

Chapter 15.42 requires an archaeological investigation permit before excavation or disturbance of any archaeological resource. The ordinance provides the following:

- Disturbance of archaeological resources without a permit is prohibited.
- Projects affecting recorded archaeological resources must obtain a permit prior to issuance of building or grading permits.
- If a resource is encountered during construction, all work in the vicinity must cease and applicable permits or approvals may be suspended until appropriate evaluation is completed. (Ord. 1094 § 16, 2026; Ord. 1077 § 2, 2024; Ord. 1062 § 14, 2022; Ord. 571 § 1 [part], 1977).

These provisions ensure that archaeological resources are properly identified and evaluated before or during project implementation.

The permit review process and CEQA integration require preparation of an archaeological report by a qualified archaeological advisory agency to describe the resource, evaluate its significance, and recommend appropriate protection or data recovery measures. The Planning Commission evaluates the findings and may approve the permit only after determining that appropriate mitigation measures will be implemented to ensure maximum protection or preservation of knowledge.

The ordinance explicitly allows findings from an Environmental Impact Report to be used in lieu of a separate archaeological report, thereby integrating local regulatory requirements with CEQA environmental review.

Where archaeological resources are determined to be significant, the City of Larkspur may require mitigation measures as conditions of approval. Such measures may include the following:

- Avoidance through project redesign
- Controlled excavation and scientific data recovery
- Onsite monitoring by a qualified archaeologist during construction
- Preparation of technical reports and curation of recovered materials

The ordinance requires that discovered resources be evaluated under CEQA significance criteria and that appropriate documentation and reporting be completed.

Chapter 15.42 establishes procedures for inadvertent discovery of archaeological resources during construction. These include the following:

- Immediate cessation of work within a defined radius
- Evaluation by a qualified archaeologist
- Documentation of the resource using standard forms
- Consultation with Native American tribes if a tribal cultural resource is identified

If a resource is determined to be significant under CEQA, feasible avoidance, preservation, or data recovery measures must be implemented.

The Municipal Code requires that records of archaeological investigations be maintained and filed with appropriate state and federal agencies, with copies curated at recognized academic or research institutions to ensure long-term preservation of data.

The City of Larkspur 2040 General Plan

In 2024, the City of Larkspur adopted *The City of Larkspur 2040 General Plan* to guide future planning efforts and development in the city. *The City of Larkspur 2040 General Plan* includes the following goal and policies related to the protection of built environment and archaeological resources (City of Larkspur 2024).

Goal LU-4.6, Downtown Policies: Maintain the architectural and historic character of Downtown and the surrounding neighborhoods.

Chapter 4: Community Character (Background):

Larkspur's historic resources. Historic resources, as discussed in this General Plan, generally include features of the built environment, artifacts, and documents from the City of Larkspur's past that have been preserved or otherwise exist in approximation to their original state. Notable historic features of the built environment include the Historic Downtown District, the Alexander Avenue bridge, the Dolliver House, and the Remillard Brick Kiln. These reminders of the City of Larkspur's past are highly valued by City residents, business owners, and visitors alike, and their continued preservation is integral to the community's character (City of Larkspur 2024).

Larkspur's archaeological and tribal cultural resources. Archaeological resources are the material remains of past human life, culture, or activities. Historic archaeological resources may include buried remains of built structures or artifacts dating from the City of Larkspur's settlement by Europeans. Precontact archaeological resources in the City of Larkspur include several known Native American sacred sites, which are protected under state and federal law. Tribal cultural resources may include a site, feature, place, habitat, landscape, sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register or included in a local register of historical resources. The Federated Indians of Graton Rancheria (FIGR), a federally recognized tribe and sovereign government, remains responsible for preserving the culture of the Coast Miwok people throughout its tribal territory, including the City of Larkspur. FIGR may at its discretion choose to treat a resource as a tribal cultural resource. The City has and will continue to ensure the continued protection of all archaeological and tribal cultural resources existing within its Planning Area (City of Larkspur 2024).

Heritage Preservation

Goal CHAR-3: Maintenance of Larkspur's special "sense of place"

Policy CHAR-3.3: Safeguard and maintain significant historic and natural resources, as defined and listed in the Historic Resources Inventory, the California Historic Resource Information System, and in conservation land use categories on the Land Use Map, while allowing new housing consistent with state law and the Housing Chapter. Applicable Action Programs are listed as follows:

Action Program CHAR-3.3.a: Apply the City's Heritage Preservation development standards and design review findings, when appropriate, and ensure compliance with applicable State laws during project review and construction.

Action Program CHAR-3.3.b: Apply the "H" Combining Heritage Preservation Zoning District to significant historic building sites or places identified on the Historic Resources Inventory. Insofar as possible, seek the cooperation of property owners for historic designation and zoning.

Action Program CHAR-3.3.e: As appropriate, apply California Historical Building Code standards and any successive standards that are adopted to the rehabilitation, renovation, and repair of historic structures in Larkspur (City of Larkspur 2024).

Archaeological and Tribal Cultural Resources

Goal CHAR-4: Awareness of and sensitivity toward Larkspur's archaeological and tribal cultural resources

Policy CHAR-4.1: Consult and cooperate with the California Native American Heritage Commission, the FIGR, and the Northwest Information Center to identify, protect, and preserve Native American archaeological sites and tribal cultural resources. Action Programs applicable to the proposed project are listed as follows:

Action Program CHAR-4.1.a: As required by the State Public Resources Code, notify FIGR (or other appropriate Tribe(s)), if recommended by the NAHC [Native American Heritage Commission], when a project application is complete, or when a draft General Plan update or amendment is proposed, or designated open space is proposed to determine whether the Tribe(s) chooses to engage in the formal consultation process defined by State law. If consultation is requested, complete the consultation process as defined by State law.

Action Program CHAR-4.1.b: Comply with the State Public Resources Code requirements regarding notifications, assessments and disposition of resources, mitigation (including permanent conservation easements), confidentiality requirements, and other requirements enacted for review and protection of cultural and tribal cultural resources.

Action Program CHAR-4.1.d: Treat with respect and dignity any human remains discovered at a project site and ensure full compliance with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

Action Program CHAR-4.1.e: At the initial application stage for new projects that would involve disturbance of soils, inform project applicants of the legal mandates incumbent on the applicant and his/her contractors not to damage or remove archaeological resources and tribal cultural resources. Explain the City's duty and intent to notify FIGR

about the project once the City deems the application complete. Encourage applicants to contact FIGR prior to completing the application to avoid the need to subsequently revise the project design if the Tribe requests, and the City concurs, that such changes are needed to avoid damage or disturbance of tribal cultural resources. Alternatively, the project applicant can request that the City initiate this early consultation with FIGR.

Policy CHAR-4.2: Ensure that the loss of archaeological and tribal cultural resources is avoided, when feasible, or mitigated appropriately. Action Programs applicable to proposed project are listed as follows:

Action Program CHAR-4.2.b: When a project is found to be in proximity to a known Native American or historic archaeological site, City staff will work in conjunction with a professional archaeologist, or FIGR (or other appropriate Tribe[s]), and the Northwest Information Center to determine the particular qualities to be preserved and the methods of preservation.

Action Program CHAR-4.2.c: Comply with the requirements of the California Environmental Quality Act to ensure a complete analysis of potential impacts to Native American and historic archaeological sites and that feasible mitigation options are identified.

Action Program CHAR-4.2.d: Develop guidelines and standards to address situations where a historic or archaeological resource is discovered during any phase of construction and grading activities of ongoing maintenance or ministerial projects that may not be subject to CEQA. Provide a "quick-response" assessment of the site's significance by the City's historic or archaeological consultant and identify appropriate preservation strategies, or tribal consultation if appropriate, before allowing project construction to re-commence.

Action Program CHAR-4.2.e: Add the following construction best management practices to the Larkspur Municipal Code Chapter 14.42.040 (C) to follow if a potentially significant archaeological resource or tribal cultural resource is encountered during ground-disturbing activities. Best management practices could include the following:

- All construction activities within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource requires further study.
- All developers, contractors, and subcontractors in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement.
- Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of the CEQA criteria by a qualified archaeologist.
- If the resource is a tribal resource, the consulting archaeologist shall consult with the appropriate tribe to evaluate the significance of the resource and to recommend appropriate and feasible avoidance, testing, preservation or mitigation measures, in light of factors such as the significance of the find, proposed project design, costs, and other considerations.
- If avoidance is infeasible, other appropriate measures (e.g., data recovery) may be implemented.

- If the resource is a nontribal resource determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant.
- The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources.
- The report shall be submitted to the City of Larkspur, Northwest Information Center, and State Historic Preservation Office, if required (City of Larkspur 2024).

3.4.1.2 Environmental Setting

The environmental setting of the Project area consists of the existing conditions and relevant historical conditions of the CEQA study area, which is limited to the footprints of the Build Alternatives being considered. The CEQA study area is delineated to consider potential impacts on built environment and archaeological resources because of Project activities, including ground disturbance and alteration, relocation, or demolition of buildings in the Project area. The proposed Project could also result in changes to the setting of built-environment resources adjacent to the Project area. There appears to be a very low likelihood that any Project activities would change significant characteristics in the setting of any built-environment historical resource adjacent to the Project area. As such, adjacent built-environment resources that the proposed Project would not physically change are not included in the CEQA study area.

This section describes the environmental and cultural setting of the Project area and surrounding vicinity and provides the context for evaluating the potential presence of historical resources, archaeological resources, human remains, and tribal cultural resources. The discussion relies on previously completed cultural resources investigations, including the *Cultural Resources Report for The Larkspur Ferry Service and Parking Expansion Project: Golden Gate Bridge, Highway and Transportation District* (Appendix D), which provides a comprehensive overview of the natural and cultural history of the Project area.

Paleoenvironmental Setting

The Project area is along the margin of San Francisco Bay, a landscape that has undergone substantial environmental change since the late Pleistocene. During the Last Glacial Maximum, approximately 22,000 years ago, sea levels were more than 100 meters lower than present levels, and the present-day San Francisco Bay was a broad inland valley traversed by the ancestral Sacramento–San Joaquin River system. As global temperatures increased and continental ice sheets melted, sea levels rose rapidly, inundating the valley and gradually forming the modern estuary.

Between approximately 16,000 and 6,000 years before present, rising sea levels transformed the region through shoreline migration, marsh formation, and sediment deposition. These processes buried former land surfaces beneath younger alluvial, marsh, and bay deposits. Numerous geoarchaeological studies conducted throughout the San Francisco Bay region indicate that early Holocene and late Pleistocene landforms are commonly buried beneath several meters of younger sediment. Archaeological deposits associated with early Native American occupation may therefore occur deeply buried beneath later alluvial and estuarine sediments.

The gradual development of tidal marshes and floodplains during the mid- and late Holocene created productive ecological environments that supported prehistoric settlement and resource procurement. Continued sediment accumulation, subsidence, and marsh expansion altered the distribution of natural resources and likely influenced patterns of human occupation over time.

Historic-period modifications have further transformed the landscape through dredging, wetland reclamation, hydraulic mining sedimentation, urban development, and placement of artificial fill. While some archaeological resources may have been disturbed or destroyed by these activities, deeply buried archaeological deposits may remain preserved beneath fill and younger sedimentary deposits.

The long history of landscape evolution in the Bay Area suggests that archaeological resources dating from the earliest periods of human occupation may be buried beneath younger deposits and may not be visible at the ground surface.

Natural Setting

The Project area is on the Marin Peninsula in southern Marin County adjacent to the mouth of Corte Madera Creek and San Francisco Bay. The area occupies land that historically consisted primarily of tidal marsh and mudflat environments that have been substantially modified through filling and development associated with transportation infrastructure, such as the LFT.

The region experiences a Mediterranean climate characterized by cool, wet winters and warm, dry summers. San Francisco Bay and its associated estuarine environments historically supported extensive tidal marshes, riparian corridors, and coastal prairie habitats. These environments provided abundant plant and animal resources, including fish, shellfish, waterfowl, marine mammals, terrestrial mammals, and wetland plants used by Native American populations.

The Project area is within the California Coast Ranges geomorphic province and is underlain by artificial fill, Holocene Bay Mud, older alluvial deposits, and Franciscan Complex bedrock. Throughout the Bay Area, Holocene and Pleistocene deposits have yielded evidence of Native American occupation, including habitation sites, shell middens, and associated cultural deposits. As a result, buried archaeological resources have the potential to occur within native sediments underlying the developed portions of the Project area.

Precontact Cultural Setting

Precontact refers to the period of occupation by Indigenous peoples before arrival of non-Indigenous peoples, which occurred as early as the 1700s in the San Francisco Bay region. Archaeological research indicates that Native American occupation of the San Francisco Bay region may extend back at least 12,000 years and loosely corresponds to the transition from the colder Pleistocene to the warmer Holocene. Twentieth-century investigations documented hundreds of shell mounds and midden sites along the margins of San Francisco Bay. These sites represent former habitation areas and often contain shellfish remains, faunal material, artifacts, features such as hearths, and human burials.

Because precontact sites were established along former shoreline, creeks, and marsh margins of the San Francisco Bay, the gradual expansion of bay waters and changing shoreline because of post-Pleistocene warming beginning roughly 12,000 years ago, has covered ancient archaeological deposits. Sedimentary deposition and artificial fill have buried and obscured some of the oldest evidence of occupation.

The cultural chronology generally recognized for the region includes Paleoindian, Archaic, and Emergent periods. No Paleoindian remains are known from the San Francisco Bay Area, possibly because of the rising sea level and sediment accumulation. Archaeological evidence suggests increasing settlement intensity, technological development, social complexity, and regional exchange networks through time. Native communities maintained permanent villages, participated in extensive trade systems, and used a wide range of terrestrial, freshwater, and marine resources.

Ethnographic Setting

The Project area is within the ancestral territory of the Coast Miwok people. Ethnographic studies indicate that Coast Miwok groups occupied much of present-day Marin County and relied on hunting, fishing, shellfish collection, and the seasonal harvesting of plant resources. Villages were commonly near waterways and resource-rich environments, with smaller seasonal camps and special-use locations distributed across the landscape.

The Project vicinity is believed to have been associated with Coast Miwok groups occupying the Richardson Bay and Corte Madera Creek areas. Ethnographic accounts describe settlements consisting of family dwellings, sweathouses, ceremonial structures, and associated activity areas.

Contemporary descendants of the Coast Miwok include members of the FIGR, a federally recognized tribe and sovereign government responsible for preserving the culture of the Coast Miwok people throughout its tribal territory, including the City of Larkspur. FIGR may at its discretion choose to treat a resource as a tribal cultural resource.

Regional Development

European settlement of Marin County began during the Spanish and Mexican periods and accelerated following California statehood in 1850. Agriculture, dairying, logging, transportation, and maritime commerce became important components of the local economy. Ferry services historically provided critical transportation connections between Marin County and San Francisco and contributed substantially to regional growth and development.

City of Larkspur

The City of Larkspur was established in the late nineteenth century and incorporated in 1908. Its location near Corte Madera Creek and San Francisco Bay facilitated its development as both a residential community and a transportation center. Throughout the twentieth century, population growth, suburban development, and transportation improvements contributed to the city's expansion.

Larkspur Ferry Terminal

The LFT was developed by the District as part of a regional effort to expand public transportation alternatives between Marin County and San Francisco. The terminal site occupies filled marshlands on the San Quentin Peninsula and was constructed between 1975 and 1976.

The terminal was designed by the architectural firm Braccia, DeBrer and Heglund and is recognized as a notable example of Late Modern architecture incorporating High-Tech Structuralist design principles. The facility's defining feature is its triangular steel space-frame roof supported by three prominent structural supports above an open passenger terminal. Since its completion, the terminal has undergone periodic improvements and expansions to accommodate evolving ferry operations while retaining its primary architectural character and function.

The ferry terminal remains an important component of the regional transportation network and serves as a major commuter connection between Marin County and San Francisco.

3.4.2 Environmental Impacts

This section describes the impact analysis related to cultural resources for the proposed Project. The study is focused on the CEQA study area, which is defined as the geographic area where the Project construction and use may directly or indirectly cause changes of character or use of historical resources, such as archaeological sites or built-environment resources. The section describes the methods used to determine the Project-level impacts and lists the thresholds used to conclude whether an impact would be significant under CEQA. Measures to mitigate (that is, avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the discussion of each identified significant impact, as applicable. Two Build Alternatives, the Increased Ferry Service and New Parking Garages Alternative (Alternative 1) and the Increased Ferry Services, New Parking Garages, and Enhanced Transportation Demand Management Alternative (Alternative 2)—which are all in the City of Larkspur and do not extend beyond 700 feet of the existing ferry terminal boundary—are being evaluated. Impacts for the Build Alternatives are presented together unless they differ substantially.

3.4.2.1 Methodology

The impact analysis for cultural resources was conducted in three stages: (1) inventorying cultural resources within the CEQA study area, (2) identifying those that are historical resources meeting the definition presented in PRC Section 21084.1 and State CEQA Guidelines Section 15064.5 (inclusive of built-environment resources, archaeological resources, and human remains), and (3) evaluating the potential impacts on historical resources. The proposed locations of ferry terminal facility improvements under the Build Alternatives were evaluated for their potential to cause impacts on historical resources during construction and operation. As outlined as follows, a range of methods informed the identification of historical resources that could have the potential to be affected by the construction or operation of the LFT. In accordance with State CEQA Guidelines Section 15064.5(b)(2), the analysis considers the potential for proposed Project activities to materially impair the significance of a historical resource by causing direct changes to the physical characteristics of that resource and by causing changes in its immediate setting. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

Resource Identification Methodology

Several methodologies were employed to inventory cultural resources within the CEQA study area and to identify historical resources, which are those cultural resources listed or eligible for listing in the CRHR.

Northwest Information Center Records Search

The California Historical Resources Information System's Northwest Information Center (NWIC) staff reported results of a records search April 5, 2026. The search of the NWIC database includes previous cultural resources studies and previously recorded cultural resources within the CEQA study area and 0.5-mile radius search area. The date and relative intensity of pedestrian coverage by previous studies of the CEQA study area provides a context for assessing the nature and number of recorded cultural resources that have been previously identified. The records search identified seven previous cultural resources investigations that have covered all or some portion of CEQA study area. Another 31 investigations have been conducted within the larger 0.5-mile study area radius. Table 3.4-1 presents the previous investigations.

Table 3.4-1. Previous Investigations in CEQA Study Area and 0.5-Mile Records Search Study Area

Report Number	Report Year	Report Title	Report Author(s)
Within the CEQA study area			
S-013070	1975	Archaeological Report for Green Brae Brickyard, 125 East Sir Francis Drake Boulevard, Larkspur, California	Madrone Associates
S-016949	1991	A Cultural Resources Evaluation of a Proposed Reclaimed Water Pipeline in the San Quentin Point, Corte Madera, Larkspur, Kentfield and San Rafael Areas	Roop, William
S-040318(a)	2010	Archaeological Survey Report for the Central Marin Ferry Connection Project, Larkspur, Marin County, California, Federal Program #CML 6406 (010), 04-Mrn-101, PM 8.5-8.9	Byrd, Brian F, Michael Darcangelo et al.
S-040318(b)	2011	Historic Property Survey Report, 04 MRN Regional Measure 2 CML 6406 (010) Larkspur 00-000201-09 1	Webb, Toni
S-040319	2011	Archaeological Survey Report for the Central Marin Ferry Connection Project, Larkspur, Marin County, CA, Federal Program #CML 6406 (010), 04- Mrn-101, Pm 8.5-8.9	Byrd, Brian F. and Michael Darcangelo
S-044351	2014	Archaeological Survey Report for the Proposed Freeway Performance Initiative Project, Marin County, California, 04-MRN-101, PM 0.0/27.6, 04-MRN-580, PM 2.4/4.5, EA 151600	Darko, Emily
S-048525	2014	Historic Architectural Survey Report for the SMART Rail Corridor, San Rafael to Larkspur Project, Marin County, California	Bowen, Madeline
Within 1/2 mile of the CEQA study area			
S-001165	1978	Pipeline and Water Treatment Plant Facilities, Marin County	Desgrandchamp, Cindy and Mathew Clark
S-002076	1980	Final Report – Archaeological Evaluation of the Former Remillard Brick Kiln (CA-Mrn_255), Larkspur	Roop, William and Steven O'Brien
S-002301	1980	Archaeological Resources of point San Quentin	Archeo-Tec, Inc.
S-006424	1984	Archaeological Resources Evaluation for the Central Marin Sanitation Wastewater Transportation Facilities Improvement Project – Phase II, Marin County, California (EP Project No. C-06-2467-21)	Desgrandchamp, Cindy and David Chavez
S-009907	1988	Archaeological Survey of Landmark Plaza (former Victoria Station Restaurant), 17 E. Sir Francis Drake Blvd., Larkspur, California	Saltzman, Teresa Miller

Report Number	Report Year	Report Title	Report Author(s)
S-010760	1989	Historic Properties Survey Report for Construction of High Occupancy Vehicle Lanes on Route 101 from Lucky Drive to San Pedro Road and Modifications of Routes 101/580 Interchange, in Cities of San Rafael and Larkspur, Marin County, 4-MRN-101, P.M. 8.4/12.7 04232-115750	Jones, Terry, Robert Gross, and Denise O'Connor
S-012242	1976	A Reconnaissance of the Wood Island Archaeological Site	Jackson, Thomas L.
S-012801	1991	Cultural Resources Technical Report, Municipal Water District Water Supply Project	Medin, Anmarie
S-012945	1957	The Examination of Indian Shell Mounds Within San Francisco Bay with Reference to the Possible 1579 Landfall of Sir Francis Drake	Treganza, Adan E.
S-013217	1990	An Archaeological Survey for the AT&T Fiber Optics Cable, San Francisco to Point Arena, California	Origer, Thomas M.
S-014868	1993	A Cultural Resources Evaluation of the Sir Francis Drake Boulevard Repaving and Drainage Improvement Project, Marin County, California	Roop, William
S-015337	1993	Archaeological Monitoring of Soil Boring at Remillard Brick Kiln/Restaurant	Bryne, Stephen
S-017570	1976	An archaeological reconnaissance of the proposed additions for the Ross Valley Sewage Treatment Plant on Sir Francis Drake Boulevard	Dietz, Stephen A.
S-023626	2000	Archaeological Investigations at CA-MRN-225/H, Larkspur, Marin County, California	Bieling, David G., Randall L. Dean, et al.
S-023745	2001	Archaeological Survey for Lucky Drive Levee Project, Marin County, California	Holson, John
S-025255	2000	Archaeological Field Inspection of the Proposed Development of Lot 41, San Quentin Point, Larkspur, Marin County, California	Holman, Miley Paul
S-026317	1985	An Evaluation of Archaeological Resources Within the Ross Valley Sanitary District Parcel, 2000 Larkspur Landing Circle, Larkspur, California	Roop, William
S-026330	2002	A Cultural Resources Evaluation of 135 East Sir Francis Drake Boulevard, Larkspur, Marin County, California (APN 018-171-05)	Pesnichak, Lisa
S-026993	1989	Final Report: Monitoring of Construction Activities For the Reuse of the Former Remillard Brick Kiln, Larkspur Landing, City of Larkspur, California	Roop, William

Report Number	Report Year	Report Title	Report Author(s)
S-031737	2004	Archaeological Resources Technical Report for the Sonoma Marin Area Rail Transit (SMART) Project, Sonoma and Marin Counties, California	Denardo, Carole and Daniel Hart
S-033646	2007	Transportation Authority of Marin, Highway 101 Greenbrae Corridor, Cultural Resources Feasibility Study	Byrd, Brian F.
S-037429	2010	A Cultural Resources Evaluation of the Marin Sanitary Service Parcel, Jacoby Street, San Rafael, Marin County, California	Roop, William
S-037740	2010	San Quentin Area Bike and Pedestrian Access Cultural and Paleontological Resources Constraints Study, near San Quentin State Prison, Marin County, California (LSA #ALT0903)	Fuerstenberg, Theadora
S-038998	2011	Extended Phase 1, Geoarchaeological Explorations for the US 101/Route 580 Twin Cities Greenbrae Corridor Improvement Project, Larkspur and Corte Madera, Cal trans District 04, Marin County, California	Kaijankoski, Phillip and Jack Meyer
S-038999	2011	Archaeological Survey Report for the U.S. 101/Route 580 Twin Cities Greenbrae Corridor Improvement Project, Larkspur and Corte Madera, Marin County, California, 04-Mrn-101-PM 7.2/8.9, EA 1A660-O	Byrd, Brian
S-039344	2008	Limited Cultural Resources Evaluation for the Ross Valley Sanitation District Kentfield Forcemain Rehabilitation Project, Located in the City of Kentfield, Marin County, California	Pastron, Allen G.
S-043710	2013	Cultural Resources Study, Phase II Greenbrae Pipeline Replacement Project	Peabody, Joshua
S-044053	2013	Cultural Resources Constraints Report: HPR 2000 Redwood Hwy, Larkspur	Cox, Beatrice and Esme Hammerle
S-050060	2016	Phase I Cultural Resources Evaluation for the Pump Stations 12 and 13 Rehabilitation Project, located in Larkspur, Marin County, California	Archeo-Tec, Inc.
S-052655	2017	Final Initial Study/Mitigated Negative Declaration, Larkspur Landing Remediation Project, 2000 Larkspur Landing Circle, Larkspur, CA	Norby, Greg
S-054359	1973	Historical and Archaeological Survey of the Proposed Larkspur Ferry Terminal, Larkspur, California	Goerke, Elizabeth B.

Previously Recorded Resources

There are no previously recorded cultural resources within the CEQA study area.

Eight previously recorded cultural resources are within 0.5-mile of the CEQA study area. Five of these are archaeological resources, four of which are precontact Native American archaeological resources (Table 3.4-2). Two of these are in the vicinity of the CEQA study area. One of these, Wood Island, which was informally recorded and mapped, was noted as a heavily disturbed midden in 1976.

The second nearby precontact era site, P-21-000541/CA-MAR-255, was once a substantial shellmound that was leveled to accommodate the Green Brae Brickyard and Remillard Brick Kiln in the late 1800s.

There are two remaining built-environment resources within 0.5-mile of the CEQA study area: P-21-001157 (Superintendent's House for the Remillard Brick Kiln) and P-21-002831 (Greenbrae Boardwalk). These resources are not within the CEQA study area and will not be discussed further. The Northwestern Pacific Railroad has largely been replaced by the modern SMART transit system.

Table 3.4-2. Previously Recorded Cultural Resources in the 0.5-Mile Study Area

Primary Number	Name/Description	Resource Type	Comments
Informal Resource	Wood Island/habitation debris and lithic scatter	Precontact Archaeological Site	Not In CEQA study area
P-21-000108	Nelson No. 78/shell mound with habitation debris	Precontact	Not in CEQA study area
P-21-000458	None/shell mound with habitation debris and lithic scatter	Precontact	Not in CEQA study area
P-21-000541	None/shell mound with habitation debris	Precontact	Not in CEQA study area
P-21-001157	Superintendent's House (for Remillard Brick Kiln)	Historic (Building)	Not in CEQA study area
P-21-001158	Green Brae Brick Yard; Green Brae Brick Kiln	Historic (Building, Structure, Site)	Not in CEQA study area
P-21-002618	Northwestern Pacific Railroad	Historic (site)	Not in CEQA study area
P-21-002831	Greenbrae Boardwalk	Historic (Building, Structure)	Not in CEQA study area

Native American Consultation

The District initiated Native American outreach and consultation February 18, 2021, requesting a Sacred Lands File (SLF) search and contact list of California Native American tribes that are traditionally and culturally affiliated with Marin County from the NAHC. As the CEQA lead agency, the District has responsibilities under AB 52 to consult with California Native American tribes that are affiliated with the geographic area of any proposed project.

The NAHC responded on March 2, 2021, stating that the SLF search was negative and providing a list of the two Marin County tribes requesting consultation, the FIGR and Guidiville Indian Rancheria. On April 16, 2021, the District sent a letter to the identified tribes describing the Project and informing the tribes that

that the NAHC search of the SLF was negative, that the record search conducted by the NWIC did not identify any previously recorded archaeological resources within the CEQA study area, and inviting them to consult on the Project. A record of Native American outreach communications is presented in Appendix A of the *Cultural Resources Report for The Larkspur Ferry Service and Parking Expansion Project: Golden Gate Bridge, Highway and Transportation District* (Appendix D).

The Tribal Historic Preservation Office (THPO) for the FIGR, Buffy McQuillen, replied by email on June 9, 2021. The email response from McQuillen indicated "The Tribe has reviewed the project notification dated April 16,2021 and would like to let you know that there may be Tribal Cultural Resources in the project area. Please let us know if you have any questions."

The District met with FIGR representatives on August 23, 2021. The FIGR shared their concerns about the potential presence of tribal cultural resources in the project area of the LFT.

In a letter dated July 18, 2023, sent by email and certified mail, the District provided a project status update and invited the FIGR to monitor preliminary geotechnical investigations to be undertaken the week of August 14, 2023. The investigation used direct push coring and core penetration tests to determine the underlying geotechnical site conditions for building foundation design. The District received no response from FIGR.

The District sent a letter by email and certified mail to THPO McQuillen of FIGR September 19, 2024, inviting FIGR to attend the upcoming Open House and Scoping Meeting to be held October 15, 2024, to formally initiate the environmental process for the project and invite the public to provide feedback on the DEIR.

The District sent a letter by email and certified mail to FIGR THPO McQuillen June 10, 2026, notifying her of upcoming soil coring investigations to test archaeological sensitivity of subsurface deposits, and inviting FIGR to provide a monitor for the investigation. FIGR THPO McQuillen, Cultural Resources Specialist Hector Garcia Cabrales, and Kyle Rabellino, Archaeologist with the tribe, visited the investigation on Friday, June 26, observed the coring, and discussed observations with Jacobs geoarchaeologist Kyle Brudvik.

Larkspur Ferry Terminal Improvements Project Archaeology and Built-Environment Survey

Jacobs archaeological staff conducted a pedestrian survey of the study area and nearby areas on June 4, 2021. The CEQA study area is within and surrounded on three sides by areas that have been developed for use by the ferry terminal or other commercial/transportation use. The majority of the CEQA study area consists of the 10.41 acres of surface-level parking in the Main Lot and the approximately 1.64-acre surface-level parking in the North Lot. These areas are paved, with some planter areas along the perimeter of the Main Lot and some landscaped trees arranged at the Sir Frances Drake Boulevard entry/exit. Jacobs staff established that the CEQA study area contains no exposed native soil, making the survey unproductive for archaeological resources. However, adjacent margins of the bay and the reported location of Wood Island on the nob west of the CEQA study area were inspected. Visibility was poor because of thick vegetation dominated by poison oak, and the hillside has suffered erosion, possibly displacing and obscuring the site. No evidence of the reported flaked stone or midden was observed.

Jacobs conducted a survey of built-environment resources to develop a comprehensive historical resource inventory of all built properties within the CEQA study area. One historic-aged (more than 45 years in age) property had never previously been recorded in a built-environment survey or otherwise evaluated for listing in the NRHP or CRHR: the LFT.

Jacobs surveyed the previously unrecorded LFT built-environment resources in the Project area and documented the CRHR evaluation on a California Department of Parks and Recreation 523A (Primary Record) and 523B (Building, Structure, Object Record) form set.

3.4.2.2 Archaeological Resources in the Project Area Limits

No archaeological resources have been observed or recorded within the CEQA study area. The age and depositional nature of sediments underlying the CEQA study area are such that the CEQA study area has the potential for unknown buried cultural resources within the Bay Mud, which occurs between the artificial fill, and the Franciscan Complex bedrock, which is reached at variable depths across the CEQA study area; it is generally within 15 to 20 feet of the ground surface in the North Lot and within approximately 45 to 60 feet of the ground surface in the Main Lot.

3.4.2.3 Built-Environment Resources in the Project Area Limits

The following section presents details regarding the built-environment resources in the CEQA study area that qualify as historical resources under CEQA. As described in the introduction to this section, a property is considered a historical resource under CEQA if it is listed in or formally determined eligible for listing in the CRHR; is included in an adopted local register; is identified as significant in a qualifying historical resource survey; or is otherwise determined by the CEQA lead agency to be historically significant. This overview of built-environment resources first describes the historical resource identification efforts that occurred before the preparation of this DEIR and then presents information on surveys that Jacobs conducted to support the assessment of potential impacts in the DEIR.

Based on previous historical resource evaluations and updated evaluations prepared for this DEIR, the CEQA study contains one built-environment resource that qualifies as a historical resource for the purposes of CEQA: The LFT at 101 E. Sir Francis Drake Boulevard. No additional built-environment resources are in the CEQA study area.

Resource Description

The LFT is a public transportation facility in the City of Larkspur, Marin County, adjacent to Sir Francis Drake Boulevard near the mouth of Corte Madera Creek and the San Rafael Bay. The terminal occupies approximately 14.5 acres and includes ferry-related buildings, structures, docking facilities, circulation areas, and parking facilities that support ferry operations and passenger access. An approximately 83-acre ferry basin extends north–south along the eastern side of the property and accommodates passenger ferry vessels.

The surrounding area is highly urbanized and characterized by commercial development, transportation infrastructure, and residential neighborhoods. Most of the property consists of paved parking areas, while operational facilities are concentrated in the southeastern and southwestern portions of the site.

The primary architectural feature of the terminal is the Shelter Structure, a distinctive open-air passenger facility completed in 1976. The structure has been identified as a notable example of High-Tech Structuralism, also referred to as Structural Expressionism, a Late Modern architectural style characterized by exposed structural systems, geometric forms, and visible engineering elements. The shelter consists of a triangular steel space-frame canopy supported by reinforced concrete pyramidal bases and covered by translucent tensile roof panels. The design emphasizes triangular geometry, exposed structural components, and sculptural form.

Immediately south of the shelter is the Service Building, a two-story triangular-plan structure that incorporates reinforced concrete, structural steel, and ribbon glazing. The design reflects the geometric vocabulary established by the Shelter Structure, although at a more utilitarian scale.

Associated resources include ferry loading platforms, passenger circulation features, dock facilities, ferry berths, maintenance and fueling facilities, utility structures, and parking areas. Together, these features function as an integrated transportation facility and contribute to the historic character of the terminal.

Evaluation of Significance

The LFT was evaluated for eligibility for listing in the CRHR and the NRHP. Although the terminal has been recognized within professional architectural circles, including identification by Docomomo as an important example of 1970s modern architecture, no formal CRHR or NRHP determination has previously been completed.

CRHR Criterion 1 (Events)

The LFT is associated with the late twentieth-century expansion of regional ferry transportation in the San Francisco Bay Area and efforts to provide alternatives to growing automobile congestion on U.S. Highway 101 and the Golden Gate Bridge corridor. The terminal reflects broader regional transportation planning initiatives that expanded multimodal transit services within Marin County and the greater Bay Area.

Although associated with these important transportation trends, the terminal does not appear to have played a singular or pivotal role in initiating ferry service restoration or regional transit planning. Rather, it functioned as one component of a larger transportation program. Accordingly, the property does not appear eligible under CRHR Criterion 1.

CRHR Criterion 2 (Persons)

Research conducted for this evaluation did not identify any direct association between the LFT and individuals significant in local, state, or national history. Therefore, the terminal does not appear eligible under CRHR Criterion 2.

CRHR Criterion 3 (Design/Construction)

The LFT embodies the distinctive characteristics of Late Modernism, specifically the High-Tech Structuralist architectural style. Constructed in 1976, the facility displays hallmark features of the style, including the following:

- Exposed structural systems
- Monumental geometric forms
- Extensive use of steel and concrete
- Expression of engineering and construction technologies as architectural features
- Space-frame construction
- Sculptural treatment of structural elements

The Shelter Structure serves as the property's defining architectural feature and represents a rare application of High-Tech Structuralism to transportation infrastructure within the San Francisco Bay Area. The facility has received professional architectural recognition, including publication in *Architectural Record* and recognition by the American Institute of Architects. Additionally, local mid-century architecture advocacy group Docomomo has identified the terminal as a significant example of 1970s modern architecture.

Based on the applicable historic context and evaluation criteria, the LFT appears eligible for listing in the CRHR under Criterion 3 as a significant and well-preserved example of High-Tech Structuralist architecture associated with the Late Modern period.

CRHR Criterion 4 (Information Potential)

The LFT does not appear likely to yield important information regarding history or prehistory beyond that already available through existing documentation, archival sources, and architectural records. Consequently, the property does not appear eligible under CRHR Criterion 4.

Period of Significance and Character-Defining Features

The period of significance for the LFT is 1976, the year in which the facility was completed and placed into operation. This date falls within the recognized period of significance for Late Modern architecture.

Character-defining features that convey the property's significance include the following:

- Triangular steel space-frame canopy and tensile roof system
- Reinforced concrete pyramidal support structures
- Strong geometric and sculptural design forms
- Exposed structural and engineering elements
- Use of concrete, steel, and modern construction materials
- Triangular-plan Shelter Structure and Service Building
- Open passenger circulation areas and ferry loading facilities
- Overall visual expression of High-Tech Structuralist design principles

Integrity Assessment

The LFT has undergone several modifications since its construction, including parking lot reconfiguration, expansion of ferry berthing facilities, landscape alterations, replacement of site lighting, and operational improvements associated with continued ferry service. These changes are generally limited in scope and do not substantially alter the architectural features that convey the property's significance.

The terminal retains integrity of location, remaining in its original waterfront setting at the mouth of Corte Madera Creek.

The property retains a high degree of integrity of design. The principal architectural elements, including the triangular space-frame canopy, structural system, and overall geometric composition, remain intact.

Although surrounding development has increased over time, the terminal continues to function as a ferry facility within a waterfront setting and maintains its visual relationship to San Francisco Bay.

The terminal retains integrity of materials. Character-defining steel and concrete components remain largely intact and continue to convey the property's architectural significance.

The exposed structural system and construction methods remain readily apparent and continue to illustrate the design and engineering practices associated with the period of significance.

The terminal continues to convey the architectural character of a Late Modern transportation facility through its monumental form, exposed structure, and distinctive engineering expression.

The property retains integrity of association because it continues to operate as a ferry terminal and remains associated with regional transportation services.

Conclusion

Based on the foregoing analysis, the LFT retains sufficient integrity to convey its architectural significance and appears eligible for listing in the CRHR under CRHR Criterion 3 as a rare and important example of High-Tech Structuralist architecture within the broader context of Late Modern transportation infrastructure.

3.4.2.4 Thresholds of Significance

The following State CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to cultural resources.

Would the proposed Project do the following:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- Disturb any human remains, including those interred outside of dedicated cemeteries?

Section 15064.5(b)(1) of the State CEQA Guidelines defines "substantial adverse change to a historical resource" as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired." Material impairment of a historical resource, as defined in State CEQA Guidelines Section 15064.5(b)(2), occurs when a project "demolishes or materially alters in an adverse manner" those physical characteristics of the resource that express its significance and justify its inclusion in, or eligibility for listing in, the CRHR or a qualified local register of historical resources or evaluation as historically significant in a qualified local survey.

3.4.2.5 Impacts

Cause a Substantial Adverse Change in the Significance of a Historical Resource Pursuant to Section 15064.5

Construction

Build Alternatives

The Build Alternatives would impact the LFT, recommended as a historical resource, through the construction of the proposed parking garage that will be within the current Main Lot parking area of the property. A formal evaluation of the LFT property assessed the significance of the property as a historical resource for the purposes of CEQA (Appendix D). The report sought to assess the legitimacy of statements made by previous advocates of mid-century modern architecture within the greater Bay Area who noted the LFT as a unique architectural design for a municipal transportation-related facility (Docomomo 2021; Simonson 2024). These earlier sources claimed the 1970s transportation property derives some notability from its having contributed to the catalog of mid-century modern architecture within the greater Bay Area.

The 1976 transportation property traces its roots back to the Osaka Japan Expo'70 Space Frame for the Festival Plaza (Kawaguchi & Engineers 2026). The use of similar engineering/architecture motifs, design, and materials (on a smaller scale) for the ferry terminal is clear. Despite some alterations that include

removal of an awning for the original bus parking area that was part of the original construction and changes to the lighting and landscaping of the property, the LFT Shelter Structure remains easily recognizable as a notable example of what some have identified as "High-Tech Structuralism" or "Structural Expressionism" with its space frame, tensile roof, cable structure, and futuristic-looking technology (geometric shape thematic, exposed frame, etc.) construction for which the style became popular. The 1970s style has also been compared to that of the Buckminster Fuller geodesic dome popularized in the U.S. following World War II.

The proposed Project would represent a change to the Main Lot parking lot and road prism areas that are adjacent to the Shelter Structure and Service Building, which are in the southeast corner of the property. While the historical resource boundary includes the Main Lot parking area that was part of the original 1974 design, the key character-defining features of the property are focused on the two terminal structures with their mid-century aesthetic and prominence as vertical focal points of the facility from most viewpoints around the facility. The Main Lot parking area, while constructed as part of the 1974 plan, followed the geometric aesthetic of the architects in its layout, but that connection is only appreciated when viewed from above. This effectively raises the Shelter Structure and the Service Building to exist as the primary character-defining features of the terminal. The proposed Project will not physically change either of these structures and will be set back from the edge of the circular roadway around the perimeter of the current roadway.

The addition of the parking garage to the Main Lot parking area will not block primary views from the terminal to the bay or obscure views of the terminal's mid-century architectural features. The proposed Project will not permanently change the overall character of physical features within the property's boundary that contributes to its historic significance or change its use as a public ferry terminal. The general bayside setting of the municipal historic property will remain, and the contributing buildings (the Shelter Structure and Service Building) will still be highly visible and continue to operate as components of a ferry terminal in the City of Larkspur, Marin County.

Regarding the resource's historic setting (the terminal facility retains a moderate degree of integrity of setting), although surrounding infrastructure, parking areas, and adjacent development have changed over time, the terminal continues to serve as a waterfront ferry facility with a strong visual relationship to San Francisco Bay. Regarding historic feeling (the resource retains a high degree of integrity of feeling), the resource would retain its feeling as a Late Modernist transportation facility. Its monumental form, exposed structure, and open terminal space will continue to convey the architectural character of 1970s infrastructure design. For historic association (the buildings retain a high degree of integrity of association), the terminal continues to function as a ferry facility and remains directly associated with the transportation network.

The proposed Project would introduce new visual elements within the western portion of the Main Lot portion of the resource (and will be contained entirely within the existing parking area of the Main Lot) as well as alter the views of the LFT from along Sir Frances Drake Boulevard as the Shelter Structure (and to a lesser extent the Service Building) would be joined by the added adjacent parking garage. These added parking garage elements would alter the setting as the western portion of the former parking area would be replaced with the parking garage. Integrity of feeling and association for the Shelter Structure and the Service Building would primarily remain as they are currently because there would continue to be a strong visual connection with the design that provided an artful municipal transportation facility in the Larkspur area.

Although the proposed multistory parking garage will be in proximity to the historic structures that comprise the LFT, these new parking elements would be set back from the terminal structures such that they would not present an overwhelming change in their visual relationship though integrity of setting will

be reduced. The parking garage includes one design feature, a hexagon footprint, that evokes some of the architectural style defined as "High-Tech Structuralism" or "Structural Expressionism" (Simonson 2024). Where appropriate, at their closest, the new elements (bike parking area) will sit more than approximately 100 feet from the key structures and will avoid physical modification to any of the building characteristics that currently exist. The added parking garage is within western viewshed (facing parking area) from the ferry terminal Shelter Structure but will be outside existing views of the Bay to the south and east.

Under the proposed Project, the physical aspects of integrity that include the location, design, materials, and workmanship of the LFT would remain much as they did in 1976. The property's feeling and association with the ferry terminal's municipal transportation role and the role the terminal construction played in the growth of the City of Larkspur will not change because of any changes brought about under the proposed Project. While the resource's setting might be altered somewhat by the introduction of new visual elements of the Project, the new additions will likely be differentiated from the older material, and most changes will be comparable in size and scale to that which already exists. The parking area has received a majority of changes to the facility since construction.

In summary, because the introduction of these new physical and visual elements would not diminish all the seven aspects of integrity of the terminal (Shelter Structure) and the Service Building (most notably the historic integrity aspects location, design, materials, workmanship, feeling, and association) to a level where the resource fails to convey its significance (even with the slightly altered integrity of setting), the proposed Project would have a less-than-significant impact on the LFT.

As a result, construction of either of the Build Alternatives would have a ***less-than-significant impact*** on built-environment historical resources. No mitigation required.

Operation

Build Alternatives

Under the Build Alternatives, operations of the improved ferry terminal facility would occur within the LFT. Operations would not involve physical changes to any historical resources but would introduce new visual, audible, and atmospheric elements in the vicinity of those resources. Hypothetically speaking, circumstances could exist in which visual, audible, and atmospheric elements lead to the diminishment of a historical resource's integrity. For instance, it is possible that long-term, intermittent increases in noise and vibration resulting from the operations of a transportation facility might compel individuals to abandon a historical resource such as a residence or commercial building that were not previously subjected to noise or vibration at levels that will likely remain following the improvements. Such an act would constitute an indirect impact if it were to result in neglect of a resource's physical features that convey significance, which over time could diminish integrity of design, materials, workmanship, feeling, and association.

As described in Chapter 3.11, Noise, increases in operations-caused noise and vibration would not be substantive, and the intensity of transportation activities would not be substantially different from current conditions. As such, it is not anticipated that abandonment and neglect of historical resources would reasonably occur as an effect of Project operation. Furthermore, no historical resources identified for the current investigation appear to rely upon a quiet setting to convey their significance. The negligible degree of change in the audible and atmospheric conditions of historical resources in the City of Larkspur is not anticipated to diminish the historical integrity of any identified built-environment historical resource and would not constitute material impairment of its significance.

Therefore, operations of either of the Build Alternatives would have ***no impact*** on built-environment historical resources.

Mitigation Measures

No mitigation required.

Cause a Substantial Adverse Change in the Significance of an Archaeological Resource Pursuant to Section 15064.5

Construction

Build Alternatives

No known archaeological resources are in the CEQA study area.

Construction of the Build Alternatives would involve ground-disturbing activities that may extend below existing artificial fill, including the mass removal of fill, installation of piles to support the new parking garage in the Main Lot, trench excavation for tie-ins to existing storm drain and utility infrastructure, and the excavation of an elevator shaft in proposed parking garages in both the Main Lot and the North Lot. The planned depth of disturbance of these activities would extend beneath the artificial fill into underlying Bay Mud at the Main Lot, and therefore construction of Build Alternatives has the potential to disturb previously undiscovered and unrecorded archaeological resources. Should this occur, the ability of the deposits to convey their significance, either as containing information about prehistory or history, or as possessing traditional or cultural significance to Native American descendant communities, would be materially impaired and impacts would be **significant**.

While no archaeological sites were previously recorded or observed in the CEQA study area, construction of the Build Alternatives could impact previously unidentified archaeological sites. This impact would be **significant**. However, implementation of MM-CULT-CNST-1 and MM-CULT-CNST-2 would ensure that impacts related to archaeological resources would be ***less than significant with mitigation***.

Operation

Build Alternatives

Operation of the LFT would not include ground disturbance and therefore would result in ***no impact*** on any archaeological resources.

Mitigation Measures

MM-CULT-CNST-1: Conduct Cultural Resource and Tribal Cultural Resource Awareness Training Prior to Project-Related Ground Disturbance and Stop Work if Archaeological Deposits are Encountered During Ground-Disturbing Activities

Before any Project-related ground disturbance, the District shall ensure that all construction workers receive cultural resources training before the beginning of ground-disturbing activities on the site. The training will be overseen by a qualified professional archaeologist who is experienced in teaching non-specialists to ensure that contractors can recognize archaeological resources in the event that any are discovered during construction. Tribal cultural resource awareness will be provided by a qualified Tribal Monitor, approved by the FIGR, at the same time. The training will be prepared by the District and will

include, at a minimum, the laws governing the protection of such resources, a description of the kinds of resources that may be encountered, the role of the archaeological and tribal monitors, and the protocol to follow if such resources are identified during construction.

MM-CULT-CNST-2: Develop and Implement a Tribal Cultural and Archaeological Monitoring and Discovery Plan

Given the reasonable potential for tribal cultural and archaeological resources to be present within the proposed work area, the following measures shall be undertaken to avoid any significant impacts on these potential resources. A Tribal Cultural and Archaeological Monitoring Plan (plan) shall be developed by a qualified archaeologist in consultation with local tribes before any project-related ground disturbance. The plan shall determine specific areas of archaeological sensitivity within proposed work areas and shall determine the conditions, such as depth of disturbance and kind of activity, for which an onsite Native American and qualified archaeological monitor are required during project-related ground disturbance. The plan shall include protocol that outlines tribal cultural and archaeological monitoring best practices, anticipated resource types, and an Unanticipated Discovery Protocol. The Unanticipated Discovery Protocol shall describe steps to follow if archaeological discoveries are made during project work and shall provide a chain of contact. All work will be done in accordance with San Rafael General Plan 2040 (City of San Rafael 2020), Policy CFP-5.13: Protection of Archaeological Resources.

Disturb any Human Remains, Including those Interred Outside of Formal Cemeteries

Construction

Build Alternatives

While no Native American human remains were previously recorded or observed in the CEQA study area, construction of the Build Alternatives could impact previously unidentified human remains. Native American human remains are often associated with Native American archaeological sites, and thus, it is possible that remains could be encountered if an archaeological deposit is discovered during construction. They may also be present as isolated or redeposited remains. All Native American human remains and associated burial artifacts are considered sensitive. This impact would be **significant**. However, implementation of MM-CULT-CNST-1, MM-CULT-CNST-2, and MM-CULT-CNST-3 would ensure that impacts related to human remains would be ***less than significant with mitigation***.

Operation

Build Alternatives

Operation of the LFT would not include ground disturbance and therefore would result in ***no impact*** on any human remains.

Mitigation Measures

Under any Build Alternative that is selected and constructed, the following measure, in addition to protocols laid out in MM-CULT-CNST-1 and MM-CULT-CNST-2 will be followed.

MM-CULT-CNST-3: Comply with State Laws Relating to Human Remains

Any human remains and related items discovered during the implementation of this project shall be treated in accordance with the requirements of Section 7050.5(b) of the California Health and Safety Code. If, pursuant to Section 7050.5(c) of the California Health and Safety Code, the county coroner/medical examiner determines that the human remains are or may be of Native American origin, then the discovery shall be treated in accordance with the provisions of Section 5097.98(a)-(d) of the PRC. The District shall ensure that the remains are not damaged or disturbed further until all stipulations in Section 7050.5 and Section 5097.98 have been met. All work will be done in accordance with San Rafael General Plan 2040 (City of San Rafael 2020), Policy CDP-5.13: Protection of Archaeological Resources.

The Tribal Cultural and Archaeological Monitoring and Discovery Plan, MM-CULT-CNST-2, will include the following language:

If any human remains are discovered during ground-disturbing activities, an evaluation shall be performed to assess likely age and provenance in a manner that is respectful of the disturbed remains. If determined to be, or likely to be, Native American, the District shall comply with state laws regarding the disposition of Native American burials, which fall within the jurisdiction of NAHC (PRC Section 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the following occurs:

1. The county coroner has been informed by the District and has determined whether investigation of the cause of death is required
2. If the remains are of Native American origin:
    a. The descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.
    b. NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.
    c. NAHC recommends a Most Likely Descendant to make a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of the discovered human remains until the coroner can determine whether the remains are those of a Native American.

3.5 Energy

This section describes the environmental and regulatory setting for energy. It also describes impacts associated with energy that would result from implementing the proposed Larkspur Ferry Service Expansion and Parking Project (Project) and mitigation for significant impacts, where feasible and appropriate. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.5.1 Existing Conditions

3.5.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

As discussed in Sections 3.2, Air Quality, and 3.7, Greenhouse Gas Emissions, the National Highway Traffic Safety Administration sets the Corporate Average Fuel Economy standards to improve average fuel economy (that is, reduce fuel consumption) and reduce greenhouse gas (GHG) emissions generated by cars and light-duty trucks. The National Highway Traffic Safety Administration and the U.S. Environmental Protection Agency have proposed amendments to the current fuel efficiency standards for passenger cars and light-duty trucks and new standards for model years 2021 through 2026. Under the Safer Affordable Fuel-Efficient Vehicles Rule, current 2020 standards would be maintained through 2026. California, 22 other states, the District of Columbia, and two cities filed suit against the proposed action on September 20, 2019 (*California et al. v. United States Department of Transportation et al.,* 1:19-cv- 02826, U.S. District Court for the District of Columbia). The lawsuit requests a "permanent injunction prohibiting defendants from implementing or relying on the preemption regulation" but does not stay its implementation during legal deliberations. Part 1 of the Safer Affordable Fuel-Efficient Vehicles Rule went into effect on November 26, 2019. Part 2 of the rule was finalized on March 30, 2020. The rule will decrease the stringency of the Corporate Average Fuel Economy standards 1.5% each year through model year 2026; the standards issued in 2012 would have required annual fuel efficiency increases of about 5%. California, 22 other states, and the District of Columbia filed a petition for review of the final rule on May 27, 2020.

State

California has adopted statewide legislation to address various aspects of climate change and GHGs, which often pertain directly or indirectly to energy resources and uses. This section is focused on state legislation that specifically mentions energy use or resources. For other state legislation mainly focused on GHG reduction and climate change, refer to Section 3.7, Greenhouse Gas Emissions.

Assembly Bill 1493, Pavley Rules (2002, Amendments 2009)/Advanced Clean Cars (2022)

Known as Pavley I, Assembly Bill (AB) 1493 provided the nation's first GHG standards for automobiles. AB 1493 required the California Air Resources Board (CARB) to adopt vehicle standards to lower GHG

emissions from automobiles and light-duty trucks to the maximum extent feasible beginning in 2009. In 2012, strengthening of the Pavley standards (known previously as Pavley II but now referred to as the Advanced Clean Cars measures) was adopted for vehicle model years 2017 through 2025. Advanced Clean Cars II was adopted in 2022 and covers models from 2026 to 2035. The program is designed to cut harmful air pollution, greenhouse gas emissions, and toxic emissions from light-duty vehicles, improving public health and environmental outcomes (CARB 2026a).

California Energy Efficiency Standards for Residential and Nonresidential Buildings—California Green Building Standards Code (2025), Title 24 Updates

The California Green Building Standards Code (Part 6, Title 24), or CALGreen, was adopted as part of the California Building Standards Code (24 California Code of Regulations). CALGreen applies to the planning, design, operation, construction, use, and occupancy of newly constructed structures and requires energy-efficient infrastructure to be installed at all new projects beginning January 1, 2011. CALGreen also requires newly constructed structures to develop a waste management plan and divert at least 50% of the construction materials generated during Project construction.

The current 2025 Building Energy Efficiency Standards were adopted in 2025 and took effect on January 1, 2026. Under the 2025 standards, parking garages will be required to meet specific standards for lighting and ventilation systems (CEC 2025).

Executive Order B-16-12 (2012) and N-79-20 (2020)

Executive Order (EO) B-16-12 orders state entities under the direction of the governor, including CARB, California Energy Commission, and California Public Utilities Commission, to support rapid commercialization of zero-emission vehicles (ZEVs). It directs these entities to achieve various benchmarks related to ZEVs. EO N-79-20 calls for elimination of new internal combustion passenger vehicles by 2035. This EO establishes a target for the transportation sector that helps put the state on a path to carbon neutrality by 2045 (CARB 2026b).

Senate Bill 350, Chapter 547, Clean Energy and Pollution Reduction Act of 2015

Senate Bill (SB) 350 (DeLeon), also known as the Clean Energy and Pollution Reduction Act of 2015, was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions require the following by 2030: (1) a Renewables Portfolio Standard (RPS)[1] of 50% and (2) doubling of the statewide energy efficiency savings related to natural gas and electricity end uses (CEC 2020). To meet these provisions, the bill requires large utilities to develop and submit integrated resource plans that detail how the utilities will reduce GHG emissions and increase the use of clean energy resources while meeting customers' needs.

Senate Bill 100—The 100 Percent Clean Energy Act of 2018 (2018)

SB 100 builds on SB 350, the Clean Energy and Pollution Reduction Act of 2015. SB 100 increases the 2030 RPS target set in SB 350 to 60% and requires an RPS of 100% by 2045. SB 1020 added interim clean energy targets within SB 100's framework, which includes a 90% zero-carbon electricity target by 2035 and 95% by 2040 (CLI 2026).

[1] 1 The RPS is one of California's key programs for promoting renewable energy use within the state. The program sets forth continuous procurement of renewable energy for load-serving entities within California (CEC 2020).

Local

Pacific Gas and Electric Integrated Resource Plan

Pacific Gas and Electric Company (PG&E) adopted the 2022 Integrated Resource Plan (IRP) on November 1, 2022, to provide guidance for serving the electricity and natural gas needs of residents and businesses within its service area while fulfilling regulatory requirements (PG&E 2022). The IRP contains the following objectives that are relevant to the proposed Project:

- **Clean Energy**: In 2021, PG&E delivered nearly 91% of its electricity from GHG-free resources and 48% of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydro.
- **Reliability**: Maintaining reliability is critical, both for the overall electric system and local segments of the system, especially as California transitions toward higher shares of GHG-free generation resources, many of which are intermittent resources.
- **Affordability**: PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals in a least-cost manner to customers. PG&E provides a system average rate forecast in compliance with the California Public Utilities Commission's requirements for investor-owned utilities.

Marin Clean Energy Integrated Resource Plan

Marin Clean Energy (MCE) adopted the 2026 IRP on July 16, 2026, to provide near-term, mid-term, and long-term guidance for serving the electricity and natural gas needs of its customers within its service area while fulfilling regulatory requirements (MCE 2026). The IRP contains the following planning policies that are relevant to the Project:

- Reduce GHG emissions and other pollutants associated with the electric power sector through increased use of renewable, GHG-free, and low-GHG energy sources.
- Maintain competitive electric rates and increase control over energy costs through management of a diversified resource portfolio.
- Benefit the local economy by offering competitive electricity rates and customer programs and investing in infrastructure, energy, and workforce development programs within MCE's service area.
- Help customers reduce energy consumption and electric bills by supporting and administering enhanced customer energy efficiency, cost-effective distributed generation, and other demand-side programs.
- Enhance system reliability through investments in supply- and demand-side resources.

City of Larkspur 2040 General Plan

The City of Larkspur 2040 General Plan (City of Larkspur 2024) provides a vision for long-range physical and economic development of the City of Larkspur, provides strategies and specific implementation actions, and establishes a basis for judging whether specific development proposals and public projects are consistent with the City of Larkspur's plans and policy standards. *The City of Larkspur 2040 General Plan* contains a Circulation Element and a Sustainability Element, which include policies related to energy resources (City of Larkspur 2024). The following policies are applicable to energy:

Circulation Element

Goal CIR-1: A multimodal transportation system that is safe, efficient, and incorporates the needs of all circulation system users

Goal CIR-6: Attractive alternatives to the use of private automobiles in order to reduce automobile traffic, especially peak hour traffic, vehicle miles traveled (VMT), and transportation-related sources of air pollution and energy consumption

Goal CIR-12: Circulation improvements that do not adversely affect the environment

Sustainability Element

- Land Use Policy 12.5 promotes energy efficient and green building practices for new, rehabilitated, or remodeled development, including recommended Green Building, Energy Efficiency and Renewable Energy programs in the City's Climate Action Plan (CAP) and the Green Building standards in the City Municipal Code.
- Housing Policy H4.1 calls for developing and promoting energy efficiency measures consistent with the CAP.
- Health and Safety Policy 10.1 recommends regularly updating the CAP and monitoring of the progress toward meeting established GHG goals and development codes to implement the recommended Green Building, Energy Efficiency and Renewable Energy programs and promote state-of-the-art energy efficiency in new homes and remodels.
- Natural Environment and Resources Policy 4.3 calls for continued implementation of the CAP.
- The CAP includes eight implementation programs to increase the efficient use of energy.
- The City of Larkspur is currently implementing a CAP recommendation to increase use of renewable energy by enrolling in MCE's 100% renewable energy option.
- The CAP contains many recommendations to increase the use and generation of renewable energy, including use of electric vehicles; energy efferent upgrades for buildings, lights, and pumps; solar energy systems; GHG-free energy generation; building and appliance electrification; innovative technologies; and energy efficiency protocols.
- Several General Plan policies (for example, Health and Safety Policies 2.4 and 10.1, Natural Environment and Resources Policy 4.3, Land Use Policy 11.5) all recommend maintenance and implementation of the CAP.

Larkspur Climate Action Plan 2030

The *Larkspur Climate Action Plan 2030* (CAP 2030), adopted in 2021 by the City of Larkspur, includes goals, policies, and strategies to reduce the City's GHG emissions, in compliance with AB 32 and SB 375. CAP 2030 was adopted with the purpose of reducing GHGs community-wide to achieve a reduction target of 40% less than 1990 emission levels by 2030 and drawdown climate warming GHG emissions such as carbon dioxide from the atmosphere to secure a safe future for its residents. The City of Larkspur's CAP 2030 provides strategies and specific actions for energy use, transportation, waste, water, and natural systems that substantial evidence demonstrates, if fully implemented, will collectively achieve the targeted emissions level for the year 2030 (City of Larkspur 2024). GHG emissions largely involve energy consumption (that is, fossil-fuel usage); therefore, a reduction in GHG emissions would also equate to a reduction in energy consumption.

The following GHG reduction measures are applicable to energy:

LCT-C1: Zero Emission Vehicles Develop a Zero Emission Vehicle Plan that will result in at least 33% of passenger vehicles in Larkspur to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030. Incorporate the following actions in the plan as feasible:

a. Where there is paid parking restricted parking, provide free parking for ZEVs at City of Larkspur parking lots and parking spaces and other measures that incentivize use of ZEVs.

b. Provide wayfinding signage to public EV chargers.

c. Work with MCE, PG&E, and other entities to identify multi-family and workplace charging sites appropriate for available incentive programs, such as EV Charge Network.

d. Participate in a countywide effort by MCE, PG&E, and others to provide rebates for new or used EVs or charging stations.

e. Pursue opportunities to expand the City of Larkspur's EV charging network through innovative programs, such as installing chargers at existing streetlight locations.

f. Require new and remodeled commercial and multi-family projects to install a minimum number of EV chargers for use by employees, customers, or residents.

g. Accommodate new EV charging stations in existing commercial parking lots.

h. Require new and remodeled single-family and multi-family projects to install electrical service and conduits for potential EV use.

i. Consider requiring new and remodeled gas stations to provide EV fast chargers and hydrogen fueling stations.

j. Participate in regional efforts and grant programs to encourage widespread availability of EV charging stations.

k. Target policies to support ZEV adoption, including used vehicles, in low income and disadvantaged communities.

l. Participate in programs to promote EV adoption, including "Drive an EV" events and other media and outreach campaigns.

m. Encourage or require, as practicable, ride hailing and delivery service companies to use ZEVs.

LCT-C2: Bicycling and Micromobility

a. Encourage bicycling and micromobility as an alternative to vehicular travel. Promote safe bicycling and micromobility, including e-bikes, electric scooters, and electric skateboards, through outreach channels and partner agencies.

b. Establish and maintain a system of bicycle facilities that are consistent with the City of Larkspur's Bicycle and Pedestrian Master Plan and Complete Streets policies (City of Larkspur 2017).

c. Implement the City of Larkspur's Bicycle and Pedestrian Master Plan's recommendations to support and expand bicycling and micromobility (City of Larkspur 2004).

d. Update the Capital Improvement Program to maintain and improve the system of multiuse pathways and bicycling facilities that are consistent with the City of Larkspur's Bicycle and Pedestrian Master Plan and Complete Streets policies (City of Larkspur 2017).

e. Support regional efforts to establish a bike or scooter share program.

LCT-C5: Public Transit Support and promote public transit by taking the following actions:

a. Work with Marin Transit and Golden Gate Transit to maximize ridership by making transit more frequent, accessible, cost-beneficial, and convenient through expansion or improvement of transit routes, schedules, and bus shelters.

b. Work with Transportation Authority of Marin (TAM), employers, and others to provide "first and last mile" programs to maximize utilization of public transit.

c. Provide safe routes to the ferry landing and other transit facilities that encourage bicycle and pedestrian connections.

d. Encourage school districts to restore a "Yellow School Bus" program and student use of regular transit to reduce school traffic.

e. Encourage transit providers, including school buses, to use renewable diesel as a transition fuel and to purchase electric buses whenever replacing existing buses.

f. Encourage District to provide secure bicycle parking at the Larkspur Ferry Landing.

LCT-C7: Employee Trip Reduction Reduce vehicle miles traveled commuting to work through the following actions:

a. Work with the TAM, the Metropolitan Transportation Commission, and the Bay Area Air Quality Management District to promote transportation demand programs to local employers, including rideshare matching programs, vanpool incentive programs, emergency ride home programs, telecommuting, transit use discounts and subsidies, showers and changing facilities, bicycle racks and lockers, and other incentives to use transportation other than single-occupant vehicles.

b. Update the City of Larkspur's Trip Reduction Ordinance to reflect the most recent Bay Area Air Quality Management District regulations.

c. Work with Metropolitan Transportation Commission to identify and notify non-compliant businesses in the City Larkspur and encourage their participation in providing transportation demand management programs.

d. Work with TAM on developing a countywide Transportation Demand Management Program to encourage trip reduction throughout the County.

RE-C1: Renewable Energy Generation and Storage Accelerate installation of residential and commercial solar and energy storage systems.

a. Provide permit streamlining and reduce or eliminate fees, as feasible.

b. Update building codes, development codes, design guidelines, and zoning ordinances, as necessary, to further facilitate small-, medium-, and large-scale installations, where appropriate.

c. Encourage installation of solar panels over parking areas on commercial projects and large-scale residential developments through ordinance, engagement campaigns, or agency incentives.

d. Identify and promote financing and loan programs for residential and nonresidential projects.

e. Encourage battery storage in conjunction with renewable energy generation projects through engagement campaigns and partner agency incentives.

RE-C2. GHG Free Electricity. Encourage residents and businesses to switch to 100% renewable electricity (MCE Deep Green, MCE Local Sol, and PG&E Solar Choice) through engagement campaigns and partner agency incentives and work with MCE Clean Energy to assure that it reaches its goal to provide electricity that is 100% GHG-free by 2025.

RE-C3. Building and Appliance Electrification. Promote electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, and clothes dryers.

3.5.1.2 Environmental Setting

Energy resources in California include natural gas, electricity, water, wind, oil, coal, solar, geothermal, and nuclear resources. Energy production and energy use both result in the depletion of nonrenewable resources, such as oil, natural gas, and coal, and emissions of pollutants.

State Energy Resources and Use

California's diverse portfolio of energy resources produced 1,708.7 trillion British thermal units (Btu) in 2024 (EIA 2024). Excluding offshore areas, the state ranked eighth in the nation in crude oil production in 2025 (the most recent year for which data are available), producing the equivalent of 624.8 trillion Btu (EIA 2024). Other energy sources in the state include natural gas (141.7 trillion Btu), nuclear (191.9 trillion Btu), and biofuel (155.7 trillion Btu) (EIA 2024). In addition, because of the mild Mediterranean climate and strict conservation requirements for energy efficiency, California has lower energy consumption rates than most parts of the U.S. According to the U.S. Energy Information Administration, California consumed approximately 6,042.6 trillion Btu of energy in 2024 (EIA 2024). California's per capita energy consumption of 184 million Btu is the second lowest in the country and ranked 50th in the nation as of 2018 (EIA 2024).

In 2024, energy consumption by source was as follows, in order from most to least:

- Petroleum: 3,555.2 trillion Btu (59%)
- Natural gas: 1,424.3 trillion Btu (24%)
- Renewable energy, including nuclear electric power, hydroelectric power, biomass, and other renewables: 197.1 trillion Btu (3.3%)
- Distillates and jet fuel: 1,260.5 trillion Btu (16%)
- Interstate electricity: 838.4 trillion Btu (13%)
- Other sources: 7%

Of the natural gas consumed, commercial use consumed approximately 17%, followed by residential (23%) and industrial use (31%), among others (EIA 2024).

The transportation sector consumed the greatest quantity of energy at 3,108.2 trillion Btu (51%), followed by the industrial at 1,267.3 trillion Btu (21 %), residential at 863.1 trillion Btu (14%), and commercial at 804.1 trillion Btu) (13%) sectors (EIA 2024).

Per capita energy consumption, in general, is declining because of improvements in energy efficiency and designs. However, despite this reduction in per capita energy use, the state's total overall energy consumption (that is, non-per capita energy consumption) is expected to grow over the next several decades because of increases in population, jobs, and VMT.

Regional Energy Resources and Use

PG&E provides natural gas and electricity services to the vast majority of Northern California, including the City of Larkspur and the Project area. PG&E's service extends north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E purchases gas and power from a variety of sources, including other utility companies. PG&E also obtains energy supplies from power plants and natural gas fields in Northern California. PG&E operates a grid distribution system that channels all power produced at the various generation sources into one large energy pool for distribution throughout the service territory. PG&E provides all the natural gas and electric infrastructure in south San Francisco. PG&E has two plan options, known as Solar Choice options, in addition to its base plan that give customers the option to purchase energy from solar resources. The first Solar Choice option provides up to 50% of a customer's energy from solar resources, while the other provides up to 100% of the customer's energy from solar resources. However, this program has been put on hold by the California Public Utility Commission directive in Decision 21-12-036, and there is a waitlist for customers requesting to be added to it.

MCE is Marin County's official electricity provider. MCE's power comes from a mix of sources, including solar, wind, geothermal, biomass and biowaste, and hydroelectric generation. MCE delivers power to its customers via existing PG&E utility infrastructure.[2] MCE allows customers to choose between three different electricity product operations: Light Green (60% renewable resources), Deep Green (100% renewable resources from solar and wind power) and Local Sol (100% renewable resources from solar power) (MCE 2026).

In Marin County, 61.2 million therms of natural gas were consumed in 2024 (the most recent year for which data are available). In 2024, natural gas in Marin County was consumed primarily by the residential sector (71%), followed by the nonresidential sector (29%). In 2024, Marin County consumed a total of 1,309.4 million kilowatts. In Marin County, electricity was consumed primarily by the residential sector (53%), followed by the nonresidential sector (47%) (CEC n.d.). Electricity usage for different land uses varies substantially by the type of uses in a building, the types of construction materials used, and the efficiency of the electricity-consuming devices.

Energy consumption in the City of Larkspur has generally decreased over recent years despite a growing population. Electricity use decreased from approximately 20,000,000 kilowatt-hours (kWh) to approximately 10,000,000 kWh, and natural gas use decreased from approximately 4,000,000 therms to approximately 3,500,000 therms between 2018 and 2023 (City of Larkspur 2025)

[2] MCE charges each of its customers an electric delivery charge for maintenance of PG&E's wires and infrastructure and delivery of electricity to customers.

Project Site Energy Resources and Use

The LFT provides regular and special-event ferry service and is supported by multimodal access and two surface parking lots, the Main Lot and North Lot. The Main Lot and North Lot provide 2,023 parking spaces. Riders arrive via a mix of driving; drop-off/Transportation Network Company; bus transit; walking from the nearby Sonoma-Marin Area Rail Transit station, which is connected via the Cal Park Hill Pathway; and regional bicycle and pedestrian routes. Ferry service levels include up to 42 weekday crossings, with additional trips during events and for maintenance operations and deadhead movements. Overall, the terminal is a key regional mobility hub in the Bay Area. Terminal parking frequently reached capacity before the COVID-19 pandemic. At capacity, ferry ridership is constrained by parking, limited transit connections, and indirect pedestrian and bicyclist connections, which limit the terminal's ability to accommodate forecast ferry ridership growth. As explained in Chapter 2, there are two Build Alternatives occupying the same footprint that are essentially the same with the exception of (1) Main Lot Parking garage height (Alternative 1 is a five-level garage, and Alternative 2 is a four-level garage) and (2) Alternative 2 includes additional transportation demand management to fully address projected ridership demand with one less parking level in the Main Lot. As stated previously, PG&E and MCE provide natural gas and electricity to the City of Larkspur and therefore to the proposed Project site.

3.5.2 Environmental Impacts

Impacts were analyzed for the proposed Project area rather than specific Build Alternatives because the location of each Build Alternative would experience a nearly equivalent impact for each resource considered. Impacts for the Build Alternatives are presented together unless they differ substantially among alternatives.

3.5.2.1 Thresholds of Significance

The following CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to energy.

Would the proposed Project do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

3.5.2.2 Methodology

Because the proposed parking expansion would be in the City of Larkspur, the study area for the impact analysis is the City of Larkspur. Energy impacts associated with construction and operation of the Project were assessed and quantified where applicable using standard and accepted software tools and techniques. A summary of the methodology for calculating the proposed Project's energy use is provided as follows.

Appendix F of the CEQA Guidelines provides guidance on determining whether a project would result in the wasteful, inefficient, or unnecessary consumption of energy resources. As stated in Appendix F, the goal of conserving energy implies the wise and efficient use of energy. The means for achieving this goal include the following:

- Decreasing overall per capita energy consumption
- Decreasing reliance on fossil fuels such as coal, natural gas, and oil

- Increasing reliance on renewable energy sources

Based on Appendix F, environmental considerations in the assessment of energy consumption impacts may include the following:

- Project's energy requirements and its energy efficiency by amount and fuel type for each stage of the Project, including construction, operation, maintenance, or removal; if appropriate, the energy intensiveness of materials may be discussed
- Effects of the Project on local and regional energy supplies and requirements for additional capacity
- Effects of the Project on peak- and base-period demands for electricity and other forms of energy
- Degree to which the Project complies with existing energy standards
- Effects of the Project on energy resources
- Project's forecast transportation energy use requirements and its overall use of efficient transportation alternatives

Project Construction

Construction of the Project under both Build Alternatives would require energy usage, such as electricity for mobile offices and fuel for off-road equipment, haul trucks, vendor trips, and workers' trips. The construction schedule, equipment operating details, trip numbers and lengths, and material quantities provided by the Project sponsor were estimated for Alternative 1 only. An estimate was created only for Alternative 1 because the only difference in the Build Alternatives is one less level in the Main Lot garage in Alternative 2 (Phase II), which would likely result in a shorter construction duration and associated fuel consumption would be less but would still be on the same order of magnitude. For the purpose of this analysis, the Build Alternatives are considered substantively equivalent, except Alternative 2 requires proportionally less energy for one less level. The energy analysis represents the worst case or highest energy construction scenario. Fuel usage was quantified using the construction emissions profile generated by the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.45. The number of metric tons of carbon dioxide equivalent associated with each construction activity (for example, off-road equipment usage, worker trips) was converted to gallons of diesel or gasoline and summed accordingly, assuming all off-road activities, hauling, and vendor activities would be carried out using diesel equipment and vehicles and that all workers would use gasoline vehicles while traveling to and from the Project area. For ease of comparison across all energy consumption amounts, gallons of diesel and gasoline were converted to Btu, assuming an energy intensity of 124,000 Btu per gallon of gasoline and 139,000 Btu per gallon of diesel (Environment and Ecology 2026), and megawatt-hours (MWh) of energy converted assuming an energy intensity of 3,412,141 Btu per MWh of electricity (Convert Units 2026). The modeling reflects implementation of state measures to reduce energy use and resulting GHG emissions (for example, SB 100, Pavley). Quantifiable features, consistent with the proposed Project, were incorporated into CalEEMod. The CalEEMod output files are provided in Appendix B.

Project Operation

Energy consumption associated with the proposed Project operations includes the combustion of natural gas, electricity usage, and fuel consumption for the ferry service. Natural gas is only used for heating within the administration building. There is no anticipated change in operating hours or days; therefore, there would be no change in natural gas usage, and it is not considered further within this analysis. Other operational considerations are discussed in detail as follows.

Electrical and fuel usage information was provided by the District for a baseline comparison with future operational energy use. Based on the data provided for 2025 and 2026 from PG&E for the LFT, daily energy consumption ranges from approximately 2,200 to 3,300 kWh per day. The Larkspur Ferry runs 362 days per year for an approximate annual energy consumption of 800,000 to 1, 200,000 kWh per year.

Most of the electricity is associated with overnight shore power consisting of 480-volt, 100-amp feeds to the vessels. Vessel shore power is used for maintenance activities when vessels layup at night and the onboard diesel generators are shut down and connected to shore electrical feed for vessel lighting, control computers, ventilation, freshwater pumps, and other required daily maintenance activities. Activities using electricity are summarized as follows:

- Landside ferry maintenance activities, such as machine shop and fabrication tooling, welders, air compressors, and parts cleaners
- Ferry terminal and vessel support operations, including Berth 1 and 2 hydraulics, fuel transfer pumps, bilge water transfer pumps, overnight vessel shore power, lighting, roll up gates, and ticket machines
- Ferry administration building, including offices, ventilation, heat, and air conditioning
- Outdoor lighting, including parking lot and site

Table 3.5-1 provides the most recent available fuel consumption data for the legacy fleet for 2024 and 2025. The District is currently in the process of retiring the legacy fleet and replacing it with state-of-the-art Liwa-class vessels. The District anticipates that the first Liwa-class vessel to be commissioned in 2027 and will receive one Liwa vessel each year. This would result in retirement of the entire legacy fleet in 2033.

Table 3.5-1. Golden Gate Bridge, Highway and Transportation District Legacy Fleet Hourly and Annual Fuel Consumption

Vessel Name	2024 (gallons per hour)	2025 (gallons per hour)
Del Norte	148	133
Mendocino	136	96
Golden Gate	190	185
Napa	176	183
Marin	75	76
San Francisco	73	64
Sonoma	73	69
Annual Total	2,123,990	1,938,049

3.5.2.3 Impacts

Within this section, Alternative 1 and Alternative 2 impacts are discussed together as the Build Alternatives when the associated impacts are substantively the same. Where necessary to differentiate between Build Alternatives, the impact analysis is separated by Build Alternative.

Result in Potentially Significant Environmental Impact Due to Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources, During Project Construction or Operation

Construction

Alternative 1

Construction activities for the Project would include mobilization, demolition, utility work, civil and vertical structures work, and vertical structures finishing and inspection. Construction-related energy usage would include the electricity needed to power electric construction equipment or deliver water to the construction site, the gasoline and diesel fuel used for transporting workers and materials to and from the construction site, and the fuel used for the operation of off-road equipment. Construction-related energy usage and consumption would vary throughout the course of Project buildout and depend on the level of activity, length of the construction period, specific construction operations, types of equipment, and number of personnel. Table 3.5-2 presents the estimated construction-related energy consumption for the Project. As shown, Project construction would consume approximately 3,160 MWh over the 18-month construction period for North Lot (Phase I) and 11, 860 MWh over the 36-month construction period for the Main Lot (Phase II).

Table 3.5-2. Estimated Construction Energy Consumption from the Proposed Project (MWh)

Alternative 1	Estimated Year	Gasoline (Gallons)	Diesel (Gallons)	Total (MWh)
Phase I	2033	8,884	30,392	1,427
Phase I	2034	4,582	43,080	1,732
Phase II	2037	7,776	139,232	5,342
Phase II	2038	13,407	88,880	3,371
Phase II	2039	4,529	71,553	2,765
Phase II	2040	2,582	8,053	387

Source: Refer to Appendix B for CalEEMod outputs uses for construction energy calculations.

As shown in Table 3.5-2, large quantities of energy in the form of gasoline and diesel will be required to build the new garages on both the North and Main Lots across a multi-year horizon. Because of the presence of unstable bay muds, , the Project requires substantial earthwork operations across the Main Lot parking garage location. Approximately 5 to 7 feet of soil must be excavated and hauled away for disposal. Soil import will be returned to the site to fill the hole and provide the final grade above the anticipated near-term (2100) sea-level rise elevation. This creates a short-term, intensive demand for diesel fuel to power heavy excavation equipment and heavy-duty haul trucks, potentially resulting in a significant impact associated with wasteful or inefficient energy use.

The Project mitigation measure MM-AQ-CNST-1 mandates use of U.S. Environmental Protection Agency Tier 4 Certified off-road equipment (see Section 3.2 Air Quality). Tier 4 engines integrate advanced engine tuning, selective catalytic reduction, and high-pressure common-rail fuel injection systems. These components maximize thermal efficiency and optimize fuel burn rates compared to older, legacy equipment tiers. By combining MM-AQ-CNST-1 mandatory Tier 4 equipment fleets with required CARB anti-idling regulations, the Project would ensure efficient energy use and that construction-phase petroleum consumption would be minimized. Thus, Project construction would not result in wasteful,

inefficient, or unnecessary consumption of energy resources, and this impact would be ***less than significant with mitigation.*** Recycling would further reduce the energy intensity associated with new building materials and discarded construction and demolition debris. Also, in addition to recycling, compliance with Bay Area Air Quality Management District best management practices—specifically, those associated with alternative fuel and recycling would further minimize energy use.

Alternative 2

Alternative 2 construction activities would consume slightly less energy than Alternative 1 because it would require a shorter construction schedule and fewer truck trips and less material deliveries associated with one less level on the Main Lot parking garage. However, overall construction energy impacts would be substantively the same as Alternative 1. For the same reasons discussed for Alternative 1, with implementation of MM-AQ-CNST-1 combined with required CARB anti-idling regulations, the Project would ensure efficient energy use and that construction-phase petroleum consumption would be minimized. Thus, project construction would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and this impact would be ***less than significant with mitigation.***

Operation

Alternative 1

Anticipated operational energy uses associated with the incremental increase in ferry service from 42 up to a maximum of 76 daily revenue crossings by 2050 are summarized as follows:

- Increased Ferry Service: The District is making a major investment to retire the current fleet and replace it with the Liwa-class vessels. The Liwa-class vessel design is state of the art, with the latest technology that will reduce energy needs associated with overnight shore power, The Liwa-class vessels have Tier 4 engines that maximize thermal efficiency and optimize fuel burn rates compared to the legacy fleet, are equipped with jet propulsion, and have an improved haul design that will result in an estimated 36% fuel savings. In addition, the new Liwa-class vessels will have the capacity to carry 50 more passengers per trip.
- Reduced VMT: The ferry consolidates arrivals of those traveling to San Francisco from the City of Larkspur at the LFT and North Lot. These trips are removed from the roadways, resulting in a decrease in VMT of 2,165 miles per day in 2035, up to 86,056 miles per day in 2050 and beyond (refer to Section 3.14, Transportation). The reduction in VMT would displace thousands of gallons of petroleum fuel consumption over the life of the Project and result in a decrease in fuel use that would otherwise be required to drive to San Francisco.
- Renewable Energy Generation: Approximately 75% of the upper levels of both garages will feature solar canopy installations housing 9,852 solar photovoltaic modules (450 watts each), resulting in an annual clean energy output of 5,700,000 kWh per year. The system will fully cover the baseline terminal operations and localized parking garage lighting loads, which will replace the existing out-of-date lot lighting with new high-efficiency lighting. Overall, there is expected to be a net surplus of over 4.5 million kWh per year to power EV charging stations and elevators, and excess energy would be exported back into PG&E's regional grid.
- EV Charging: Both facilities will adhere to the CALGreen Code (Title 24, Part 11). The North Lot would have approximately 178 capable stalls with 128 chargers. The Main Lot would have approximately 800 capable stalls and 600 chargers.

- High-Efficiency Lighting Design: The Project will completely replace older, existing exterior lighting in the Main and North Lots. All luminaires will use high-efficiency light-emitting diodes (LEDs) with a minimum Color Rendering Index of 90. Energy usage is dynamically managed via integrated automation controls, including continuous daylight harvesting and occupancy-based dimming to minimize energy use.

As discussed, the proposed Project is increasing energy efficiency in all aspects of maintenance and operations, including clean energy generation to help offset future energy use. Operation of the proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources, and this impact would be ***less than significant***. No mitigation is required.

Alternative 2

In addition to the energy efficiencies discussed for Alternative 1, Alternative 2 also include additional transportation demand management that would result in increased reductions in VMT compared to Alternative 1. Reductions in VMT for Alternative 2 in 2035 would be 4,930 miles per day and 124,749 miles per day in 2050 and beyond. Alternative 2 would displace even more petroleum fuel consumption over the life of the Project compared to Alterative 1. For the same reasons discussed for Alternative 1, construction of Alternative 2 would not result in wasteful, inefficient, or unnecessary consumption of energy resources during operation, and the impact would be ***less than significant.*** No mitigation required.

Mitigation Measures

Refer to MM-AQ-CNST-1 in Section 3.2, Air Quality.

Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency

Construction and Operation

Build Alternatives

State and local renewable energy and energy efficiency plans applicable to the proposed Project are discussed in Section 3.5.1.1, Regulatory Setting. State plans include the AB 1493 Pavley Rules, California Title 24 energy efficiency standards, EO B-16-12, EO N-79-20, SB 350, SB 100, and SB 1020. Each contains required standards related to energy efficiency and renewable energy development. Local plans that address energy efficiency and are designed to achieve the state's RPS mandates include the following:

- PG&E's 2022 IRP
- MCE's 2026 IRP
- City of Larkspur's CAP 2030 (City of Larkspur 2021)

The City of Larkspur 2040 General Plan (City of Larkspur 2024) also includes goals and policies related to energy use and energy reductions.

As discussed, the proposed Project would incorporate renewable energy through solar generation, along with other energy efficiency and sustainability features.

The proposed Project would be required to comply with state and local renewable energy and energy-efficiency plans. As a result, it would benefit from renewable energy development and increases in energy efficiency. Reductions in VMT would occur under the Project, and combined with the number of

average daily trips in the area, energy use is expected to become more efficient under regulations included in Pavley and EO B-16-12, which address average fuel economy and commercialization of ZEVs, respectively. Project energy use is expected to increase because of compliance with Title 24 building codes, which are expected to move toward zero net energy for new construction and 100% renewable energy under SB 350 and SB 100 regulations. With implementation of the proposed Project, the District would clean energy back to the grid, and PG&E and MCE would also continue to pursue the procurement of renewable energy sources to meet their RPS goals and comply with state regulations. Therefore, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

3.6 Geology and Soils

This section addresses potential impacts related to geology, soils, and seismicity as well as paleontological resources that may result from implementation of the proposed Larkspur Ferry Service Expansion and Parking Project (Project). The following discussion addresses existing geology, soils, seismicity, and paleontological conditions of the Project area and surroundings; considers applicable goals and policies; identifies and analyzes environmental impacts; and recommends measures to reduce or avoid adverse impacts anticipated from Project implementation, as applicable. Information in this section is based on the Preliminary Geotechnical Report (Geotechnical Report) prepared for the proposed Project, unless otherwise noted (Jacobs 2026). Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.6.1 Existing Conditions

3.6.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District, as the owner of the Larkspur Ferry Terminal, is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

Earthquake Hazard Reduction Act of 1977

Federal laws codified in United States Code Title 42, Chapter 86, were enacted to reduce risks to life and property from earthquakes in the U.S. through the establishment and maintenance of an effective earthquake hazards reduction program. Implementation of these requirements is regulated, monitored, and enforced at the state and local levels.

State

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (Alquist-Priolo Act)

The Alquist-Priolo Act (Public Resources Code Section 2621 et seq.) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location and construction of most types of structures intended for human occupancy[1] over active fault traces and strictly regulates construction in the corridors along active faults. The state geologist has established regulatory zones along active faults,[2] called "Earthquake Fault Zones," and published maps that identify areas where surface traces of active faults are present (CGS 2018). The state guidelines for fault rupture hazards are explained in the California Geological Survey (CGS) Special Publication 42. Strict regulations on development within these zones are enforced to reduce the potential for damage because of fault displacement.

[1] According to the Alquist-Priolo Act, a structure for human occupancy is defined as one "used or intended for supporting or sheltering any use or occupancy that is expected to have human occupancy rate of more than 2,000 person-hours per year" (California Code of Regulations, title 14, division 2, section 3601[e]).

[2] An active fault, for the purposes of the Alquist-Priolo Act, is one that has ruptured in the past 11,000 years.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 (California Public Resources Code, Chapter 7.8, Sections 2690–2699.6) directs the CGS to identify and map areas prone to the liquefaction and landslides resulting from seismic events. The act mandates that project sponsors have a site-specific geotechnical investigation performed to identify potential seismic hazards and formulate mitigation measures before the permitting of most developments within specific zoned areas. The SHMA requires the State Geologists to establish regulatory zones (Zones of Required Investigation) and to issue appropriate maps (Seismic Hazard Zone maps).

California Building Standards Code

The California Building Standards Code, or state building code, is codified in Title 24 of the California Code of Regulations. The state building code provides standards that must be met to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the state. The state building code generally applies to all occupancies in California, with modifications adopted in some instances by state agencies or local governing bodies. The current California Building Code (CBC) (CBSC 2025) incorporates, by adoption, the 2024 edition of the International Building Code of the International Code Council, with the California amendments. These amendments include building design and construction criteria that have been tailored for California earthquake conditions.

Chapter 16 of the state building code deals with structural design requirements governing seismically resistant construction (Section 1604) including, but not limited to, factors and coefficients used to establish a seismic site class and seismic occupancy category appropriate for the soil/rock at the building location and the proposed building design (Sections 1613.5 through 1613.7). Chapter 18 includes, but is not limited to, the requirements for foundation and soil investigations (Section 1803); excavation, grading, and fill (Section 1804); allowable load-bearing values of soils (Section 1806); foundation and retaining walls (Section 1807); and foundation support systems (Sections 1808 through 1810). Chapter 33 includes, but is not limited to, requirements for safeguards at work sites to ensure stable excavations and cut-and-fill slopes (Section 3304) as well as the protection of adjacent properties, including requirements for noticing (Section 3307). Appendix J of the state building code includes, but is not limited to, grading requirements for the design of excavation and fill (Sections J106 and J107), specifying maximum limits on the slope of cut-and-fill surfaces and other criteria, required setbacks and slope protection for cut-and-fill slopes (Section J108), and erosion control through the provision of drainage facilities and terracing (Sections J109 and J110).

The CBC, in conjunction with 2022 edition of American Society of Civil Engineers (ASCE) *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*, ASCE 7-22 (ASCE 2022) establishes minimum design criteria and construction requirements, including design of concrete and steel structures, buildings, excavation and shoring, grading, and foundations.

California Division of Occupational Safety and Health Regulations

Construction activities are subject to occupational safety standards for excavation, shoring, and trenching, as specified in California Division of Occupational Safety and Health regulations (Title 8).

State Historic Significance Criteria

Section 4.7.5.2, Significance Criteria, Appendix G of the CEQA Guidelines includes the following question: "Would the project directly or indirectly destroy a unique paleontological resource or site?" Although CEQA

does not define what constitutes "a unique paleontological resource or site," Section 21083.2 defines *unique archaeological resources* as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and shows that there is a demonstrable public interest in that information.
- Exhibits a special and particular quality, such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

This definition is equally applicable to recognizing a unique paleontological resource or site. CEQA Section 15064.5(a)(3)(D) provides additional guidance, indicating that, generally, a resource is considered historically significant if it has yielded, or may be likely to yield, information important in history before or after European contact.

The CEQA lead agency having jurisdiction over a project is responsible for ensuring that paleontological resources are protected in compliance with CEQA and other applicable statutes. California Public Resources Code Section 21081.6 requires the CEQA lead agency to demonstrate project compliance with the mitigation measures developed during the environmental impact review process.

Local

Larkspur Municipal Code

15.07.010 - California Existing Building Code. The Larkspur Municipal Code adopts the following recognized codes by reference: 2025 Edition, California Existing Building Code (CEBC 2025).

15.08 – California Building Code. The Larkspur Municipal Code adopts the following recognized codes by reference: 2025 Edition, California Building Code, with amendments to Chapters 1, 2, 3, 7, 9, 15, 31, and 33.

15.20.320 – Erosion and Sediment Control Plan Requirements. When required by the Phase II Stormwater Permit or by the agency, a project shall have an Erosion and Sediment Control Plan, which addresses erosion and sediment control and pollution prevention during the construction phase and final stabilization control measures.

18.41.140 – Development Plan. New development applications require geotechnical reports consistent with general plan requirements to assess such hazards as potential seismic hazards, liquefaction, landslides, debris flows, erosion, sedimentation and settlement and hazardous soils conditions to determine the optimum location for structures, to advise of special structural requirements and to evaluate the feasibility and desirability of a proposed facility in a specific location.

The Larkspur Municipal Code does not reference paleontological resources.

City of Larkspur 2040 General Plan

The City of Larkspur 2040 General Plan (City of Larkspur 2024) contains goals, policies, and programs describing the community's vision for economic viability, livable neighborhoods, and environmental protection. *The City of Larkspur 2040 General Plan* includes the following policies associated with geology

and soil. *The City of Larkspur 2040 General Plan* does not reference paleontological resources (City of Larkspur 2024).

Chapter 7, Section A, Seismic Hazards. Requires enforcing the application of CBC during project review and construction to areas identified as at-risk to seismic hazards to ensure reduction in potential loss of life and property damage because of an earthquake.

Chapter 7, Section A, Geologic Hazards. Requires identification of geologic hazards that include landslides, debris flows, subsidence, and differential sediment; performing geotechnical analysis during project review; implementation of appropriate stormwater management practices; and encourages property owners to familiarize themselves with the risk their properties may face, to reduce the risk of damage from geologic hazards.

Chapter 7, Section B.1, Community Preparedness. No new development in areas prone to natural hazards without adequate mitigation.

3.6.1.2 Environmental Setting

Physiography

The Project area is in a depression within the Coast Ranges geomorphic province of California (CGS 2002). The Coast Ranges are northwest-trending mountain ranges (2,000 to 4,000 and occasionally up to 6,000 feet elevation above sea level) and valleys, composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata.

In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma, and Clear Lake volcanic fields. The Coast Ranges are generally parallel to the San Andreas Fault Zone, mapped roughly 8 miles southwest of the site. The Hayward Fault Zone (mapped approximately 9 miles northeast of the site) is a prime example of the northwest-trending geologic structure associated with the Coastal Ranges province. The San Andreas fault is more than 600 miles long, extending from Point Arena to the Gulf of California. West of the San Andreas fault is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands.

Subsurface Conditions

The Project area is in the northern portion of the Coast Ranges. Below the surficial deposits, the site is underlain by Franciscan Complex bedrock (CGS 1976). The Franciscan Complex can generally be described as a mix of small-to-large resistant rock masses (mainly sandstone, greenstone, chert, and serpentine) in a matrix of highly sheared to pulverized rock material. The Complex represents one or more immense, geologically ancient fault zones that resulted from the collision of the North American and Pacific plates roughly 60 to 100 million years ago. The surficial soils consist of artificial fills, overlying Bay Mud, alluvium, and Franciscan Complex bedrock.

The Main Lot is underlain by 8 to 13 feet of artificial fill, generally consisting of medium dense to dense clayey sand with gravels. The Bay Mud is high plasticity, soft to very soft, and very compressible silt and clay with scattered organic peat. This very compressible silt and clay were encountered from about 13 to 15 feet below ground surface (bgs), with layer thickness ranging from 38 to 55 feet. The alluvium underlying Bay Mud predominantly consists of lean and fat clays, sand, and sandy clays of moderate to

high strength and low compressibility. Bedrock predominantly comprises mudstone, encountered at depths of about 60 to 90 feet bgs.

The North Lot is underlain by shallow (12 to 18 feet), medium stiff to stiff, sandy lean clays with moderate to high strength and low compressibility, overlaying the bedrock.

Seismicity and Seismic Hazards

Primary Seismic Hazards

Surface Fault Rupture

The Project area is not within an Alquist-Priolo earthquake fault zone, and no known active faults or potentially active faults are mapped on the Project area (CGS 2018). Therefore, the likelihood of surface fault rupture within the Project area is considered low. In a seismically active area such as the San Francisco Bay Area, the possibility of future surface fault rupture occurring in areas where active faults have not been mapped is small, but the possibility exists.

Seismic Ground Shaking

Ground shaking is the most prominent hazardous phenomenon associated with seismic activity. The Project is between two active fault zones: the Hayward Fault Zone, approximately 9 miles northeast of the Project, and the San Andreas Fault Zone, approximately 8 miles southwest of the Project (CGS 2018). Large earthquakes could occur on these faults, producing significant ground shaking at the Project site.

There is a 72% probability of a major (6.7 or greater magnitude) earthquake occurring in the San Francisco Bay Area by 2043 (USGS 2016). The San Andreas fault (22%) and Hayward fault (33%) are the major contributors to this hazard. The Project area could experience "severe"[3] ground shaking (Modified Mercalli Intensity [MMI] Shaking Severity Level 8) from a major seismic event that can be expected to occur during the design lifetime of the proposed Project (ground shaking with a 10% probability of exceedance in 50 years) (ABAG 2020). During such a seismic event, the Project area could experience "violent"[4] ground shaking (MMI Shaking Severity Level 9) (CGS 2025).

According to the Geotechnical Report, the mean site-adjusted Maximum Credible Earthquake (MCE_R) peak horizontal ground accelerations (PGA_M) were estimated to be 0.45g (g=acceleration due to gravity) and 0.56g for the Main and North Lots, respectively. An MCE event corresponds to a rare earthquake event with 2% probability of exceedance in 50 years (2,475-year return period).

Secondary Seismic Hazards

Liquefaction

Liquefaction occurs when saturated loose cohesionless soil loses its strength and stiffness when subject to rapid loading, such as that from an earthquake. Liquefied soil behaves like a liquid (viscous material), resulting in ground failure. When a load, such as a structure, is placed on ground that is subject to liquefaction, ground failure can result in the structure sinking and tilting. Ground failure can take on many

[3] A "very strong" earthquake is defined on the MMI Scale as an VIII, which could result in extensive damage to unreinforced masonry buildings (for example., masonry walls falling, wood-frame houses moving off their foundations, loose partition walls being thrown out of alignment) (ABAG 2020).

[4] A "violent" earthquake is defined on the MMI Scale as an IX, which could result in buildings shifted off foundations, cracked, or tilted; ground cracked; underground pipes broken (CGS 2025).

forms, including flow failures, lateral spreading, ground settlement, loss of bearing strength, ground fissures, and sand boils. Liquefaction that occurs at great depths may result in less settlement, compared to liquefaction that occurs at shallow depths.

The Project is within the San Rafael Quadrangle, an area that has not been evaluated by the California Geological Survey for seismic hazards, including liquefaction (CGS 2026). However, the Marin Countywide Plan identifies the majority of the Project area as an area with high to very high levels of liquefaction susceptibility (County of Marin Community Development Agency 2023).

The Project area was evaluated for liquefaction hazard in the Geotechnical Report using the field exploration data obtained at the Project site. No liquefiable soils were identified in the exploratory soil borings, but isolated liquefiable soils were identified in the cone penetrometer test (CPT) soundings. These analysis results indicate that most of the liquefiable soils are within the upper 14 feet below the existing ground surface and limited thin liquefiable soil layers exist at greater depths. These thin liquefiable soil layers at greater depths are not expected to adversely impact the proposed development at the site. In addition, it is anticipated that the upper 5 to 10 feet of these liquefiable soils will be excavated at the parking lot foundation locations for the construction of pile caps. Therefore, the potential for liquefaction to occur and the impacts on the proposed parking lots are considered low.

Lateral Spreading

Lateral spreading is a phenomenon in which a surficial soil displaces/moves along a shear zone that formed within an underlying liquefied layer. The surficial soil blocks are transported downslope or in the direction of a free face, such as a bay or creek, by earthquake shakings and gravitational forces. Lateral spreading is generally the most pervasive and damaging type of liquefaction-induced ground failure generated by earthquakes.

At the Main Lot, there are free faces in the areas to the east and south of the Project site associated with a history of previous site reclamation/development. The conditions of these free faces or slopes are unknown, and their stability under the gravity and anticipated seismic loads were not evaluated in the preliminary geotechnical study. These areas could provide a free face toward which liquefiable soils could displace. Because the risk of liquefaction is low in the soils underlying much of the Project area, the potential of lateral spreading because of liquefaction toward the eastern and southern portions of the Project area is judged to be low.

Expansive Soils and Weak Soils

Expansive soils are characterized by their ability to undergo substantial volume changes (that is, shrink and swell) because of variation in moisture content. Expansive soils are typically very fine grained and have a high to very high percentage of clay. They can damage structures and buried utilities and increase maintenance requirements. Generally, projects in areas with expansive soils may require special building foundations or grade preparation, such as the removal of problematic soils and replacement with engineered soils.

Based on expansive soil criteria, in accordance with Section 1803.5.3 of the CBC, soils with expansion index more than 20 shall be considered expansive. According to the Geotechnical Report, the clayey sandy soils encountered at shallow depths have high expansion index values, with expansion indexes of 24 and 30 measured at the Main Lot and expansion index of 63 measured at the North Lot. Note that the shallow subsurface soils in the Project area have plasticity index ranging from 14 to 45. Therefore, the subsurface soils at the Project site are considered to have medium to high expansion potential.

Landslides

Landslides occur when the stability of a slope changes from a stable to an unstable condition. The stability of a slope is affected by the following primary factors: inclination, material type, moisture content, orientation of layering, and vegetative cover. In general, steeper slopes are less stable than more gently inclined ones. No official landslide hazard zone report/map for the Project site has been published by the CGS. Moreover, the available geologic maps published by USGS (1997[5]) for Marin County indicate that the Project site is relatively flat and no natural slopes are present. Therefore, the potential for landslides at the Project site is considered low.

Paleontological Resources

Fossils preserve information about ancient animals and plants (UCMP n.d.). There are two types of fossils: body fossils (remains of an organism) and trace fossils (for example, footprints, burrows, trails). Fossils can add to the scientific record by providing information about the anatomy of an organism, clues to its life processes, successive evolutionary development, and habitat use over time. If fossils are destroyed, they cannot be replaced. Fossils thus represent irreplaceable evidence of past life on the planet (NPS 2023).

Fossils occur within geologic units. A geologic unit is a volume of rock or sediment of identifiable origin with an age range defined by distinctive and dominant features. The geologic units exposed at and near the ground surface in the Project area are artificial fill over marine and marsh deposits (Qmf; Quaternary) and Jurassic and Cretaceous Franciscan Complex mélange (fsr) (Blake et al. 2000).

Geologic units from the Quaternary contain both Holocene and Pleistocene deposits. In general, Holocene deposits are considered too young to contain fossils, while those from the Pleistocene may be richly fossiliferous (SVP 2010, 2026). The Jurassic and Cretaceous Franciscan Complex mélange has yielded some fossils, though most of these are invertebrates (for example, bivalves, brachiopods, and tubeworms) and microfossils (for example, radiolarians).

3.6.2 Environmental Impacts

The study area for geology and soils and paleontology includes the project footprints within the Main and North Lots.

3.6.2.1 Methodology

Geology, Soils, and Seismicity

Geology, soils, and seismicity impacts were analyzed for the Project area. Information in this section is based on the Geotechnical Report prepared for the proposed Project, unless otherwise noted (Jacobs 2026). The Geotechnical Report discusses the data from field explorations and design recommendations from a geotechnical standpoint.

In the *California Building Industry Association v. Bay Area Air Quality Management District* case, decided in 2015,[6] the California Supreme Court held that CEQA does not generally require lead agencies to consider how existing environmental conditions might affect a project, except where the project would significantly

[5] U.S. Geological Survey (USGS). 1997. Summary Distribution of Slides and Earth Flows in Marin County, California. Plot Derived from Open–File Report 97–745 C.

[6] *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369. Opinion filed December 17, 2015. Available: https://caselaw.findlaw.com/ca-supreme-court/1721100.html. Accessed: May 26, 2026.

exacerbate an existing environmental condition. Accordingly, placing new development in an existing or future seismic hazard area or an area with unstable soils is not considered an impact under CEQA unless the project would significantly exacerbate a seismic hazard or unstable soil conditions. Therefore, the following analysis evaluates whether the proposed Project would exacerbate existing or future seismic hazards or unstable soils in the Project area and result in potentially significant environmental impacts or a substantial risk of loss, injury, or death.

Paleontological Resources

The *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (Procedures) (SVP 2010) include procedures for the investigation, collection, preservation, and cataloging of fossil-bearing sites. This includes the designation of paleontological sensitivity. The Procedures are widely accepted among paleontologists and followed by most investigators. The Procedures identify two key phases of paleontological resource protection: (1) assessment and (2) implementation. Assessment involves identifying the potential for a project site or area to contain significant, nonrenewable paleontological resources that could be damaged or destroyed by project excavation or construction. Implementation involves formulating and applying measures to reduce such adverse effects. *Paleontological potential* refers to the potential for yielding abundant fossils, a few significant fossils, or recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.

For the assessment phase, the Society of Vertebrate Paleontology uses one of four sensitivity categories for sedimentary rocks (that is, high, undetermined, low, and no potential) to define the level of potential, described further as follows:

- **High Potential.** Assigned to geologic units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered as well as sedimentary rock units suitable for the preservation of fossils (for example, middle Holocene and older fine-grained fluvial sandstones, fine-grained marine sandstones).
- **Undetermined Potential.** Assigned to geologic units for which little information is available concerning their paleontological content, geologic age, and depositional environment. In cases where no subsurface data already exist, paleontological potential can sometimes be assessed by subsurface site investigations.
- **Low Potential.** Field surveys or paleontological research may determine that a geologic unit has low potential for yielding significant fossils (for example, basalt flows). Mitigation is generally not required to protect fossils.
- **No Potential.** Some geologic units have no potential to contain significant paleontological resources (for example, high-grade metamorphic rocks [gneisses and schists] and plutonic igneous rocks [granites and diorites]). Mitigation is not required.

3.6.2.2 Thresholds of Significance

The following CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to geology and soils.

Would the proposed Project:

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

- Strong seismic ground shaking?
- Seismic-related ground failure, including liquefaction?
- Landslides?

- Result in substantial soil erosion or the loss of topsoil?
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?
- 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?
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

3.6.2.3 Impacts

Project geology and soils impacts are substantively the same for both Alternative 1 and Alternative 2. Within this section impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives

Directly or Indirectly Cause Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death Involving Rupture of a Known Earthquake Fault, Strong Seismic Ground Shaking, Seismic-Related Ground Failure (Including Liquefaction), or Landslides

Construction and Operation

Build Alternatives

Fault Rupture

As discussed under Seismicity and Seismic Hazards, the Project area is not mapped within an Alquist-Priolo earthquake fault zone, and no known active and potentially active faults exist in the vicinity of the Project. It is concluded that the risk of surface fault rupture from a seismic event is very low. Therefore, construction and operation of the Build Alternatives would not exacerbate the risk of surface fault rupture, and this impact would be ***less than significant***. No mitigation required.

Ground Shaking

As discussed under Seismicity and Seismic Hazards, the Project area is in a seismically active area between two major active faults (the San Andreas and Hayward faults). Consequently, the Project area could experience significant ground shaking (MMI Shaking Severity Levels 8 or 9) during major seismic events.

However, the proposed Project would comply with the California Buildings Standard Code, Marin County policies, and Larkspur Municipal Code seismic requirements, which would ensure the design of the proposed Project would reduce risks to life from damage. Therefore, construction and operation of the

Build Alternatives would not exacerbate the risk of ground shaking resulting from a seismic event, and this impact would be ***less than significant***. No mitigation required.

Soil Liquefaction

As discussed under Seismicity and Seismic Hazards, portions of Marin County are underlain by liquefiable soils and the Project area is in an area identified by the Marin Countywide Plan as being susceptible to liquefaction. The Geotechnical Report found that most of the liquefiable soils are within the upper 14 feet of the existing ground surface, and only limited thin liquefiable soil layers are encountered at greater depths. In addition, the upper 5 to 10 feet of these potentially liquefiable soils will likely be excavated and replaced with suitable engineered fill at the foundation locations for the construction of parking lots. Therefore, construction and operation of the Build Alternatives would not exacerbate the risk of soil liquefaction resulting from a seismic event, and this impact would be ***less than significant***. No mitigation required.

Seismic Densification

The Geotechnical Report estimated the liquefaction-induced seismic settlements at the Project site to be less than 1 inch. There are no loose, unsaturated granular soils encountered in the soil borings and CPT sounding drilled on the Project area, which are susceptible to settlement from a seismic event. Therefore, with adherence to design and construction recommendations presented in the Geotechnical Report, construction and operation of the Build Alternatives would not result in adverse conditions related to seismic densification, and this impact would result in a ***less-than-significant*** impact. No mitigation required.

Lateral Spreading

There are free faces in the areas to the east and south of the Main Lot associated with the previous site reclamation/development. The stability of these free faces under gravity and seismic loads would be evaluated in the future design, and mitigation measures would be recommended, as required, to stabilize these faces. Therefore, construction and operation of the Build Alternatives would not result in adverse conditions related to lateral spreading, and this impact would result in a ***less-than-significant*** impact. No mitigation required.

Landslides

As discussed under Landslides, the Project area is relatively flat, and there have been no reported landslides or recorded landslide deposits in the immediate vicinity of the Project site. Therefore, construction and operation of the Build Alternatives would result in ***no impact*** related to landslides.

Mitigation Measures

No mitigation required.

Result in Substantial Soil Erosion or the Loss of Topsoil

Construction and Operation

Build Alternatives

The proposed Project is in an urbanized area within existing paved parking lots. Construction of the Build Alternatives would require excavation and grading to provide a secure foundation, allow for positive drainage, and enable the installation of piles. Because the proposed Project would disturb more than 1 acre of land, the Project will be required to comply with the requirements of the National Pollutant Discharge Elimination System Construction General Permit, *The City of Larkspur 2040 General Plan* (City of Larkspur 2024), and the Larkspur Municipal Code. Implementation of MM-HYD-CNST-1 would include measures to avoid and minimize erosion and implement best management practices to control sediment and minimize erosion during construction. Examples of the types of best management practices include the installation of erosion control measures (for example, silt fences, staked straw bales/wattles, silt/sediment basins or traps), geofabric, sandbag dikes, covers for stockpiles, or storage precautions for outdoor material storage areas. Therefore, with implementation of MM-HYD-CNST-1, construction of the Build Alternatives would not result in substantial soil erosion or loss of topsoil, and impacts would be ***less than significant with mitigation.***

After the construction of Build Alternatives, the Project sites would consist of paved and impervious surfaces, and there would be no loss of top soil or soil erosion and operation of the Build Alternatives would result in ***no impact***.

Mitigation Measures

Refer to MM-HYD-CNST-1 in Section 3.9, Hydrology and Water Quality.

Be Located on a Geologic Unit or Soil That is Unstable, or that would Become Unstable as a Result of the Project, and Potentially Result in Onsite or Offsite Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse

Construction and Operation

Build Alternatives

As discussed under Seismicity and Seismic Hazards, the potential for liquefaction, lateral spreading, and seismic settlement at the Project site is considered low. Adhering to the design and construction recommendations provided in the Geotechnical Report further reduces these seismic hazards.

The Geotechnical Report determines that the Main Lot is underlain by soft Bay Mud. When loaded, this soft Bay Mud would undergo significant compression or settlement over time (that is, consolidation process). But with adherence to design recommendations presented in the Geotechnical Report, the impacts related to compression and settlement of the soft Bay Mud would be reduced to an acceptable level.

Dewatering, if it is extensive, can result in subsidence, which occurs when the compaction of underlying soils results in a lowering of land surface. However, the amount of dewatering necessary for the proposed Project would not be great enough to result in subsidence.

Therefore, the impacts related to potential liquefaction, lateral spreading, soil compression, settlement, and subsidence because of dewatering in soil that is unstable or could become unstable because of

construction and operation of the Build Alternatives would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

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

Construction and Operation

Build Alternatives

As discussed under Expansive Soils and Weak Soils, subsurface soils encountered at the Project site have low to high expansion potential. Adherence to the design and construction recommendations provided in the Geotechnical Report for onsite expansive soils would reduce soil expansion hazard. Therefore, construction and operation of the Build Alternatives would not create a direct or indirect risk to life or property by being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), and this impact would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

Have Soils Incapable of Adequately Supporting the Use of Septic Tanks or Alternative Wastewater Disposal Systems where Sewers are not Available for the Disposal Of Wastewater

Construction and Operation

Build Alternatives

The proposed Project would connect to the City of Larkspur's existing sewer, water, and power infrastructure to operate the Project facilities. The proposed Project would not use a septic tank or alternative water disposal system. Therefore, construction and operation of the Build Alternatives would have ***no impact*** regarding the support of septic tanks.

Mitigation Measures

No mitigation required.

Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature

Construction and Operation

Build Alternatives

Only construction activities associated with the Build Alternatives that have the potential to disturb native soils would have potential to disturb paleontological resources or geologic features. Construction would occur within the bedrock geologic unit (Franciscan Complex mélange) underlying the Project area. Excavation activities would be primarily limited to areas of fill within the top 10 feet of the surface. Additionally, either 90-foot-long 18x204 steel H-piles or 90-foot-long 36-inch concrete auger cast piles

would be installed for the foundation across the site, as discussed in Chapter 2. The underlying geologic unit is not known to have yielded significant fossils (UCMP 2026). Franciscan mélange is known to contain abundant microfossils (for example, *radiolaria* and *foraminifera*) and invertebrate fossils (for example, bivalves), but not vertebrates (UCMP 2026). Franciscan Complex mélange is thus considered to have low potential for paleontological resources (refer to Section 3.6.2.1, Methodology). Mélanges within the Franciscan Complex are known for their chaotic and disjointed structure and the typical assemblage of diverse rock types present at most locations. The chaotic assemblage is primarily the result of deformation, folding, breaking, and mixing of sometimes sedimentary deposits, associated with movement along faults (for example, at transform or overthrust boundaries). The nearby San Andreas Fault Zone is one of these. Because of this, rocks within the mélange zone near the Project area contain only a sparse assemblage of fossils, which include mostly microfossils and marine invertebrates. Vertebrate fossils are extremely rare. Based on this information, the likelihood of paleontological resources being present in the Project area is low and paleontological sensitivity is also considered low.

In addition, excavation would only occur within the Quaternary marsh deposits overlying the mélange in the Project area, which are most likely too young (that is, Holocene in age) to contain fossils; these deposits have low paleontological sensitivity as well.

Therefore, based on the anticipated subsurface site conditions and low sensitivity, soil disturbance associated with construction of the Build Alternatives would have ***no impact*** on unique paleontological resources, sites or geological features.

Mitigation Measures

No mitigation required.

3.7 Greenhouse Gas Emissions

This section describes the regulatory setting and environmental setting for greenhouse gas (GHG) emissions. It also describes the GHG impacts that would result from implementation of the Larkspur Ferry Service Expansion and Parking Project (Project) and mitigation measures that would reduce significant impacts, where feasible and appropriate.

3.7.1 Existing Conditions

3.7.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District, as the owner of the Larkspur Ferry Terminal, is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

There is currently no federal overarching law specifically related to climate change or the reduction of GHG emissions. Under the Obama Administration, the U.S. Environmental Protection Agency (EPA) had been developing regulations under the Clean Air Act (CAA). There have also been settlement agreements among EPA, several states, and nongovernmental organizations to address GHG emissions from electric generating units and refineries, as well as EPA's issuance of an "Endangerment Finding" and a "Cause or Contribute Finding." These findings established that EPA could regulate GHGs as pollutants under the CAA.

On February 12, 2026, EPA finalized its rescission of the Greenhouse Gas Endangerment Finding, which served as a prerequisite for regulating emissions from new motor vehicles and new motor vehicle engines. Absent this finding, EPA lacks statutory authority under Section 202(a) of the CAA to prescribe standards for GHG emissions. Therefore, EPA also finalized the repeal of all subsequent GHG emission standards from its regulations for light-, medium-, and heavy-duty on-highway vehicles and engines.

The National Highway Traffic Safety Administration sets the Corporate Average Fuel Economy standards to improve average fuel economy and reduce GHG emissions generated by cars and light- duty trucks. The National Highway Traffic Safety Administration and EPA have proposed amendments to the current fuel-efficiency standards for passenger cars and light-duty trucks and new standards for model years 2021 through 2026. Under the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, current 2020 standards would be maintained through 2026. Part 1 of the SAFE Vehicles Rule went into effect on November 26, 2019. Part 2 of the rule was finalized on March 30, 2020. The rule will decrease the stringency of the Corporate Average Fuel Economy standards 1.5% each year through model year 2026; the standards issued in 2012 would have required annual fuel-efficiency increases of about 5%. California, 22 other states, and the District of Columbia filed a petition for review of the final rule on May 27, 2020. On December 5, 2025, the National Highway Traffic Safety Administration published a notice of proposed rulemaking, entitled the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks" (SAFE III). The notice of proposed rulemaking proposes a "complete reset" of the Corporate Average Fuel Economy Standards program, which was first established by Congress in 1975.

State

California has taken proactive steps, summarized in this section, to address the issues associated with GHG emissions and climate change. Much of this legislation establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The state's governors have also issued several executive orders (EOs) related to the state's evolving climate change policy. In the absence of federal regulations, control of GHGs is generally regulated at the state level. It is typically approached by setting emission-reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans. Relevant regulations, polices, and programs are applicable to the proposed Project.

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed California EO S-3-05. The goal of this EO was to reduce California's GHG emissions to (1) 2000 levels by 2010 (achieved); (2) 1990 levels by 2020; and (3) 80% below the 1990 levels by 2050. The California Environmental Protection Agency secretary is required to coordinate development and implementation of strategies to achieve the GHG reduction targets.

Global Warming Solutions Act of 2006

In 2006, the California State Legislature signed the Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), which provides the framework for regulating GHG emissions in California., This law requires California Air Resources Board (CARB) to design and implement emission limits, regulations, and other measures such that statewide GHG emissions are reduced in a technologically feasible and cost-effective manner to 1990 levels by 2020.

Climate Change Scoping Plan

Part of CARB's direction under AB 32 was to develop a scoping plan that contains the main strategies California will use to reduce GHG emissions that cause climate change. The scoping plan includes a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program (CARB 2008). CARB first approved the AB 32 Scoping Plan in 2008, and its latest adopted plan is the *2022 Scoping Plan for Achieving Carbon Neutrality* (CARB 2022). The 2022 scoping plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions to 85% below 1990 levels no later than 2045. This path includes strategies for reducing California's dependency on petroleum (for example, by electrifying the transportation sector and continuing to build out renewable energy resources), minimizing the use of chemicals and refrigerants with high global warming potential (GWP), and expanding the role of natural and working lands in capturing and storing carbon (CARB 2022).

Executive Order S-01-07

With EO S-01-07, Governor Schwarzenegger set forth the low-carbon fuel standard for California in 2007. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10% by 2020.

Assembly Bill 1493

With the passage of AB 1493, also known as Pavley I, in 2002, California launched an innovative and proactive approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires

CARB to develop and implement regulations to reduce automobile and light-truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with model year 2009. Although litigation challenged these regulations and EPA initially denied California's related request for a waiver of CAA preemption, the waiver request was granted. Additional strengthening of the Pavley standards (referred to previously as Pavley II and now referred to as the Advanced Clean Cars measure) was adopted for vehicle model years 2017 to 2025 in 2012. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

Senate Bills 1078, 107, and 2

Senate Bills (SBs) 1078 (2002), 107 (2006), and 2 (2011), California's Renewables Portfolio Standard, obligates investor-owned utilities, energy service providers, and Community Choice Aggregators to procure additional retail sales per year from eligible renewable sources with the long-range target of procuring 33% of retail sales from renewable resources by 2020. The California Public Utilities Commission and California Energy Commission are jointly responsible for implementing the program.

Senate Bill 375

SB 375, signed into law by Governor Schwarzenegger on September 30, 2008, became effective January 1, 2009. This law requires the state's 18 Metropolitan Planning Organizations to develop sustainable community strategies (SCS) as part of their Regional Transportation Plans (RTPs) through integrated land use and transportation planning and to demonstrate an ability to attain the GHG emissions-reduction targets that CARB established for the region by 2020 and 2035. This would be accomplished through either the financially constrained SCS as part of the RTP or an unconstrained alternative planning strategy. If regions develop integrated land use, housing, and transportation plans that meet the SB 375 targets, new projects in these regions can be relieved of certain CEQA review requirements. The applicable RTP/SCS for the Project area is *Plan Bay Area 2050+* (MTC and ABAG 2026), discussed under "Local."

Senate Bill 743

SB 743 was signed into law in 2013. It requires revisions to the State CEQA Guidelines that establish new impact analysis criteria for the assessment of a project's transportation impacts. The intent behind SB 743 and revising the State CEQA Guidelines is to integrate and better balance the needs of congestion management, infill development, active transportation, and GHG emissions reduction. The California Governor's Office of Planning and Research recommends that vehicle miles traveled (VMT) serve as the primary analysis metric, replacing the existing criteria of delay and level of service. In 2018, Office of Planning and Research released a technical advisory outlining potential VMT significance thresholds for different project types. For example, it would be reasonable to conclude that residential and office projects demonstrating a VMT level that is 15% less than existing (2015 to 2018 average) conditions are consistent with statewide GHG reduction targets. With respect to retail land uses, any net increase of VMT may indicate a significant transportation impact.

Executive Order B-30-15

In April 2015, Governor Brown signed Executive Order B-30-15 that added the intermediate target of reducing GHG emissions to 40% below 1990 levels by 2030.

Clean Energy and Pollution Reduction Act

In 2015, SB 350 was signed into law, establishing new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 requires the state to double statewide energy efficiency savings in electricity

and natural gas end uses by 2030 and increases California's renewable electricity procurement goal from 33% by 2020 to 50% by 2030.

Senate Bill 32 and Assembly Bill 197

SB 32 (2016) requires CARB to ensure that statewide GHG emissions are reduced to at least 40% below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. The companion bill to SB 32, AB 197, creates requirements to form a Joint Legislative Committee on Climate Change Policies, requires CARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires CARB to prepare reports on sources of GHGs and other pollutants, establishes 6-year terms for voting members of CARB, and adds two legislators as non-voting members of CARB. CARB adopted California's 2017 (CARB 2017a) and 2022 *Climate Change Scoping Plan (*CARB 2022) to meet the GHG reduction requirement set forth in SB 32.

Short-Lived Climate Pollutant Reduction Strategy

To best support the reduction of GHG emissions consistent with AB 32, CARB published the *Short-Lived Climate Pollutant Reduction Strategy* in March 2017 (CARB 2017b). This plan, developed pursuant to SB 605 and SB 1383, establishes targets for statewide reductions in short-lived climate pollutant emissions of 40% below 2013 levels by 2030 for methane (CH_4) and hydrofluorocarbons and 50% below 2013 levels by 2030 for anthropogenic black carbon. This strategy was integrated into the 2022 Scoping Plan (CARB 2022).

The 100 Percent Clean Energy Act of 2018

SB 100, signed into law in 2018, requires California utilities to reach 50% renewable resources by December 31, 2026, and 60% by December 31, 2030. Through initial SB 100 analysis, increased energy storage and advancements in zero-carbon technologies can reduce natural gas capacity needs. SB 100 also establishes policy that renewable energy resources and zero-carbon resources supply 100% of all retail sales of electricity by December 31, 2045; however, the policy acknowledges that retaining some natural gas power capacity may minimize costs while ensuring uninterrupted power supply during the transition.

Green Building Code and Title 24 Updates

The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (24 California Code of Regulations). Part 11 established voluntary standards that became mandatory under the 2010 edition of the code. These involved sustainable site development, energy efficiency (in excess of California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The current energy-efficiency standards were adopted in 2019 and took effect on January 1, 2020. The standards are revised every 3 years. The 2025 updates to California's Title 24 (effective January 1, 2026) introduce major changes across the Energy Code (Part 6) and California Green Building Standards Code (CALGreen) (Part 11) to advance statewide energy efficiency, grid integration, and climate resilience.

Local

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the Metropolitan Planning Organization for the nine counties that compose the San Francisco Bay Area and the San Francisco Bay Area Air Basin

(SFBAAB), which includes the City of Larkspur. The first per capita GHG emissions-reduction targets for the SFBAAB were 7% by 2020 and 15% by 2035 from 2005 levels. MTC adopted an SCS as part of its RTP for the SFBAAB in 2013 known as *Plan Bay Area*. The plan exceeds the regional per capita targets, achieving 10% and 16% reductions in per-capita GHG emissions by 2020 and 2035, respectively (MTC 2013). *Plan Bay Area 2050+* was adopted in March 2026 by the Association of Bay Area Governments (ABAG) and MTC (MTC and ABAG 2026). This updated plan builds on *Plan Bay Area 2050+*, adopted in 2021, to reflect new data about external forces and integrate input from thousands of residents. It identifies the policy and financial commitments needed to make meaningful progress on shared long-term planning goals and introduces new initiatives, such as Transit 2050+, to confront the deep transportation and land-use issues the region faces today. The plan achieves a 21% per capita reduction of GHG emissions by 2035, exceeding the 19% target set by CARB.

Bay Area Air Quality Management District

As discussed in Section 3.2, Air Quality, the Bay Area Air District (BAAD) is responsible for air quality planning within the SFBAAB, including projects in the City of Larkspur. BAAD has adopted advisory emission thresholds to assist CEQA lead agencies in determining the level of significance of a project's GHG emissions, including long-range plans (for example general plans, specific plans), which are outlined in its *California Environmental Quality Act: Air Quality Guidelines* (BAAQMD 2022). These guidelines also outline methods for quantifying GHG emissions and potential mitigation measures.

The Bay Area Air Quality Management District's (BAAQMD's) 2017 *Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area* plan (called the Clean Air Plan in this chapter) includes performance objectives that are consistent with the state's climate protection goals under AB 32 and SB 375, which are designed to reduce GHG emissions to 1990 levels by 2020 and 40% below 1990 levels by 2030. The 2017 Clean Air Plan identifies a range of transportation control measures, land use and local impact measures, and energy and climate measures, which make up the Clean Air Plan's control strategy for emissions, including GHGs (BAAQMD 2017). Some measures applicable to the proposed Project include the following:

- TR2—TR2 Trip Reduction Programs
- TR9—Bicycle and Pedestrian Access and Facilities
- NW2—Urban Tree Planting

City of Larkspur Climate Change Action Plan 2030

In 2021, the City adopted its Climate Change Action Plan (CCAP) 2030 to reduce GHG emissions using a baseline year of 2005. The Climate Action Plan establishes targets that meet the State's goals to reduce emissions to 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. In Larkspur, that means emissions would need to drop to 47,227 metric tons carbon dioxide equivalent (MTCO2e) by 2030 and 15,740 MTCO2e by 2050. The Plan lays out measures that will meet the 2030 target and put the City on a trajectory to meet the 2050 goal (City of Larkspur 2021).

The CCAP includes a variety of regulatory, incentive-based, and voluntary strategies that are expected to reduce emissions from both existing and new development in Larkspur. Several of the strategies build on existing programs, while others provide new opportunities to address climate change. State actions will have a substantial impact on future emissions. Local strategies will supplement these State actions and achieve additional GHG emissions reductions (City of Larkspur 2021).

CCAP 2030 includes goals, policies, performance standards, and implementation measures for achieving GHG emission reductions and meeting the requirements of AB 32. CCAP is also intended to meet the

mandates outlined in the BAAQMD *California Environmental Quality Act: Air Quality Guidelines* and the recent standards for "qualified plans" set forth by BAAQMD (BAAQMD 2022). Individual development projects that comply with CCAP 2030 can be determined to not have cumulatively considerable GHG emissions impacts under CEQA (State CEQA Guidelines Section 15183.5) for emissions generated before 2030 (City of Larkspur 2021).

3.7.1.2 Environmental Setting

GHG emissions become well mixed within the atmosphere and are transported over long distances. Consequently, unlike other resource areas that are concerned primarily with localized Project impacts (for example, within 1,000 feet of the Project area), the global nature of climate change requires a broader analytic approach. Although this section focuses on GHG emissions generated in the Project area because of construction and operation, the analysis considers potential regional and global GHG impacts.

Greenhouse Gases

The principal anthropogenic (human-made) GHGs contributing to global warming are carbon dioxide (CO_2), CH_4, nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic sources.

The primary GHGs of concern associated with the proposed Project are CO_2, CH_4, and N_2O. Principal characteristics of these pollutants are discussed as follows.

Anthropogenic **CO_2** enters the atmosphere through fossil fuels (oil, natural gas, and coal) combustion, solid waste decomposition, plant and animal respiration, and chemical reactions (such as manufacture of cement). CO_2 is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.

CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal solid waste landfills.

N_2O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the GWP methodology defined in Intergovernmental Panel on Climate Change (IPCC) reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO2e), which compares the gas in question to that of the same mass of CO_2 (CO_2 has a GWP of 1 by definition). Table 3.7-1 lists the GWP of CO_2, CH_4, and N_2O from IPCC Fifth Assessment Report (IPCC 2014) and their lifetimes in the atmosphere.

Table 3.7-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gas	GWP (100 years)	Lifetime (years)
CO_2	1	50 to 200
CH_4	28	12
N_2O	265	114

Source: IPCC 2014

Greenhouse Gas Inventory

A GHG inventory is a quantification of all GHG emissions and sinks[1] within a selected physical or economic boundary. GHG inventories can be performed on a large scale (such as for global and national entities) or on a small scale (such as for a building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources. Table 3.7-2 outlines the most recent national, statewide, and local GHG inventories to help contextualize the magnitude of potential Project-related emissions.

Table 3.7-2. Global, National, State, and Regional Greenhouse Gas Emission Inventories

Emissions Inventory	MTCO2e (millions)
2022 EPA National GHG Emissions Inventory	6,343
2023 CARB State GHG Emissions Inventory	360.4
2022 San Francisco Bay Area GHG Emissions Inventory	66

Sources: EPA 2024; CARB 2025; BAAD 2026

As discussed in Section 3.7.1.1, Regulatory Setting, the City adopted its CCAP to reduce GHG emissions. CCAP outlines state and local actions that would support the City's GHG emission-reduction goals. Table 3.7-3 provides a summary of the CCAP local action reductions. The projected reductions from state and local actions total 26,506 MTCO2e by 2030. Community emissions are projected to be 47,094 MTCO2e in 2030 with the full implementation of the CCAP. This is 40% less than 1990 levels and meets the reduction target set by the State.

Table 3.7-3. City of Larkspur Climate Change Action Plan Local Action Reduction Forecast

Local Action Strategy	GHG Reductions by 2030 (MTCO2e)	Percent of Reductions
Low-Carbon Transportation	8,557	46%
Renewable Energy and Electrification	4,352	23%
Energy Efficiency	3,278	17%
Waste Reduction	2,581	14%
Water Conservation	2	<1%
Sequestration and Adaptation	N/A	N/A
Community Engagement	N/A	N/A
Implementation and Monitoring	N/A	N/A
Total	18,770	100%

Source: City of Larkspur 2021

N/A = not applicable (emissions reductions not quantified)

[1] A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

Climate Change

Global Climate Change

The process known as the greenhouse effect keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which escapes into space and some of which is absorbed by atmospheric GHGs and re-emitted toward the surface. Human activities that generate GHGs increase the amount of infrared radiation absorbed by the atmosphere, thus enhancing the greenhouse effect and amplifying the warming of Earth.

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution (IPCC 2007). Rising atmospheric concentrations of GHGs exceeding natural levels result in increasing global surface temperatures—a process commonly referred to as global warming. Higher global surface temperatures, in turn, result in changes to Earth's climate system, including increased ocean temperature and acidity, reduced sea ice, variable precipitation, and increased frequency and intensity of extreme weather events (IPCC 2018). Large-scale changes to Earth's system are collectively referred to as climate change.

IPCC was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation.

IPCC estimates that human-induced warming reached approximately 1 degree Celsius (°C) above pre-industrial levels in 2017, increasing at 0.2°C per decade. Under the current nationally determined contributions of mitigation from each country until 2030, global warming is expected to rise to 3°C by 2100, with warming to continue afterward (IPCC 2018).

Potential Climate Change Effects

Climate change is a complex process that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change will result in sea-level rise (both globally and regionally) as well as changes in climate and rainfall, among other effects, there remains uncertainty about characterizing precise local climate characteristics and predicting precisely how various ecological and social systems will react to any changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change is expected to occur in the future, although the precise extent will take further research to define. Specifically, significant impacts from global climate change worldwide and in California include the following:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor because of the atmosphere's ability to hold more water vapor at higher temperatures (CNRA 2018)
- Rising average global sea levels primarily because of thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets (IPCC 2018)
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (IPCC 2014)
- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70% to as much as 90% over the next 100 years (CNRA 2018)

- Increasing the number of days conducive to ozone formation (including clear days with intense sunlight) by 25% to 85% (depending on the future temperature scenario) by the end of the 21st century in high-ozone areas (CNRA 2018)
- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems because of the rise in sea level (CNRA 2018)
- Exacerbating the severity of drought conditions in California such that durations and intensities are amplified, ultimately increasing the risk of wildfires and consequential damage incurred (CNRA 2018)
- Lower crop yields for agriculture because of extreme heat waves, heat stress, and increased water needs of crops and livestock (particularly during dry and warm years) and new and changing pest and disease threats (CNRA 2018)

The impacts of climate change pose direct and indirect risks to public health, given people will experience earlier death and worsening illnesses. Indirect impacts on public health include increased vector-borne diseases, stress, and mental trauma because of extreme events and disasters, economic disruptions, and residential displacement (CNRA 2018).

3.7.2 Environmental Impacts

The Build Alternatives are analyzed for GHG impacts. The following sections describe the methodology and the level of impacts from Project's GHG emissions.

3.7.2.1 Methodology

GHG and climate change impacts associated with construction and operation of the proposed Project were assessed and quantified using standard and accepted software tools, techniques, and emissions factors. A summary of the methodology is provided as follows.

Construction Emissions

The construction of the Project would occur in two phases. Construction on the North Lot would occur from 2033 and 2034, and the construction of the Main Lot would occur from 2037 to 2040. Construction GHG emissions were estimated using California Emissions Estimator Model (CalEEMod), version 2022.1 and the same methodologies and assumptions as described in Chapter 3.2.2.1 for criteria pollutants in the air quality analysis.

Operational Emissions

Direct GHG emissions from the Project operation were qualified for the No-Build and Build Alternatives. Direct emissions from the Project include GHG emitted from the diesel engines on the ferries and the emissions from the vehicles driven by the passengers to and from the ferry terminals. For the No-Build Alternative, vehicle trips made by passengers that have to drive to San Fransico because of ferry operation capacity limit are also included. Maintenance activities are anticipated to be similar to existing conditions; therefore, emissions changes because of maintenance activities changes would be negligible and are not further evaluated. Emission calculation methodologies for ferry and vehicle trips are the same as described in Section 3.2.2.1 for criteria pollutants.

In addition, Project operation would have indirect GHG emissions from energy consumption because of electricity use by the two new parking garages. While the Project would install solar canopy installations

that may cover the electricity needs of the terminal operation, it was conservatively assumed that the parking garage electricity may be taken from the power grid. To estimate the GHG emissions associated with generating the electricity, default energy consumption rate per building square footage from CalEEMod was used.

3.7.2.2 Thresholds of Significance

State CEQA Guidelines Significance Criteria

The following CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to existing GHG emissions and climate change.

Would the proposed Project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

In the 2015 California Supreme Court decision in the *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company* (November 30, 2015, Case No. S217763) (referred to as Newhall Ranch), the Court identified several potential approaches that may be appropriate for determining significance of project-level GHG emissions in CEQA documents. Several air quality management agencies throughout the state have also drafted or adopted varying threshold approaches and guidelines for analyzing GHG emissions in CEQA documents. Common threshold approaches include (1) compliance with a qualified GHG reduction strategy, (2) performance-based reductions, (3) numeric "bright-line" thresholds, (4) efficiency- based thresholds, and (5) compliance with regulatory programs.

Bay Area Air District Thresholds

BAAD has recommended climate change impacts thresholds in its 2022 CEQA Air Quality Guidelines Appendix B: CEQA Thresholds for Evaluating the Significance of Climate Impacts for Land Use Projects and Plans (BAAQMD 2022). BAAD recommends using the approach endorsed by the California Supreme Court in Center for Biological Diversity v. Department of Fish & Wildlife (2015) (62 Cal.4th 204), which evaluates a project based on its effect on California's efforts to meet the State's long-term climate goals. As the Supreme Court held in that case, a project that would be consistent with meeting those goals can be found to have a less-than-significant impact on climate change under CEQA. If a project would contribute its "fair share" of what is needed to achieve the State's long-term GHG reduction goals, then the lead agency can find that the project is adequately contributing to solving the problem of global climate change and that project's impact is not significant.

Applying this approach, BAAD has analyzed what will be required of new land-use development projects to achieve California's long-term climate goal of carbon neutrality by 2045. Based on this analysis, BAAD found that a new land-use development project being built today needs to incorporate the following design elements to do its "fair share" of implementing the goal of carbon neutrality by 2045. BAAD's threshold for land-use project is that it must include A or B, as described as follows:

A. Projects must include, at a minimum, the following project design elements:

1. Buildings

    a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

    b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

2. Transportation

    a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:

        - Residential projects: 15 percent below the existing VMT per capita
        - Office projects: 15 percent below the existing VMT per employee
        - Retail projects: no net increase in existing VMT

    b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

If a project is designed and built to incorporate the design elements, then it will contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project will not result in a cumulatively considerable contribution to global climate change. Alternatively, a project for which these design elements are not implemented could still be determined to make a less-than-significant contribution of GHG emissions by demonstrating consistency with a local GHG reduction strategy that is consistent with state guidance (State CEQA Guidelines Section 15183.5[b]).

BAAD encourages local jurisdictions to develop climate action plans as a means of demonstrating that their communities—including existing and new buildings and infrastructure—will develop in accordance with meeting the statewide GHG reduction targets. CEQA Guidelines Section 15183.5(b)(2) provides that if a jurisdiction has adopted a climate action plan that satisfies all the Section 15183.5 requirements, the jurisdiction can find that a project that is consistent with the plan will not result in a cumulatively considerable contribution to global climate change under CEQA. Section 15183.5 also specifies that the project's CEQA analysis "must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project."

As discussed in Section 3.7.1.1, Regulatory Setting, the City of Larkspur has adopted a qualified GHG emissions-reduction strategy: CCAP 2030 (City of Larkspur 2021). CCAP 2030 outlines state and local policies to reduce GHG emissions to meet the 2030 target of 40% less than 1990 levels, consistent with SB 32's target (City of Larkspur 2021).

3.7.2.3 Impacts

This section includes a discussion of each impact as it corresponds to the thresholds of significance discussed previously. Because GHGs have cumulative effects, the impacts are analyzed based on combined construction and operation effects from the Project. Within this section, Alternative 1 and Alternative 2 impacts are discussed together as the Build Alternatives when the associated impacts are substantively the same. Where necessary to differentiate between Build Alternatives, the impact analysis is separated by Build Alternative.

Generate Greenhouse Gas Emissions, Either Directly or Indirectly, that may have a Significant Impact on the Environment?

Construction and Operation

Alternative 1

Alternative 1 construction activities would generate GHG emissions of CO_2, CH_4, and N_2O from off-road construction equipment, construction employees' vehicles, and haul trucks, as well as indirect GHG emissions from electricity consumption. The total GHG emissions from construction of Alternative 1 are summarized in Table 3.7-4. Details of the construction emission summaries and modeling files are in Appendix B-1 and B-2, respectively.

As shown in Table 3.7-4, construction of the North Lot and the Main Lot with Auger Cast Pile (ACP) option would have lower GHG emissions than using the H-Pile option. Construction emissions would cease once construction is completed.

Table 3.7-4. Total Construction Greenhouse Gas Emissions from the Build Alternatives

Scenarios	Total GHG Emissions ($MTCO_2e$)
North Lot	885.3
Main Lot with H-Pile Option	4,156.6
Main Lot with ACP Option	3,693.1
Total with H-Pile Option	**5,041.9**
Total with ACP Option	**4,578.4**

Because construction emissions are temporary and variable, BAAD has not developed a quantitative threshold of significance for construction-related GHG emissions. Construction of the Build Alternatives requires implementation of MM-AQ-CNST-1 requiring use of Tier 4 equipment during construction (refer to Section 3.2, Air Quality), which would further reduce and minimize construction-related GHG emissions. Applicable BAAD best management practices for reducing construction-related GHG emissions would also be incorporated when feasible and practical, which would further minimize and reduce GHG construction emissions (BAAQMD 2022). Potentially applicable BAAD BMPs include but are not limited to the following:

- Use zero-emission and hybrid-powered equipment to the greatest extent possible.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 2 minutes (a 5-minute limit is required by the state airborne toxics control measure [Title 13, Sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that

posts this requirement for workers at the entrances to the site and develop an enforceable mechanism to monitor idling time to ensure compliance with this measure.

- Prohibit off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Require all construction equipment to be maintained and properly tuned in accordance with manufacturer's specifications. Equipment should be checked by a certified mechanic and determined to be running in proper condition before operation.
- Where grid power is available, prohibit portable diesel engines and provide electrical hook ups for electric construction tools, such as saws, drills, and compressors, and using electric tools whenever feasible.
- Recycle or salvage nonhazardous construction and demolition debris, with a goal of recycling at least 15% more by weight than the diversion requirement in Title 24.

Alternative 2

Construction of Alternative 2 would require less construction equipment and vehicles because of the smaller scale and shorter construction duration compared to Alternative 1. Therefore, construction emissions of GHG from Alternative 2 would be less than the emissions from Alternative 1. Similarly, MM-AQ-CNST-1 and BAAD BMPs implemented during Alternative 2 construction would further reduce and minimize GHG construction emissions.

Operation

Build Alternatives

Direct GHG emissions would be from ferry operation and vehicle trips. Indirect GHG emissions are because of electricity consumption during operation. Summary of the GHG emissions are summarized in Table 3.7-5. Net changes between the No-Build and Build Alternatives are in Table 3.7-6. Detailed emissions calculation, summaries, and modeling files are in Appendix B-3.

Table 3.7-5. Operation Greenhouse Gas Emissions

Alternatives	Ferry CO_2e (metric ton/year)	Vehicle Trips CO_2e (metric ton/year)	Electricity CO_2e (metric tons/year)	Total CO_2e (metric tons/year)
2025	34,724.1	5,337.1	0	40,061.2
2035 No Build	21,850.4	9,544.1	0	31,394.5
2035 Alternative 1	21,850.4	8,724.8	349.6	30,924.8
2035 Alternative 2	21,850.4	9,131.1	296.8	31,331.2
2050 No Build	21,850.4	28,567.9	0	50,418.3
2050 Alternative 1	37,004.7	21,765.7	349.6	59,120.0
2050 Alternative 2	37,004.7	18,696.3	296.8	56,050.6

Table 3.7-6. Operation Greenhouse Gas – Net Greenhouse Gas Emissions

	Alternatives	CO_{2e} (metric ton/year)
Net Change from 2025 Existing Condition	2035 No Build	-8,666.8
	2035 Alternative 1	-4,979.9
	2035 Alternative 2	-8,782.9
	2050 No Build	10,357.1
	2050 Alternative 1	19,005.9
	2050 Alternative 2	15,936.6
Net Change Compared to No Build	2035 No Build	NA
	2035 Alternative 1	-469.7
	2035 Alternative 2	-116.1
	2050 No Build	N/A
	2050 Alternative 1	8,648.8
	2050 Alternative 2	5,579.5

As shown in Tables 3.7-5 and 3.7-6, both Build Alternatives in 2035 would have a net decrease of GHG emissions when compared to existing condition of 2025. Ferry operation would be at similar level as the existing condition in 2035. VMT in 2035 for both the No-Build and Build Alternatives would be higher than 2025 because of regional growth. Lower emissions in 2035 are mainly because of the use of cleaner engines on ferries and the improved fuel efficiency and stringent vehicle emission standards in future years. GHG emissions from No-Build and Build Alternatives in 2050 would be higher than existing condition because of a combination of increased VMT under the No-Build and Build Alternatives and the increased level of ferry operation of the 2050 Build Alternatives.

When compared to the No-Build Alternative, the Build Alternatives would have lower GHG emissions in 2035. Emissions in 2050 for the Build Alternatives would be higher than the No-Build Alternative because of the increase of ferry operations.

The Project would have VMT reduction due to the shifting of travel mode from driving to using the expanded ferry service, as shown in Table 3.7-7. Reduced VMT from the eliminated vehicle trips would consequently reduce GHG emissions associated with these trips.

Table 3.7-7. Vehicle Miles Traveled Reduction in 2050

Alternatives	VMT	VMT Reduction Compared to No Build
2050 No Build	360,512	N/A
2050 Alternative 1	274,456	23.8%
2050 Alternative 2	234,552	34.6%

Conclusion

Operation of the proposed Project would reduce VMT and support the travel mode shift from automobiles to public transit. The proposed Project would increase ferry operation capacity and, by its nature, would encourage the use of public transit to reduce single-occupancy vehicle trips, VMT, and associated GHG emissions. Compliance with BAAD CEQA thresholds for GHG is described as follows:

- The Project meets the BAAD threshold A.1a for buildings: Two parking garages would be constructed under the Build Alternatives. The Project does not include natural gas appliances or natural gas plumbing in the two new parking garages, which meets the criteria in BAAD climate change threshold Item A.1a for buildings.
- The Project meets the BAAD threshold A.1b for energy use: As determined in Section 3.5, Energy, the Project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. Therefore, the Project also meets the criteria in BAAD climate change threshold Item A.1b.
- The Project meets the BAAD threshold A.2a for VMT reduction: The Project would eliminate the vehicle trips travel between Larkspur and San Francisco because of the expanded ferry service. The VMT after Project buildout is approximately 24% and 35% less than the No-Build condition for Alternative 1 and Alternative 2, respectively. This meets the BAAD threshold A.2a VMT reduction requirements, which is a state average of 15% VMT reduction,
- The Project meets the BAAD threshold A.2b for supporting electric vehicles: As discussed in Section 3.5, Energy, the Project will adhere to the CALGreen Code (Title 24, Part 11). Therefore, it meets the BAAD threshold A.2b.

The previous discussion indicates that the Project meets the BAAD threshold criteria for GHG emissions. Therefore, the Project would not generate greenhouse gas emissions that may have a significant impact on the environment. GHG impacts from the Project would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases?

Construction and Operation

Build Alternatives

AB 32 and SB 32 are the state's plans for reducing GHG emissions. At the local level, CCAP 2030 is the City of Larkspur's plan for reducing GHG emissions (City of Larkspur 2021). The proposed Project's consistency with AB 32 and SB 32 (including the 2022 Scoping Plan) and CCAP 2030 has been assessed to determine the significance of this impact. In addition, the proposed Project's consistency with BAAQMD's 2017 Clean Air Plan, SB 375/*Plan Bay Area 2050+* (MTC and ABAG 2026), have also been reviewed.

Assembly Bill 32, Senate Bill 32, and Scoping Plans

AB 32 codifies the state's GHG emissions-reduction targets for 2020. CARB adopted the 2008 Scoping Plan (CARB 2008) and 2014 first update (CARB 2014) as a framework for achieving AB 32. The 2008 Scoping Plan and 2014 first update outlined a series of technologically feasible and cost-effective

measures to reduce statewide GHG emissions. CARB adopted *California's 2017 Climate Change Scoping Plan* in November 2017 as a framework for achieving the 2030 GHG emissions-reduction goal described in SB 32. The latest adopted scoping plan is the 2022 scoping plan that lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85% less than 1990 levels no later than 2045 (CARB 2022).

The 2008 and 2014 Scoping Plans indicate that some reductions would need to come in the form of changes pertaining to vehicle emissions and mileage standards. Some would come from changes pertaining to sources of electricity and increased energy efficiency at existing facilities. The remainder would need to come from state and local plans, policies, or regulations to lower carbon emissions, relative to Business As Usual conditions.

Applicable transportation-related GHG emissions-reduction strategies and policies outlined in the 2008, 2014, and 2017 Scoping Plans include the mobile-source strategy, which encourages a reduction in VMT through implementation of SB 375 and regional SCS as well as other VMT reduction strategies. Energy-efficiency measures, including implementation of green building standards, the use of solar power, and the installation of electric vehicle charging stations, are outlined in the Scoping Plans. The Scoping Plans also discuss existing and proposed water conservation measures, including drought-resistant landscaping. GHG emissions-reduction strategies related to trees and vegetation are also described in the Scoping Plans. The 2022 Scoping Plan for Achieving Carbon Neutrality (CARB 2022) is the latest and most comprehensive and far-reaching scoping plan developed to date. It identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045 while also assessing the progress California is making toward reducing its GHG emissions by at least 40% less than 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan (BAAQMD).

The proposed Project would provide landside access improvements and increased ferry service to accommodate forecast future ridership demand and would ensure that ferry service remains a reliable and competitive travel option that reduces VMT and GHG emissions. The proposed Project is included in the *Plan Bay Area 2050+* (MTC and ABAG 2026). *Plan Bay Area 2050+* (MTC and ABAG 2026) served as the Bay Area's RTP and the SCS, integrating transportation and land-use strategies to manage GHG emissions and plan for future population growth. The SCS includes the proposed actions toward achieving the regional GHG emissions-reduction targets that are consistent with the state's GHG reduction goals. Additionally, the proposed Project would encourage the use of public transit to reduce single-occupancy vehicle trips, VMT, and associated GHG emissions, which would support the GHG emission-reduction strategies and measures in the scoping plans. In addition, the proposed Project's new construction would ensure the building component of each Build Alternative would be energy efficient. Accordingly, the proposed Project would not conflict with applicable policies described in the Scoping Plans for AB 32 and SB 32.

City of Larkspur Climate Change Action Plan

As discussed, the City of Larkspur adopted revisions to its CCAP, resulting in CCAP 2030. Table 3.7-8 evaluates the proposed Project's consistency with applicable reductions measures in CCAP 2030 (City of Larkspur 2021).

Table 3.7-8. Consistency of the Proposed Project with the City of Larkspur Climate Change Action Plan

Local Measure	Measure Description	Project Consistency
LCT-C5: Public Transit	Provide safe routes to the ferry landing and other transit facilities that encourage bicycle and pedestrian connections. Encourage Golden Gate Bridge, Highway and Transportation District to provide secure bicycle parking at the Larkspur ferry landing.	Consistent: The proposed would make improvements to pedestrian and bicycle facilities for safe access to the ferry terminal. The increased ferry operation encourages people to walk or bike instead of using single-occupancy vehicle for travel.
EE-M1	Replace inefficient street, parking lot, and other outdoor lighting with LED (light-emitting diode) fixtures. Consider design options for new fixtures that retain the historic character of Downtown Historic District.	Consistent: The Project would install energy efficient lighting to the new parking garages.
WR-C3: Construction and Demolition Debris and Self-Haul Waste	Require all loads of construction and demolition debris and self-haul waste to be processed for recovery of materials, as feasible. Investigate creation of an ordinance requiring deconstruction of buildings proposed for demolition or remodeling when materials of significant historical, cultural, aesthetic, functional, or reuse value can be salvaged.	Consistent: The Project would require the proposed Project to recycle at least 15% of construction waste or demolition materials in accordance with BAAD best management practices.
SA-C1: Urban Forest	Increase carbon sequestration and improve air quality and natural cooling through increasing tree cover in Larkspur. ▪ Regulate and minimize removal of large trees and require planting of replacement trees. ▪ Require that the site planning, construction, and maintenance of new development preserve existing healthy trees and native vegetation on site to the maximum extent feasible. Replace trees and vegetation not able to be saved.	Consistent: The designs of each alternative would include a variety of landscape features such as trees, shrubs, and bushes for non-paved areas.
SA-C2: Carbon Sequestration	Increase carbon sequestration in the built environment, developed landscapes, and natural areas. ▪ Encourage use of building materials that store carbon, such as wood and carbon-intensive concrete through agency partnerships and engagement campaigns.	Consistent: The designs of each alternative would include a variety of landscape features such as trees, shrubs, and bushes.

As shown in Table 3.7-8, the proposed Project would be consistent with applicable measures in the City's CCAP 2030. Because the proposed Project would be consistent with all applicable GHG reduction measures, it would not conflict with CCAP 2030 (City of Larkspur 2021).

Bay Area 2017 Clean Air Plan

As described previously, the proposed Project includes numerous objectives and measures to reduce operational GHG emissions. The proposed Project would be consistent with BAAQMD's 2017 Clean Air Plan measures, including TR2 Trip Reduction Programs, and TR9, Bicycle and Pedestrian Access and Facilities. Based on this, the proposed Project would support the applicable control measures identified in BAAQMD's 2017 Clean Air Plan to meet the plan's primary goals.

Plan Bay Area 2050+/California Senate Bill 375

Under the requirements of SB 375, MTC and ABAG have developed an RTP/SCS with the adopted *Plan Bay Area 2050+* for achieving the Bay Area's regional GHG emissions-reduction target. Targets for the San Francisco Bay Area, approved in March 2018 by CARB, include a 10% reduction in GHG emissions per capita from passenger vehicles by 2020 compared with 2005 emissions; the adopted target for 2035 is a 19% reduction. The emissions-reduction targets are those associated with land use and transportation strategies only.

The proposed Project is included in the *Plan Bay Area 2050+*, which also serves as the region's SCS. On the state level, the proposed Project is consistent with the state's blueprint for meeting future mobility needs. One of the main policies identified in the regional and local plans of the jurisdictions where the proposed Project would be located is encouraging public transit and the reduction of VMT on roadways. Increased ferry service would provide a reliable and competitive alternative mode of travel to driving into San Francisco on United States Highway 101 from Larkspur and beyond that will reduce VMT and GHGs. The Project would reduce VMT by 24% to 35% from the No-Build condition in 2050 for Alternative 1 and Alternative 2, respectively, because of the shifting of travel mode from driving to using the expanded ferry service, as shown in Table 3.7-7. Therefore, the Project is consistent with *Plan Bay Area 2050+* (MTC and ABAG 2026) and SB 375.

Conclusion

The proposed Project includes measures that would be consistent with state regulations that will reduce GHG emissions and the applicable policies described in the Scoping Plans for AB 32, SB 32, the City of Larkspur's CCAP 2030, 2017 Clean Air Plan, and *Plan Bay Area 2050+* (City of Larkspur 2021; BAAQMD 2017; MTC and ABAG 2026). Consequently, the proposed Project would not conflict with achievement of AB 32 reduction goals for 2020, SB 32 reduction goals for 2030, or the RTP/SCS reduction goals for 2020 and 2035. Therefore, this impact would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

3.8 Hazards and Hazardous Materials

This section describes the environmental and regulatory setting related to hazards and hazardous materials. It also evaluates potential impacts associated with implementing the proposed Larkspur Ferry Service Expansion and Parking Project (Project) and other Build Alternatives and identifies mitigation measures for significant impacts where appropriate. The analysis is based on information obtained from the San Francisco Bay Regional Water Quality Control Board (Region 2) and the Department of Toxic Substances Control (DTSC), including datasets compiled pursuant to Government Code Section 65962.5 (commonly referred to as the "Cortese List"). Hazards related to wildfire are addressed in Section 3.17. Impacts associated with the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.8.1 Existing Conditions

This section describes the regulatory framework for hazards and hazardous materials, existing conditions within the proposed Project, and the potential for impacts associated with construction and operation of the proposed Project. A material is considered hazardous if it is listed by a federal, state, or local agency or exhibits characteristics defined as hazardous by those agencies. The potential health effects associated with hazardous materials depend on factors such as the level and frequency of exposure, the pathway of exposure, and individual sensitivity.

3.8.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal Regulations

Federal oversight of hazardous materials is provided by the U.S. Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (USDOT). The EPA regulates the generation, transportation, and disposal of hazardous substances under statutes such as the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). OSHA establishes and enforces standards to protect worker health and safety, including requirements for training, exposure limits, and safe handling procedures. The USDOT regulates the transportation of hazardous materials in interstate commerce pursuant to the Hazardous Materials Transportation Act, which establishes requirements for packaging, labeling, and handling. The following federal regulations provide guidance related to hazards and hazardous materials.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Toxic Substances Control Act (TSCA) provides EPA with the authority to regulate the production, importation, use, and disposal of specific chemicals in the U.S. that may pose a hazard to the environment or human health. Such chemicals include polychlorinated biphenyls, asbestos-containing materials, and lead-based paint. Certain substances that are generally excluded from the act include food, drugs,

cosmetics, and pesticides. Under TSCA, EPA requires the reporting, recordkeeping, testing, and restrictions of chemical substances or mixtures.

RCRA gives EPA authority to regulate hazardous wastes through the generation, transportation, treatment, storage, and disposal process. The main objectives of RCRA are to protect human health and the environment from potential hazards, conserve energy and natural resources, and reduce the amount of waste generated. EPA authorized DTSC to implement and enforce RCRA requirements in California. Regulated entities that generate hazardous waste are subject to waste accumulation, manifesting, and recordkeeping standards.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

CERCLA, also known as the "Superfund Act," provides a federal fund to identify, characterize, and remediate hazardous material sites. The objective is to respond directly to releases or threatened releases of hazardous substances by cleaning up abandoned hazardous waste sites that may endanger public health or the environment. Under CERCLA, EPA is responsible for identifying and obtaining the cooperation of parties responsible for hazardous material incidents and conditions. Where responsible parties cannot be found, EPA is authorized to perform the cleanup using a special trust.

Occupational Safety and Health Administration

The Occupational Safety and Health Act, implemented by OSHA, contains requirements to ensure the safety of workers. Under the act, management and handlers of hazardous materials are required to receive training to recognize and identify hazardous materials and become familiar with requirements, such as how to remediate any accidental releases. Additional requirements of the act include notifying employees who work in the vicinity of hazardous materials and acquiring material safety data sheets. The act also regulates lead and asbestos to reduce potential exposure to employees.

Hazardous Materials Transport Act

The Hazardous Materials Transport Act regulates the transportation of hazardous materials, types of hazardous materials, and vehicle marking during transport. The hazardous materials transportation regulations require carriers transporting hazardous materials to receive training in the handling and transportation of hazardous materials.

State Regulations

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) protects the health and safety of workers in the State of California. Similar to federal OSHA, Cal/OSHA regulates worker safety, but also requires preparation of an Injury and Illness Prevention Program, an employee safety program of inspections, procedures to correct unsafe conditions, employee training, and occupational safety communication. In addition, it indirectly protects the public by requiring construction managers to post warning signs, limit public access to construction areas, and obtain permits for work considered to present a significant risk of injury, such as excavations 5 feet deep or greater.

California Code of Regulations, Title 8 (Industrial Relations)

Federal and state occupational safety standards exist to reduce worker health and safety risks associated with physical and chemical hazards in the workplace. In California, Cal/OSHA is responsible for developing and enforcing workplace safety regulations while also implementing standards consistent with the federal OSHA.

California Government Code Section 65962.5(a) (Cortese List)

California Government Code Section 65962.5(a), commonly referred to as the Cortese List, identifies various categories of hazardous materials sites compiled by state and local agencies. These include facilities listed by the DTSC, sites with leaking underground storage tanks (USTs), or documented releases of hazardous materials to soil or groundwater as identified by the State Water Resources Control Board (SWRCB), and sites with known hazardous materials releases tracked by local regulatory agencies.

Hazardous Waste Control Act, 1972

The Hazardous Waste Control Act of 1972 created the state hazardous waste management unit within the Department of Health Services. This law was more comprehensive than the federal program and would later become the model for RCRA.

State Water Resources Control Board General Stormwater Permits

The SWRCB issues and periodically updates the statewide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2022-0057-DWQ). This permit applies to construction projects that disturb 1 acre or more and requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP identifies best management practices (BMPs), which may be structural or nonstructural measures designed to prevent or minimize the discharge of pollutants in stormwater. These measures are intended to control sediment and pollutant transport, reduce or eliminate non-stormwater discharges, and ensure that stormwater discharges do not adversely affect water quality or violate applicable water quality standards.

Local Regulations

Local regulations are provided as follows.

Marin Operational Area Emergency Operations Plan

The *Marin Operational Area Emergency Operations Plan*, adopted in October 2014, outlines response procedures and large-scale disasters affecting Marin County. The Marine Operational Area, which includes the City of San Rafael, provides for coordination with other governmental agencies as needed. The Emergency Operations Plan does not address routine, day-to-day emergencies or established emergency response procedures. It serves as a planning reference, and the three main goals are to: (1) provide effective life safety measures and reduce property loss and damage, (2) provide for the rapid resumption of impacted businesses and community services, and (3) provide accurate documentation and records required for cost recovery efforts (Marin County Sheriff's OES 2014).

The City of Larkspur 2040 General Plan

The *City of Larkspur 2040 General Plan* was adopted in September 2024 by the City of Larkspur and contains goals and policies to limit the use and storage of hazardous materials and to oversee the use and

transfer of these materials. The General Plan describes hazardous materials as materials that are potentially dangerous or harmful to human health or the environment. Hazardous materials are routinely used, stored, and transported in Larkspur. The City's Emergency Management Plan identifies the potential risk associated with hazardous materials incidents and outlines response procedures in coordination with policies described in the General Plan. Goals and policies that relate to hazardous materials are addressed in Chapter 7, Community Health and Safety, which emphasizes the protection of the City of Larkspur from accidental exposure to hazardous materials from spills, leaks, vapor releases, and improper or illegal storage and disposal (City of Larkspur 2024).

The following goals and policies are applicable to hazards and hazardous materials:

- **Goal SAF-2:** Plan and coordinate response to and evacuation from all disasters.
- **Policy SAF-4.7**: Minimization of the release of hazardous pollutants from sites inundated by sea-level rise.
- **Goal SAF-6:** Protect Larkspur residents and property from fire hazards.
- **Goal SAF-7**: Reduce hazard from wildfire.
- **Goal SAF-8:** Protect from exposure to hazardous materials.
- **Policy SAF-8.1:** Limit the use and storage of hazardous materials and waste in Larkspur to commercial and industrial areas.
- **Policy SAF-8.2:** Coordinate with the County of Marin to monitor and enforce regulations concerning the use and handling of hazardous materials and waste.
- **Policy SAF-8.3:** Prepare for hazardous materials incidents through the Emergency Management Plan.
- **Policy SAF-8.4:** Promote educational programs to enhance public awareness of proper hazardous material or waste storage, transport, and disposal.

3.8.1.2 Environmental Setting

The proposed Project is in the City of Larkspur in Marin County. The Environmental Data Resources, Inc. (EDR), Area/Corridor Report (EDR 2026) was reviewed, identifying available regulatory agency databases for properties within the various ASTM International (ASTM)-prescribed radii of the proposed Project. The EDR report summarizes the databases searched and identifies potential generators and transporters of hazardous waste; hazardous waste treatment, storage, and disposal facilities; petroleum product extraction; refinement, storage, and transport; and sites where releases of hazardous materials and petroleum products were identified.

Site History

The LFT site was originally part of the extensive Ross Valley marshlands. The entire site is on fill. The terminal site area was developed in 1924 and involved dredging of the northeast channel to provide access to the Hutchinson quarry. Construction of the LFT started in 1974, and it was open for commuters in December 1976 (EDR 2026).

Hazardous Materials Records Search

A desktop review of the SWRCB GeoTracker database and DTSC databases on CalEPA Cortese List Data Resources was conducted on May 18, 2026. The Cortese List Data Resources databases consist of the following lists:

- Hazardous waste and substances sites from the DTSC EnviroStor database
- Leaking UST sites from the SWRCB GeoTracker database
- Solid waste disposal sites identified by SWRCB with waste constituents exceeding hazardous waste levels outside the waste management unit
- "Active" Cease and Desist Orders and Cleanup and Abatement Orders from SWRCB
- Hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC (CalEPA 2026)

GeoTracker records indicate that a Cleanup Program site identified as the LFT (OPEN – INACTIVE AS OF 11/17/2015) is within the study area of the proposed Project site. A subsurface soil and groundwater assessment report documents that an underground diesel pipeline at the LFT ruptured during the October 17, 1989, earthquake, releasing approximately 2,000 to 3,000 gallons of diesel fuel into subsurface soils. The report reveals low concentrations of an unknown hydrocarbon in the diesel range in soil and groundwater samples. These findings are likely attributable to the limited release from the pipeline or the presence of asphalt debris or fill material. The report concluded that no significant source of diesel impacted soil or groundwater was identified in the vicinity of the pipeline. As a result, abandonment of this pipeline in place was determined to be appropriate, and no additional soil excavation was recommended (Artesian 1995).

The review of environmental records identified 45 hazardous materials sites within 1 mile of the study area of the proposed Project site (EDR 2026). Release sites that could potentially pose a threat of affecting environmental conditions within the study area include sites within and adjacent to the study area.

The EDR-listed sites were screened for their potential to impact the Project or be impacted by the Project according to the following review methods:

- Duplicate sites were consolidated.
- Sites more than 0.25 mile from the Project limits were not considered a potential risk to the Project because that distance makes it unlikely that contamination would migrate to the Project limits in concentrations exceeding regulatory cleanup levels.

Based on these screening criteria, 3 of the 45 hazardous materials sites are considered a potential concern and are discussed further in this section to determine whether they pose a known or potential threat of affecting environmental conditions within the study area. Nineteen hazardous materials sites are outside of the 0.25-mile radius, and 18 are either upgradient within a hydraulic barrier surrounding the proposed Project or are closed sites and not within or adjacent to the study area; therefore, these sites are not expected to affect environmental conditions within the study area. Further evaluation determined that 23 of the 45 release sites of potential concern are not expected to affect environmental conditions within the study area. The remaining three sites of concern are all owned by the District and are at the LFT. The sites are listed and described in Table 3.8-1 and shown on Figure 3.8-1.

Table 3.8-1. Hazardous Materials Sites of Concern

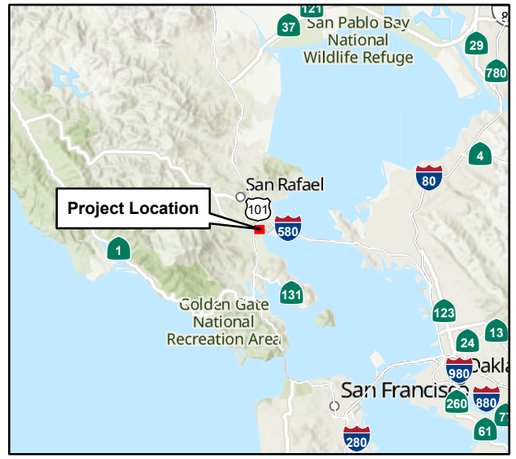
Site Number	Site Name	Site Description
1	101 East Sir Francis Drake Boulevard	Minor spills and leaks were reported in 1994, 1998, 2001, 2004, 2005, 2007, and 2022. Some of these minor spills or leaks resulted in discharge into the Corte Madera Creek or Channel. Cleanup actions consisted of using booms and absorbents with most of the material being contained by the time of incident report. Substances consisted of hydraulic oil, lubricating oil, diesel fuel, and waste oil. No further hazards or impacts reported were reported.
2	Golden Gate Ferry	The facility has kept records of their hazardous waste transport, which included storage, bulking, or offsite transfer. No treatment was noted to occur at the facility. This facility's Federal Waste Generator description is categorized as a Large Quantity Generator. Waste generated consisted of non-RCRA solid hazardous waste, ignitable waste, barium, cadmium, chromium, lead, and benzene. Records show no notices of violations under California Hazardous Material Incident Report System. Minor violations were reported regarding the IGP. These violations were Notices of Non-Compliance for Non-Filers and were issued by the SWRCB. The registered Aboveground Storage Tanks program reveals violations in 2017, 2022, and 2024 consisting of SPCC Plan-related failure to provide initial and annual training, failure to label individual containers and proper storage and handling procedures, failure to submit hazardous material inventory information, and failure to obtain 5-year assessment of the hazardous waste tank system. The facility has achieved compliance with all previously identified violations.
3	Larkspur Ferry Terminal	A spill was reported in 2008 and consisted of a broken pipe with a release of approximately 800 gallons of sewage. Another spill in 2017 was reported and consisted of diesel oil of an unknown amount. The release was from a pipe because of unknown causes shoreside.

Source: EDR 2026

IGP = Industrial General Permit

SPCC = Spill Prevention, Control, and Countermeasure





LEGEND

- Project Footprint
- Hazardous Materials Sites of Concern

Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Bing Maps Hybrid: © 2026 Microsoft Corporation © Maxar ©CNES (2026) Distribution Airbus DS © Mapbox © 2026 TomTom
World Hillshade: Esri, CGIAR, USGS

N

0 200 400
Feet

Figure 3.8-1
Hazardous Materials Sites of Concern
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\EIR\LARKSPUR_EIR_2026.APRX Fig 3.8-1 Hazardous Materials Sites

Schools

Schools within 2 miles of the proposed Project include the Children's Cottage Cooperative Preschool, Redwood High School, Neil Cummins Elementary School, Tamiscal High School, San Andreas High School, Marin Primary and Middle School, Hall Middle School, Doherty Drive and Hall Middle School, St. Patrick School, Laurel Dell Elementary School, Tamalpais Adult School, Madrone High School, and San Rafael High School. The Children's Cottage Cooperative Preschool is on Larkspur Landing Circle near the Drake's Way intersection. Redwood High School is on Doherty Drive near the Rose Lane intersection. Neli Cummins Elementary School is on Mohawk Avenue near the Mohawk Avenue and Hickory Avenue intersection. Tamiscal High School is on Doherty Drive near the Rose Lane intersection. San Andreas High School is on William Avenue near the Lucky Drive and William Avenue intersection. Marin Primary and Middle School is on Magnolia Avenue near the Alexander Avenue and Magnolia Avenue intersection. Hall Middle School is on Doherty Drive near the Rose Lane intersection. St. Patrick School is on King Street near the King Street and Magnolia Avenue intersection. Laurel Dell Elementary School is on Woodland Avenue near the Woodland Avenue and Seibel Street intersection. Tamalpais High School is on Miller Avenue near the Homestead Boulevard and Gomez Way intersection. Madrone High School and San Rafael High School are on 3rd Street near the Embarcadero Way and 3rd Street intersection.

Airports

The closest airport to the Project area is the San Rafael Airport (also known as Marin Ranch Airport), which is a small, privately owned facility approximately 5 miles north of the Project area. Because San Rafael Airport is privately owned, it is not subject to an Airport Land Use Plan (Marin County Planning Department 1991). Marin County Airport (also called Gnoss Field) is a small, publicly owned airport operated by the Marin County Public Works Department and about 13.6 miles north of the Project area.

Marin County Airport Gnoss Field Airport Land Use Plan, adopted in 1991, defines the boundary of the planning area as 2 miles from the airport boundary, which was the default planning boundary as of the time of this document's issuance (Marin County Planning Department 1991). The updated airport land use planning handbook states that 2 miles is still the default study area for an airport's influence area boundary (Caltrans 2011).

Central Marin Fire Department

The Central Marin Fire Department has provided fire protection and emergency services to the City since 2018. The Central Marin Fire Department issues fire Operation Use Permits, including the Uniform Fire Code Permit for construction to comply with fire safety standards. The Fire Department is also responsible for monitoring the storage and use of hazardous materials and issuing permits for hazardous materials use and flammable liquids tank removal/abandonment. The Marin County Department of Public Works, acting as the Certified Unified Program Agency (CUPA), regulates hazardous materials use and storage within the County. Facilities subject to CUPA oversight operate within the same regulatory framework applicable to the proposed Project, providing context for existing hazardous materials conditions (Citygate 2024).

Wildland Fire Hazard

The Project area is not within a Moderate, High, or Very High Fire Hazard Severity Zone (CAL FIRE 2025). Section 3.17, Wildfire, includes a discussion of hazards related to wildfire.

3.8.1.3 Environmental Impacts

The two Build Alternatives are being considered for the Project, both of which are in the City of Larkspur within the two existing parking lots owned by the and occupy the same.

3.8.1.4 Methodology

The assessment included a review of published maps, technical reports, and environmental records available on regulatory databases to identify and evaluate potential conditions of concern in the study area. Environmental conditions of concern that could potentially be encountered by the proposed Project include Recognized Environmental Conditions, as defined by ASTM E1527-21. Recognized Environmental Conditions are defined as (1) the presence of hazardous substances or petroleum because of a release to the environment; (2) the likely presence of hazardous substances or petroleum products because of a likely release to the environment; or (3) the presence of hazardous substances or petroleum products under conditions that pose a material threat of a future release to the environment.

3.8.1.5 Thresholds of Significance

The following significance thresholds, based on Appendix G of the California Environmental Quality Act Guidelines, are used to evaluate whether the Project would result in significant impacts related to hazards and hazardous materials.

Would the proposed Project do the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- 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?
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school?
- Be located on a site that 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?
- For a project within an airport land use plan—or where such a plan has not been adopted within 2 miles of a public airport or public use airport—would the project result in a safety hazard or excessive noise for people residing or working in the project area?
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

3.8.1.6 Impacts

Project hazard and hazardous material impacts are substantively the same for both Build Alternatives. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Create a Significant Hazard to the Public or the Environment through the Routine Transport, Use, or Disposal of Hazardous Materials

Construction

Build Alternatives

Construction of the proposed Project would involve the routine transport, use, and disposal of hazardous materials, including fuels, lubricants, solvents and paints. Transport, use and disposal activities would be conducted in compliance with applicable federal, state, and local regulations. As discussed in Chapter 2, Project Description, the Project will implement a transportation management plan (TMP) and traffic control plans (TCPs). This Project requirement minimizes potential impacts of construction traffic and associated delays on surrounding roadway and potential for accidents associated with routine transport of hazardous materials outside of the construction footprints and requires advanced and regular coordination with emergency service providers and managers and construction traffic management. The use of such materials in limited quantities is typical of construction activities and would not be unusual. Construction is not expected to require the use or transport of acute and extremely hazardous materials. Implementation of MM-HYD-CNST-1, which requires preparation and implementation of a SWPPP, would incorporate BMPs to avoid and minimize spills or releases of hazardous materials during construction Typical BMPs include measures to control stormwater runoff and manage material storage, leak and spill prevention, and proper waste management. The SWPPP requires maintenance of spill response kits and materials and that any spills or leaks be immediately contained, cleaned up, and disposed of in accordance with applicable regulations. In the event of a release, construction personnel would follow established BMP procedures to minimize environmental effects that would minimize impacts on the public and the environment associated with routine transport, use, and disposal of hazardous materials during construction. Impacts would be ***less than significant with mitigation.***

Operation

Build Alternatives

Operation of the expanded ferry service would not substantially change the existing ferry maintenance activities, use, transport, or disposal of hazardous materials. The facility would continue to operate as an existing terminal, including all maintenance activities associated with vessels and facilities, and the parking expansion would not introduce new hazardous materials uses. The Hazardous Materials Management Plan and Emergency Plans would also be updated in accordance with the Californian Environmental Reporting System and Central Marin Fire Department requirements. Because these activities are typical of existing operations, occur intermittently, and are subject to regulatory controls, the operation of the proposed Project would not result in a substantial increase in quantity or type of hazardous materials used. Therefore, impacts would be ***less than significant***, No mitigation required. Additionally, the District would obtain an amendment to their IGP SWPPP to address changes in the site conditions in accordance with MM-HYD-OP-1. Addressing the change in site conditions within the within an updated operations SWPPP would further reduce potential operational impacts associated with an release to the environment associated with transport, use, or disposal of hazardous materials.

Mitigation Measures

Refer to MM-HYD-CNST-1 in Section 3.9, Hydrology and Water Quality.

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

Construction

Build Alternatives

Construction of the proposed Project would involve the routine transport, use, and disposal of hazardous materials, including fuels, lubricants, solvents, and paints. Construction activities could result in potential spills or accidental release of hazardous materials.

A desktop records search identified several hazardous release sites within the proposed Project limits. These records correspond to multiple database entries associated with the same facility, based on matching site name and address information (three in total). Table 3.8-1 lists these grouped entries. Records for the facility indicate minor spills and leaks over time, some of which reached nearby waterways but were generally contained and cleaned up promptly using standard response methods. Hazardous materials handling at the site includes various oils, fuels, and regulated wastes, and the facility is classified as a Large Quantity Generator.

Regulatory records show minor compliance issues over time, including IGP violations and aboveground storage tank program deficiencies related to training, labeling, inspections, and documentation. All identified violations have since been corrected, and the facility is currently in compliance. No significant long-term hazards or unresolved impacts have been reported.

Implementation of MM-HYD-CNST-1, which requires preparation and implementation of a SWPPP, would incorporate BMPs to ensure proper handling of hazardous materials encountered during construction and achieve compliance with applicable regulations. These BMPs would include measures to control stormwater runoff, prevent and respond to spills or leaks, and manage waste and drainage from material storage areas. The SWPPP would also require that appropriate spill response equipment be maintained onsite and any spills releases be promptly contained, cleaned up, and disposed of in accordance with regulatory requirements. Construction personnel would follow established BMP procedures outlined in the SPCC Plan in the event of a spill or release. With implementation of measure MM-HYD-CNST-1, impacts would be ***less than significant with mitigation***.

In addition, construction activities would comply with applicable federal, state, and local regulations governing hazardous materials. If hazardous materials are encountered during construction, including those associated with unknown contamination, appropriate handling procedures would be implemented.

Operation

Build Alternatives

Operation of the proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials. The proposed Project consists of increased ferry service and landside access improvements to accommodate forecast future ridership demand and ensure that ferry service remains a reliable and competitive travel option that reduces vehicle miles traveled and greenhouse gases along the US 101 highway corridor in Marin and Sonoma Counties and for the greater Bay Area through 2050 and beyond. However, operational and maintenance activities would remain substantially similar to current conditions. As such, the types and quantities of hazardous materials handling onsite would not substantially change.

Access to and within the parking garages would be designed in accordance with latest standards including parking stall size and turning radii. Potential upset conditions during operation would be limited to minor and infrequent incidents, such as small spills associated with routine maintenance activities or vehicle operations. The District would continue to perform daily and long-term maintenance and mechanical repair onsite. Implementation of MM-HYD-OP-1 would require and update to the District's IGP to address changes in site conditions, BMPs, and management and reporting of incidents in accordance with applicable federal, state, and local regulations governing hazardous materials management, which are intended to minimize the risk of accidental release to the environment.

The proposed Project would not introduce new hazardous material uses or substantially increase existing operations. Operations in accordance with the amended permit would continue to minimize the potential for releases. Therefore, with implementation of MM-HYD-OP-1, impacts related to hazardous material releases during operations would be ***less than significant with mitigation***.

Mitigation Measures

Refer to MM-HYD-CNST-1 and MM-HYD-OP-1 in Section 3.9, Hydrology and Water Quality.

Emit Hazardous Emissions or Handle Hazardous or Acutely Hazardous Materials, Substances, or Waste within One-Quarter Mile of an Existing or Proposed School

Construction

Build Alternatives

The Children's Cottage Cooperative Preschool is approximately 920 feet northeast of the proposed Project site, and no other schools are within 0.25 mile of the Project site. Construction of the proposed Project could involve the transport of small quantities of hazardous materials typical of construction activities along nearby roadways, including the vicinity of sensitive receptors, such as schools. In addition, there is the potential for accidental spills or releases during construction.

This impact would be potentially significant; however, implementation of MM-HYD-CNST-1, which requires preparation and implementation of a SWPPP, would minimize this risk. The SWPPP would incorporate BMPs to ensure proper handling, storage, and disposal of hazardous materials and compliance with applicable regulations. With implementation of this measure, impacts would be reduced to ***less than significant with mitigation***.

Operation

Build Alternatives

The Children's Cottage Cooperative Preschool is approximately 920 feet northeast of the proposed Project site, and no other schools are within 0.25 mile of the Project site. Operation of the proposed Project would not substantially alter existing conditions related to the generation, use, or disposal of hazardous materials This is because the proposed Project involves expanding an existing parking facility to address increased ferry ridership and an increase in daily revenue ferry trips up to 76. It is anticipated that maintenance and fueling activities would increase, and use of hazardous materials would increase proportionally and would continue to be completed onsite and in accordance with regulatory requirements and District permits. Implementation of the Build Alternatives would result in a change in site conditions and the District would obtain an amendment to the IGP to address the changes. Hazardous Materials Management, Emergency and Spill Response plans would be updated in accordance with the

California Environmental Reporting System. Hazardous materials would continue to be managed, used, and disposed of in accordance with applicable federal, state, and local regulations, and the District will obtain an amendment to their IGP to address operational changes. With implementation of MM-HYD-OP-1, impacts would be ***less than significant with mitigation***.

Mitigation Measures

Refer to MM-HYD-CNST-1 and MM-HYD-OP-1 in Section 3.9, Hydrology and Water Quality.

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, Create a Significant Hazard to the Public or the Environment

Construction and Operation

Build Alternatives

The proposed Project site is not on the Cortese List of hazardous waste and substances sites compiled in accordance with the requirements of Government Code Section 65962.5. A search of SWRCB and DTSC databases on CalEPA Cortese List Data Resources was conducted on May 18, 2026. The Cortese List Data Resources databases consist of the following lists:

- Hazardous waste and substances sites from DTSC EnviroStor database
- Leaking UST sites from the SWRCB's GeoTracker database
- Solid waste disposal sites identified by SWRCB with waste constituents exceeding hazardous waste levels outside the waste management unit
- "Active" cease and desist orders and cleanup and abatement orders from SWRCB
- Hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the HSC, identified by DTSC (CalEPA 2026).

The proposed Project site is not on any of these lists, and ***no impact*** would occur.

Mitigation Measures

No mitigation required.

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, Result in a Safety Hazard or Excessive Noise for People Residing or Working in the Project Area

Construction and Operation

Build Alternatives

The proposed Project is outside the 2-mile planning boundary of any airport and is not within an Airport Land Use Compatibility Plan influence area; therefore, ***no impacts*** would occur.

Mitigation Measures

No mitigation required.

Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan

Construction

Build Alternatives

No long-term lane closures on Larkspur Landing Circle or Sir Francis Drake Boulevard are anticipated during construction of Phase I or Phase II. Temporary and intermittent traffic delays, typical with construction projects, could occur within the project vicinity, As discussed in Chapter 2, Project Description, the TMP and TCP would minimize potential for delay and improve safety and efficiency within the vicinity of Larkspur Landing Circle and Sir Francis Drake Boulevard. These plans would include applicable measures that the contactor will be required to comply with and approved by the City who will ensure adequate emergency access throughout construction. Construction-related traffic delays would not impair implementation of the Marin County Operational Area Emergency Operations Plan or other emergency response plans, and impacts would be ***less than significant.*** No mitigation required.

Implementation of the TMP and TCP further minimizes potential impacts on implementation of emergency response and evacuation plans by requiring advanced and regular coordination with emergency service providers and managers, construction traffic management, flagging, clear signage, and, if necessary, detours and priority access to ensure priority emergency vehicles access through the Project area at all times.

Operation

Build Alternatives

Incrementally increasing ferry service from 42 up to a maximum of 76 in 2050 and operation of the new parking would not impair or physically interfere with the *Marin Operational Area Emergency Operations Plan* or other applicable emergency response plans (Marin County Sheriff's OES 2014). The proposed Project would not substantially alter site operations or circulation patterns. As discussed in Chapter 3.14, Transportation, although the Project would generate additional vehicle traffic associated with increased ferry ridership, it would not alter the surrounding roadway network, eliminate existing access points, or restrict emergency vehicle circulation in the Project vicinity. Emergency vehicles would continue to have multiple access routes available during emergency response conditions, and the final design would be reviewed for compliance with applicable emergency access requirements. As such, operation of the Build Alternatives would not affect emergency access or the ability of emergency responders to serve the area, and impacts would be ***less than significant***. No mitigation required.

In addition, the proposed Project would be required to comply with all applicable local regulations and adopted plans through the City of Larkspur Project approval process ensuring advance planning with the city and emergency service providers to avoid impacts to emergency access.

Mitigation Measures

No mitigation required.

Expose People or Structures, Either Directly or Indirectly, to a Significant Risk of Loss, Injury or Death Involving Wildland Fires

Construction and Operations

Build Alternatives

The proposed Project site is within paved parking lots and is not within a Very High Fire Hazard Severity Zone (CAL FIRE 2025) within an urban area of Larkspur. As a result, the proposed Project would not expose people or structures to a substantial risk of loss, injury, or death related to wildland fires, including in areas where wildlands interface with urban development. Impacts related to wildfires are addressed in Section 3.17, Wildfire, and ***no impacts*** are anticipated.

Mitigation Measures

No mitigation required.

3.9 Hydrology and Water Quality

This section addresses hydrology and water quality impacts that may result from implementation of the Build Alternatives for the proposed Larkspur Ferry Service Expansion and Parking Project (Project). This section examines the current hydrological and drainage characteristics of the Project site and adjacent areas, evaluates relevant objectives and regulations, assesses and examines environmental effects, and proposes mitigation strategies to minimize or prevent potential adverse consequences resulting from Project execution, where appropriate. Impacts associated with the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.9.1 Existing Conditions

3.9.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

Federal Clean Water Act

The Project is subject to federal permitting requirements under the Clean Water Act (CWA), which is the foundational federal statute governing water quality protection across the United States. The CWA's overarching objective is to maintain and restore the chemical, physical, and biological health of the nation's waters, with the goal of making all surface waters safe for fishing and swimming. This law establishes the framework for regulating water quality and controlling pollution discharges through programs such as the National Pollutant Discharge Elimination System (NPDES), effluent limitations, water quality standards, pretreatment requirements, anti-degradation provisions, nonpoint-source management programs, and wetlands protection. The U.S. Environmental Protection Agency (EPA) administers the CWA at the federal level and has delegated implementation responsibilities to state and regional agencies. In California, the State Water Resources Control Board (SWRCB) oversees NPDES permitting and develops associated requirements, operating in coordination with the Regional Water Quality Control Boards (RWQCBs) to protect and improve the quality of state waters.

Through the NPDES program, EPA establishes requirements for stormwater discharges from municipal and industrial facilities and construction operations. Section 402 of the CWA prohibits the discharge of any pollutant from a point source into waters of the United States unless the discharge is authorized by a valid NPDES permit.

The Anti-Degradation Policy, codified in EPA's Water Quality Standards Regulations (40 Code of Federal Regulations 131.12), requires states and tribes to adopt and maintain a three-tiered program designed to prevent backsliding in water quality protections, described as follows:

- Tier 1 applies to all surface waters and requires protection of existing uses and the water quality conditions necessary to sustain those uses.

- Tier 2 applies to high-quality waters where conditions already exceed the fishable/swimmable threshold. Water quality may be lowered in these waters only to the extent that existing and designated uses are not impaired.
- Tier 3 protects outstanding national resource waters from any reduction in water quality, except for certain limited temporary changes.

Anti-degradation requirements were formally incorporated into the CWA through the 1987 amendments and codified at Section 303(d)(4)(B), requiring that these standards be met before certain modifications to NPDES permits can take effect.

Section 303(d) of the CWA directs the SWRCB to identify and list waterbodies that do not meet applicable water quality standards, prioritize those impaired waters, and develop Total Maximum Daily Loads to guide restoration efforts.

Section 404 of the CWA, administered by the U.S. Army Corps of Engineers, establishes a permit program governing the discharge of dredged or fill material into waters of the United States, including wetlands and coastal waters below the mean high-tide line. U.S. Army Corps of Engineers reviews permit applications, makes jurisdictional determinations, provides policy and guidance, and enforces Section 404 requirements.

Under CWA Section 401, any applicant seeking a federal Section 404 permit for activities that may result in a discharge to navigable waters must first obtain a water quality certification from the applicable RWQCB, confirming that the discharge will comply with applicable state water quality standards.

National Flood Insurance Program

Federal Emergency Management Agency's (FEMA's) primary mission includes reducing risks to life and property from all hazards, including flooding. FEMA administers the National Flood Insurance Program (NFIP), which allows property owners in participating communities to purchase insurance against flood losses. In exchange, communities adopt floodplain management ordinances aimed at reducing future flood damage. Within NFIP-participating communities, property owners in Zone A—areas subject to the 1% annual chance (100-year) flood event—are required to carry flood insurance. In addition to providing insurance, the NFIP maps flood hazard areas through the production of Flood Insurance Rate Maps.

State

California Porter-Cologne Water Quality Control Act

In California, water quality is regulated primarily through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) (California Water Code Section 13000 et seq.), which provides the comprehensive state framework for managing discharges to surface waters and groundwater. The Porter-Cologne Act establishes a program to protect the beneficial uses of water and applies to both point and nonpoint sources of pollution. Under the act, state water quality policy is guided by the following three foundational principles:

- The quality of all state waters shall be protected.
- All activities and factors that affect water quality shall be regulated to achieve the highest reasonably attainable water quality.
- The state shall use its full authority to protect state waters from degradation.

The Porter-Cologne Act established nine RWQCBs under the oversight of the SWRCB, each responsible for implementing the Act's provisions within their respective hydrologic regions. The SWRCB provides statewide policy guidance, funding, and review of RWQCB actions, while the RWQCBs conduct permitting, inspections, and enforcement at the regional and local level. The SWRCB also oversees statewide nonpoint-source pollution management, including monitoring, planning, and financial assistance activities. The Porter-Cologne Act provides multiple avenues for enforcing waste discharge requirements and other regulatory orders.[1]

A central objective of the Porter-Cologne Act is the protection of beneficial uses of state waters. California Water Code Section 13050(f) defines beneficial uses eligible for protection from degradation as including, but not limited to, domestic and municipal supply, industrial and agricultural supply, power generation, recreation, aesthetic enjoyment, navigation, and the preservation and enhancement of fish, wildlife, and other aquatic resources. Waterbodies with evidence of supporting rare, threatened, or endangered species may receive a RARE designation. Twenty-three beneficial use categories are currently defined at the statewide level.

San Francisco Bay Water Quality Control Plan

The San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan) (RWQCB 2021) is the master planning document governing water quality management throughout the San Francisco Bay Basin, prepared by the San Francisco Bay RWQCB. The Basin Plan designates beneficial uses and establishes water quality objectives for all waters of the State within the region—including both surface water and groundwater, and contains programs of implementation to achieve those objectives. Water quality objectives for total dissolved solids, mineral constituents, and turbidity are set on a watershed-by-watershed basis, while region-wide objectives address total and fecal coliform bacteria, nutrients, pH, dissolved oxygen, and un-ionized ammonia.

The turbidity objective, which is most relevant to the analysis in this section, is presented in Section 3.3.19 of the Basin Plan:

> ***3.3.19 Turbidity: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.***

Phase II Small Municipal Separate Storm Sewer System Program

The Municipal Stormwater Permitting Program governs stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s). Permits are typically issued to groups of co-permittees across an entire metropolitan area and require each permittee to develop and implement a Stormwater Management Plan or Program aimed at reducing pollutant discharges to the maximum extent practicable—the performance standard established by CWA Section 402(p). Required program elements include public education and outreach, illicit discharge detection and elimination, construction and post-construction stormwater controls, and good housekeeping practices for municipal operations.

The NPDES stormwater program is structured in two phases. Phase I covers medium and large municipalities and counties with populations exceeding 100,000. Phase II extends permit requirements to smaller MS4s within urbanized areas and other small MS4s outside urbanized areas that are designated by

[1] According to EPA, "NPS (nonpoint source) pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification." National Park Service (NPS) pollution has many diffuse sources whereas point source pollution has a single, identified source (EPA 2020).

the permitting authority. The District is classified as a non-traditional small MS4 permittee and holds coverage under the Phase II small MS4 statewide permit (Order WQ 2013-0001-DWQ, NPDES No. CAS000004, as amended [SWRCB 2013]). As a Phase II permittee, the District is required to develop and implement a Stormwater Management Plan that incorporates both pre- and post-construction best management practices (BMPs).

The RWQCB regulates point-source discharges through the issuance of NPDES permits and addresses nonpoint-source discharges through waste discharge requirements. Any entity that discharges or proposes to discharge materials that could affect water quality—other than to a municipal sanitary sewer system covered by an NPDES permit—must file a report of waste discharge. The SWRCB and RWQCBs retain authority to conduct their own investigations or to require dischargers to undertake water quality studies and provide reports.

NPDES General Permit for Construction Activities

The SWRCB issues and periodically renews the statewide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit Order 2022-0057-DWQ (adopted September 8, 2022) [SWRCB 2022]). Construction permitting is administered by the SWRCB, while post-construction permitting falls under RWQCB jurisdiction. Projects that involve soil disturbance are generally required to obtain coverage under the Construction General Permit, which applies to sites disturbing 1 or more acres.

Any construction project involving the clearing, grading, or excavation of one or more acres of land must comply with the Construction General Permit by preparing and implementing a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include a site map showing the construction perimeter, existing and proposed features, roadways, drainage points, pre- and post-construction topography, and drainage patterns. It must also identify BMPs—such as temporary vegetation, silt fences, and vegetated filter strips—to control stormwater and protect water quality, along with a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges to a 303(d)-listed waterbody. Applicants must submit a Notice of Intent to the SWRCB before beginning construction and a Notice of Termination upon project completion.

For projects disturbing 1 or more acres, permittees must develop a program that includes measures to prevent illicit discharges, structural and non-structural BMPs to reduce pollutants in construction stormwater runoff, and safeguards to prevent discharges from causing or contributing to violations of water quality standards.

Permittees are also required to review construction site plans to evaluate potential water quality impacts and verify the adequacy of proposed BMPs. This includes submission of an Erosion and Sediment Control Plan containing SWPPP elements before the issuance of building or grading permits.

NPDES Municipal Regional Permit Post-Construction Stormwater Quality Requirements

The project proponent may hold permittee status under the NPDES Municipal Regional Permit, which includes provisions for administering post-construction stormwater quality requirements under Section E.12. These provisions require installation of post-construction BMPs for new development that creates or replaces more than 10,000 square feet of impervious area (or 5,000 square feet at high water quality risk sites). The intent is to ensure that stormwater runoff from new development does not adversely affect downstream receiving waters.

Qualifying projects must install stormwater quality BMPs capable of treating runoff generated by storms up to approximately the 85th percentile event (roughly equivalent to a 1-inch storm). Projects must capture and treat 100% of runoff from new impervious surfaces and implement Low Impact Development

(LID) techniques, such as stormwater harvesting and reuse, infiltration, evapotranspiration, and bioretention.

Industrial General Permit

The SWRCB has also issued a statewide General Industrial Activities Stormwater Permit (IGP) (Order No. 2014-0057-DWQ [SWRCB 2014]) applicable to industrial facilities not otherwise covered by an individual construction permit. The IGP requires covered facilities to develop and implement a SWPPP to minimize pollutants in stormwater discharges, eliminate unauthorized non-stormwater discharges, and conduct both visual and analytical monitoring to verify SWPPP effectiveness, with findings reported annually. Facility types typically covered include manufacturers, landfills, mining operations, steam-based power generators, hazardous waste facilities, transportation facilities with vehicle maintenance programs, larger wastewater treatment plants, and recycling operations.

California Fish and Game Code Sections 1602

The California Department of Fish and Wildlife (CDFW) serves as a public trustee agency with responsibilities for protecting water quality as it relates to fish and wildlife resources, including under California Fish and Game Code Section 1602. CDFW coordinates with the SWRCB on water quality policy development and participates in permitting processes that affect the natural environment. Under Section 1602, CDFW is authorized to regulate any project that would divert, obstruct, or alter the natural flow or physical attributes of any river, stream, or lake that supports fish or wildlife resources.

Local

Bay Conservation and Development Commission

The Bay Conservation and Development Commission (BCDC) exercises permitting authority over most projects occurring in San Francisco Bay and within the 100-foot shoreline band, which is defined under the McAteer-Petris Act as the area within 100 feet landward of the mean high water line of San Francisco Bay. Any agency or individual proposing to place fill, dredged material, or other material in San Francisco Bay or certain designated tributaries within BCDC jurisdiction must secure a BCDC permit. Activities proposed within the 100-foot shoreline band are also generally subject to BCDC permitting. The applicable permit type depends on the nature and scope of the proposed work. Project components falling within BCDC jurisdiction would require a Major Permit under the McAteer-Petris Act.

The City of Larkspur 2040 General Plan

The City of Larkspur 2040 General Plan contains the following goals and policies that are applicable to the proposed Project (City of Larkspur 2024).

Natural Environment and Resources Element

Goal ENV-2. Protected Water and Riparian Resources. Protect and enhance the quality of water resources, riparian habitat, and natural drainage systems within and adjacent to Larkspur.

Policy ENV-2.4. Water Resource Protection. Prioritize protection of water resources for development projects within or adjacent to shoreline, wetland, and riparian areas.

Policy ENV-2.5. Stormwater Runoff Pollution. Minimize stormwater runoff pollution and retain natural hydrological characteristics. Action Program ENV-2.5.b requires compliance with the NPDES Construction General Permit for construction within required setbacks to shoreline, wetland, and riparian areas. Action Program ENV-2.8.c requires use of LID techniques and BMPs consistent with Marin County Stormwater

Pollution Prevention Program (MCSTOPPP) guidelines during development review, construction, and site operation.

Policy ENV-2.7. Permeable Surfaces. Encourage use of permeable materials in projects adjacent to water resources.

Policy ENV-2.8. Drainage Plans. Require drainage plans to produce no net increase in peak runoff rate and volume compared to pre-project conditions (Action Program ENV-2.8.a).

Safety Element

Goal SAF-4. Flood Damage Prevention. Protect life and property of City of Larkspur residents from the risk of flood damage.

Policy SAF-4.2. Flood Zone Development. Require site plans to locate structures outside or above the 100-year flood zone and sea-level rise vulnerability area to the extent feasible (Action Program SAF-4.2.f), and direct use of current FEMA flood hazard maps when evaluating development proposals in flood hazard zones (Action Program SAF-4.2.a).

Policy SAF-4.4. Sea Level Rise. Require consideration of sea-level rise impacts when designing capital improvements, including designing storm drain improvements to avoid backflow intrusion in areas vulnerable to flooding and sea-level rise (Action Program SAF-4.4.a).

Policy SAF-4.6. Natural Flow Capacity. Retain natural conditions by maintaining flow capacity in stream channels and floodplains.

Policy SAF-4.7. Pollutant Release. Minimize release of hazardous pollutants from sites inundated by sea-level rise.

Marin County Flood Control and Water Conservation District

The Marin County Flood Control and Water Conservation District was established in 1955 through state legislation (Chapter 68 of the State Water Code). The Marin County Board of Supervisors serves as the District's governing board, with District operations carried out by the Department of Public Works. The District operates across the entire County of Marin within eight zones, each with an advisory board that reviews zone budgets and master plans. District activities include maintaining precipitation and stream monitoring infrastructure, publishing Corte Madera Creek Rating Tables, and administering the MCSTOPPP and FEMA Flood Insurance programs.

Marin County Stormwater Pollution Program

The City of Larkspur is a member agency of the MCSTOPPP, whose mission is to prevent stormwater pollution, protect and enhance water quality in local waterways and wetlands, preserve beneficial uses of waterways, and maintain compliance with applicable state and federal requirements. Member agencies implement stormwater BMPs, land development standards, and permitting requirements consistent with applicable local stormwater ordinances, including the City of Larkspur Urban Runoff Pollution Prevention Ordinance (Larkspur Municipal Code Section 15.48), which establishes requirements to ensure compliance with applicable regulations (City of Larkspur 2024).

The Central Marin Sanitation Agency provides wastewater collection and treatment services to the City of Larkspur and surrounding communities. Central Marin Sanitation Agency operates under waste discharge requirements issued by the San Francisco Bay RWQCB and implements a Sewer System Management Plan to ensure compliance with RWQCB and SWRCB requirements, reduce and mitigate impacts from sanitary sewer overflows, and ensure timely reporting of any overflows that may affect water quality.

3.9.1.2 Environmental Setting

Surface Water, Groundwater, and Water Quality

The LFT and associated facilities is along the central San Francisco Bay near Sir Francis Drake Boulevard in Marin County, California, at latitude 37°56′40.2″N and longitude 122°30′31.4″W. The study area is within the San Rafael U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle and within the City of Larkspur city limits. The terminal is adjacent to San Francisco Bay wetlands and tidal areas and is bordered by a mix of transportation, commercial, and open-space land uses.

The Project site consists of the terminal (Main Lot), and a satellite parking lot north of Sir Francis Drake Boulevard (North Lot). The Main Lot is accessed from Sir Francis Drake Boulevard and has 1,751 parking spaces. The North Lot is to the north of the Main Lot and is accessed from Larkspur Landing Circle, with 185 parking spaces. Together, these surface lots provide 2,023 spaces, inclusive of accessible parking spaces.

The Project site falls within the jurisdiction of the San Francisco Bay RWQCB. The Golden Gate LFT facility covers approximately 14.5 acres and is approximately 98% impervious (District 2026). The District maintains a Stormwater Management Program at the facility and associated properties, established in 2017 in response to regulatory requirements from the California SWRCB and EPA (District 2026). The program is administered under the state Small and Non-Traditional MS4 Permit and is intended to reduce urban runoff pollution and protect local water bodies from water quality impairment.

The existing LFT facility contains multiple stormwater drainage areas. Drainage Area A, which covers the fuel tanks area, and Drainage Area B, which encompasses the shipping and receiving area east of the fuel tanks; both discharge southward into Corte Madera Creek (District 2026). Drainage Area C encompasses the over-water portions of the facility, including ferry berths, gangways, the passenger terminal, and the service building; because of the over-water configuration of this area, stormwater discharges to the Bay through numerous individual and sheet-flow locations (District 2026). Drainage Areas D through J are non-industrial use areas containing employee and public parking lots. The District's Stormwater Management Program includes public outreach and education, industrial facility inspections, illicit discharge detection and enforcement, construction site management, and maintenance of the facility drainage system.

A geotechnical investigation in August 2023 (Jacobs 2026b) involved borings at three sites, MR-1 (17 borings), MR-2 (22 borings), and MR-4 (14 borings) and located groundwater at a depth of 5 feet at the first two sites (Figure 3.9-1).

During ferry departure maneuvering, Corte Madera Bay water quality is affected when bottom sediment in the turning basin is disturbed by water jet propulsion and is resuspended. The disturbance is confined to an approximately 0.6-acre footprint and lasts about 30 seconds. Ferry departure maneuvering raises turbidity within the turning basin briefly, locally and repetitively. For the existing fleet, the increase within the 0.6-acre footprint is 62 to 91 Formazin nephelometric units (FNU), lasting a few minutes, 21 times per day. Because departures follow a fixed schedule rather than the tidal cycle, the resuspended sediment is released into flood and ebb tides in roughly equal measure and carries no upstream bias; and the berths and turning basin themselves remain depositional and must be dredged periodically to maintain navigable depth (USACE 2022). The disturbed water leaves the footprint in about 2.5 to 5 minutes, well before the next departure, so successive disturbances do not overlap, and the elevated turbidity does not accumulate from one departure to the next. Set against the wind waves and tidal currents that act daily on the Bay's 590-acre mudflat and that supply the sediment that shoals the channel, the turning basin and the lower reach of the Corte Madera Creek (van der Wegen & Jaffe 2012), the ongoing ferry contribution to the sediment budget of the system is negligible in both area and duration.

Floodplain

As shown on Figure 3.9-2, the LFT and associated parking areas are within FEMA Special Flood Hazard Area Zone AE (FEMA 2018). Zone AE is classified as an area subject to inundation by the 1% annual chance (100-year) flood event, for which base flood elevations (BFEs) have been determined. The Flood Insurance Rate Map (FIRM) panel covering the Project site (Panel 0459, Map Number 06041C0459F, effective March 16, 2018) shows BFEs ranging from approximately 9 to 11 feet (North American Vertical Datum of 1988) across some portions of the Project area, especially around the fringe of the Project site most proximate to the Bay, with some parking lot areas falling within Zone AE at BFE 10 feet (FEMA 2018). Areas of minimal flood hazard (Zone X) are present in the interior of the Project site and areas to the north, including the North Lot area. It is anticipated that flooding and storm surges will become more intense in the coming years because of climate change, and it is possible that FEMA's figures may underestimate future flood conditions. Flooding frequency is expected to increase as climate change influences sea-level rise. The Project site was assessed for projected changes in inundation potential resulting from sea-level rise using the Our Coast Our Future visualization tool, which displays data from the Coastal Storm Modeling System (Point Blue Conservation Science and USGS 2017). This model presents projected flood conditions under various sea-level rise elevation scenarios, including 0.8 foot, 1.6 feet, 2.5 feet, 3.3 feet, and 4.1 feet. Under existing conditions, the Our Coast Our Future model shows that the Project site may begin to experience partial, intermittent inundation along the southern edge of the Project site for 100-year storm events with 50 centimeters of sea-level rise (Point Blue Conservation Science and USGS 2017). With 100 centimeters of sea-level rise, a significant portion of the interior parking lot is inundated.

The alternatives vary in susceptibility to flooding based on their location and proposed site elevations. Under Alternatives 1 and 2, the Main Lot parking garage would be elevated above projected sea-level rise, reducing inundation risk relative to existing conditions. The North Lot, north of Sir Francis Drake Boulevard, is at a slightly higher elevation and would have a lower risk of inundation.



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Figure 2-1
Boring and CPT Location Map
Larkspur Ferry Terminal
Larkspur, California

Legend

- CPT
- Proposed Boring (Depth)
- Soil Profile Cross-Section Alignments
- Historical Boring from HARDING-LAWSON Associates (1973)
- Historical Boring from WINZLER & KELLY (1997)
- Historical Boring from STIMAC Associates, INC. (2008)

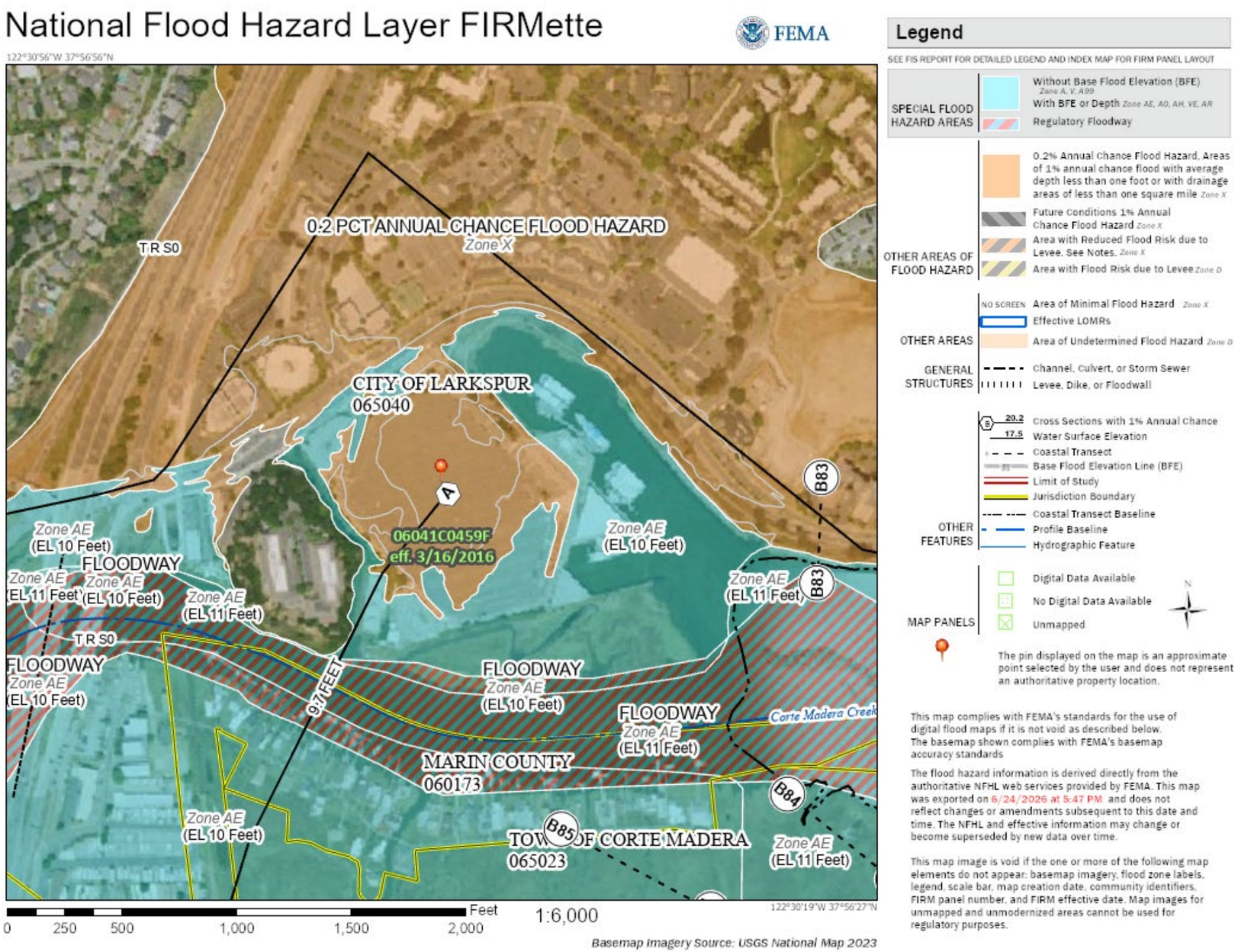
North

250 125 0 250
Approximate scale in feet

Jacobs

Date: 10/25/2023 Time: 16:00 User: SIRIKUV

Figure 3.9-2. FEMA Floodplain Map



3.9.2 Environmental Impacts

The Draft Environmental Impact Report analyzes two Build Alternatives. The alternatives include increases in ferry service to 2050 beyond, parking garages in the North and Main Lots, and enhanced access and connectivity. Alternative 2 includes enhanced transportation demand management measures to meet forecast ferry ridership with one less parking level in the Main Lot garage.

Information for this section was obtained from the Project description in Chapter 2, the District's Stormwater Management Program (District 2026), and applicable regulatory and planning documents.

3.9.2.1 Methodology

The evaluation of possible impacts concerning hydrology and water quality relied on comparing existing and proposed stormwater drainage infrastructure and Project components against baseline conditions, as outlined in Section 3.9.1.2, Environmental Setting, relative to conditions anticipated during the construction and operational phases of the proposed Project. The study area of this analysis encompassed the Project footprint, including the North Lot and proposed pedestrian crossing from the North Lot across Larkspur Landing Circle and the LFT.

3.9.2.2 Thresholds of Significance

The significance criteria outlined in California Environmental Quality Act Guidelines Appendix G thresholds establish the standards for evaluating whether a project could have significant impacts related to hydrology and water quality.

Would the proposed Project do the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- 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 that would:
  - Result in substantial erosion or siltation on- or offsite?
  - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?
  - Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
  - Impede or redirect flood flows?
  - Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding because of the failure of a levee or dam?
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or FIRM or other flood hazard delineation map?

3.9.2.3 Impacts

Project water quality and hydrology impacts are substantively the same for both Build Alternatives. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Ground Water Quality

Construction

Build Alternatives

The Build Alternatives would construct new parking garages on both the North and Main Lots. The Project improvements proposed for the North Lot are the same for both Build Alternatives and include construction disturbance area of approximately 1.0 acre. Similarly, proposed disturbance areas for the Build Alternatives for the Main Lot are also the same and consist of approximately 5.5 acres of soil disturbance for the Main Lot and restriping of the remaining areas within the surface lot. The only difference in Main Lot garages between the Build Alternatives would be the total levels. Alternative 1 includes a five-level garage, and Alternative 2 would include a four-level garage on the Main Lot. The Main Lot garages for both Build Alternatives would also be elevated so that the ground floor level is higher than the predicted sea-level rise in year 2100. Additionally, the Main Lot garage would be constructed outside of the BCDC 100-foot shoreline band. Outside of the parking garage, restriping of the existing surface lot to accommodate the new circulation pattern and surface parking (Figure 3.9-1) and modifications to landscape areas and drainage tie-ins would be required. Modifications within the remaining areas of the existing surface lot would not change the existing site drainage pattern or involve grading. Project components within the shoreline band would be coordinated with the BCDC and, as applicable, amendment to the Districts BCDC permit would be obtained.

MM-HYD-CNST-1 would include the preparation and implementation of a SWPPP and participation with the Construction General Permit. The SWPPP would contain site-specific BMPs implemented during construction to control pollutants in stormwater discharge.

In addition, the City of Larkspur Municipal Code contains requirements regulating grading, drainage, erosion, and construction site stormwater runoff control.

Although small amounts of construction-related dewatering are covered under the Construction General Permit, the San Francisco Bay RWQCB has regulations specific to dewatering activities that typically involve reporting and monitoring requirements. In the event of dewatering during construction activities or before dewatering to surface water via a storm drain, the contractor would obtain coverage under the NPDES Construction General Permit from the San Francisco Bay RWQCB for those releases. Coverage under the Construction General Permit typically includes dewatering activities as authorized non-stormwater discharges, provided that dischargers prove the quality of water to be adequate and not likely to affect beneficial uses. All requirements of dewatering would be met to ensure water quality is not affected.

In the event groundwater is encountered during construction, dewatering discharge methods would include options for discharge to surface water via a storm drain in compliance with waste discharge requirements to ensure that any discharges would be within the capacity of existing facilities and would not require the construction or expansion of existing facilities. Waste discharge requirements also include regulations specific to dewatering activities requirements. If it is found that the groundwater does not meet water quality standards, it must either be treated as required before discharge so that all applicable water quality objectives (as designated in the Basin Plan [RWQCB 2021]) are met or hauled offsite instead for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such

water. For water to be discharged to San Francisco Bay, the contractor would be required to notify the San Francisco Bay RWQCB and comply with the board's requirements related to the quality of water and discharges.

Construction activities could result in significant impacts if discharges violate water quality or degrade surface or groundwater quality. Implementation of MM-HYD-CNST-1 would mitigate construction-related impacts and prevent violations and degradation of surface and groundwater quality, and impacts would be ***less than significant with mitigation***. Compliance with the City of Larkspur Municipal Code and applicable Marin Municipal Water District (MMWD) requirements would further minimize the potential impacts of Project construction effects on water quality.

Operation

Build Alternatives

No substantial change in the amount of impervious surface associated with the new parking garages is being created. The new parking garages would result in the same acreage of impervious surfaces compared to the existing parking lots. It is anticipated that stormwater from the garages would be captured and treated onsite before discharge through the existing drainage systems. Drainage for remaining surface lot would be the same as existing and would comply with City of Larkspur, District, RWQCB, SWRCB, MCSTOPP, and BCDC stormwater management requirements. Operational changes associated with the Build Alternatives could result in significant impacts resulting in water quality violations or degradation of surface or groundwater if not addressed within the District's IGP. Implementation of MM-HYD-OP-1 requires the District to amend IGP SWPPP to incorporate the new parking garages into the facility's operational stormwater BMPs.

The applicable standard for evaluating operational effects on turbidity is the Basin Plan turbidity objective (Section 3.3.19; RWQCB 2021). It requires that waters be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. It also limits increases in turbidity relatable to waste discharge to no more than 10% where natural turbidity is greater than 50 Nephelometric Turbidity units (NTU). Natural turbidity in the turning basin and Corte Madera Bay is about 50 FNU (FNU is equivalent to NTU), so a 10% increase corresponds to 5 FNU above background. The following analysis evaluates departure maneuvering against this threshold in two places: within the ferry turning footprint during a departure, and across the Corte Madera Creek and Corte Madera Bay after mixing.

Future operations would be conducted with the Liwa-class vessels, scheduled to replace the legacy fleet in 2033. The new design has a shallower 20-degree jet angle, there are six waterjets per ferry rather than four, and the distance the jets must travel to reach the bottom is increased. Together, these changes reduce the disturbance per departure to about 0.36 of the existing value in bottom-directed momentum and to about 5.5% in peak bottom shear stress, a reduction by a factor of roughly 18. As shown in Table 3.9-1, even with 81% more departures (that is, up to 76 daily revenue crossings), the momentum delivered to the bottom over a full day under the Liwa class falls to by about two-thirds compared to that of the legacy fleet. This would result in a decrease in the turbidity within the footprint to 54 to 65 FNUs compared to 62 to 91 FNU for the legacy fleet, and the turbidity in the Corte Madera Bay would fall to 0.2 to 0.7 FNU from 0.3 to 1.0 FNU. The future condition is accordingly an improvement over the existing condition in both the intensity of a single event and the daily total, and the transition to the future fleet does not constitute a new or an increased impact.

Table 3.9-1. Comparison of Parameters During Departure Maneuvering for the Legacy and Liwa-Class Vessels

Quantity	Existing Fleet	Future Fleet
Departure trips per day	21	38
Waterjets per ferry and jet angle	4 at 45 degrees	6 at 20 degrees
Bottom-directed momentum per departure (relative)	1.00	0.36
Peak bottom shear stress per departure (relative)	1.00	0.055
Turbidity in the turning basin during the turn	62 to 91 FNU	54 to 65 FNU
Increase above the 50 FNU background	12 to 41 FNU	4 to 15 FNU
Water disturbed per departure	9 acre-feet	9 acre-feet
Water disturbed per day	189 acre-feet	342 acre-feet
Share of the daily tidal exchange of the Corte Madera Bay	2.4%	4.3%
Increase in the Corte Madera Bay if fully mixed	0.3 to 1.0 FNU	0.2 to 0.7 FNU
Increase as percent of background	less than 2%	about 1%

Note: the same 0.6-acre footprint, and therefore the same 9 acre-feet of disturbed water per departure, is assumed for both fleets. The future footprint is expected to be somewhat larger and more diffuse; spreading the same resuspended sediment through a larger volume would lower the turbidity within the footprint. Holding the footprint constant therefore overstates the turbidity of the future disturbance and is conservative for the turbidity rows. The water disturbed per day and the share of the daily tidal exchange would rise in proportion to a larger footprint, while the fully mixed increase across the Corte Madera Bay, which depends on the sediment supplied rather than on the volume through which it is spread, would not.

Regarding operational impacts outside the turning basin, neither fleet produces a measurable increase in turbidity. The fully mixed increase in the Corte Madera Bay is less than 2% of background under the existing fleet and about 1% under the Liwa class, well below the 10% limit. The water that floods the lower reach of the Corte Madera Creek is drawn from the channel and the Corte Madera Bay after mixing has taken place. Sediment delivered upstream is a fraction of one FNU and would occur only on flood tides. Because departures are not timed to the tide, roughly half of the disturbances are released on ebb tides and carried toward the Corte Madera Bay instead. These increments cannot be distinguished from natural variation of 5 to 25 FNU through an ordinary tidal cycle or from the several hundred FNU reached during storm runoff in the Corte Madera Creek and winter wind-wave events in the Corte Madera Bay (USGS 2026a; USGS 2026b).

Within the footprint, the localized increase during a departure (4 to 15 FNU under the future fleet) is brief and dissipates as the plume mixes. It is also smaller than the 12 to 41 FNU increase produced by the existing fleet. Resuspension of bottom sediment by vessel propulsion is not a waste discharge, which is the source of turbidity to which the 10% limit applies, and the short-lived, localized increase would not cause nuisance or adversely affect beneficial uses. The future condition is therefore an improvement over the existing condition in both the intensity of a single event and the daily total, and the transition to the future fleet does not constitute a new or increased impact.

The impact of ferry departure maneuvering on upstream sedimentation and flooding hazard in the lower reach of Corte Madera Creek, and on water turbidity in that reach and in Corte Madera Bay, is negligible under both existing and future conditions. The future fleet would disturb the bottom and the water column less than the existing fleet despite the proposed increase in service. Construction and operation of the proposed Project would therefore not violate the Basin Plan turbidity objective or any other water quality standard or waste discharge requirement and would not otherwise substantially degrade surface or

groundwater quality. Potential impacts from construction and operational activities would ***be less than significant.***

Mitigation Measures

MM-HYD-CNST-1: Prepare and Implement a Stormwater Pollution Prevention Plan

The proposed Project will be required to implement a site-specific construction SWPPP that complies with and is consistent with the Construction General Permit (SWRCB 2022). The SWPPP will include Project construction features designed to protect the quality of stormwater runoff. The SWPPP will be prepared by the contractor and approved by the District for implementation during construction. Some of the primary issues that the contractors SWPPP would address are the following:

- Minimization of disturbed areas to the portion of the Project site necessary for construction
- Stabilization of exposed or stockpiled soils and cleared or graded slopes
- Establishment of permanent revegetation or landscaping as early as is feasible
- Removal of sediment from surface runoff before it leaves the Project site by silt fences or other similar devices around the site perimeter
- Protection of all storm drain inlets onsite or downstream of the Project site to eliminate entry of sediment
- Prevention of tracking soils and debris off site through use of a gravel strip or wash facilities, which would be at all construction exits from the Project site
- Proper storage, use, and disposal of construction materials, such as solvents, wood, and gypsum
- Continual inspection and maintenance of all BMPs through the duration of construction
- Treatment requirements and operating procedures to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from material storage

The SWPPP will also contain a site map(s) showing the construction perimeter, existing and proposed buildings, stormwater collection and discharge points, general pre- and post- construction topography, drainage patterns across the site, and adjacent roadways; a visual monitoring program; a chemical monitoring program for "non-visible" pollutants; and a sediment monitoring plan, should the site discharge directly into a waterbody listed on the 303(d) list for sediment. Section A of the Construction General Permit (SWRCB 2022) lists all elements that must be contained in a SWPPP. Once grading begins, the SWPPP must be kept onsite and updated as needed while construction progresses.

MM-HYD-OP-1: Amend Existing District IGP

The existing IGP SWPPP will be amended to account for the new operational stormwater conditions at the North and Main Lots to control pollutants in stormwater discharge in accordance with state and federal requirements.

Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such that the Project May Impede Sustainable Groundwater Management of the Basin

Construction and Operation

Build Alternatives

The proposed Project would not introduce new impervious surfaces on undeveloped land that would adversely affect groundwater recharge. The Project site is developed with existing urban land use types

and does not include vegetative cover that allows groundwater recharge onsite. Accordingly, groundwater recharge would remain similar to existing conditions.

Preliminary geotechnical investigations indicate that the Build Alternatives would require excavation to remove unsuitable material within the foundation locations, utility trenches and pile installation for the proposed parking garages. The LFT is on bayfront fill adjacent to tidal wetlands, and groundwater was found at a depth of 5 feet at two boring sites (MR-1 and MR-2) and not found at a third site (MR-4) (Figure 3.9-1). As groundwater levels fluctuate seasonally, excavations for utility trenches may encounter groundwater and may require dewatering, shoring, and other ground-stabilizing measures. The Alternatives Summary Report (Jacobs 2026a) notes that the Main Lot parking garage would require deep pile foundations and that fill material would be imported to raise the site before pile driving. If construction-related dewatering is required, it would occur on a temporary basis and would not result in a loss of water that would substantially deplete groundwater supplies.

The MMWD provides water service to the City. MMWD's primary water supply comes from seven rain-fed reservoirs, and groundwater is not currently or planned to be used as a municipal water source supply by the MMWD. Groundwater resources would not be used for Project construction or operation. Accordingly, Project implementation would not result in impacts on groundwater supplies within the City or MMWD. Therefore, construction and operation of the proposed Project would result in ***less than significant*** impacts on groundwater supplies, recharge or management. No mitigation required.

Mitigation Measures

No mitigation required.

Substantially Alter the Existing Drainage Pattern of the Site or Area, Including through the Alternation of the Course of a Stream or River or through the Addition of Impervious Surfaces, in a Manner that Would Result in Substantial Erosion or Siltation On or Off Site, Substantially Increase the Rate or Amount of Surface Runoff in a Manner that Would Result in Flooding On or Off Site, Create or Contribute Runoff Water that Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows?

Construction and Operation

Build Alternatives

The Main Lot and the North Lot are largely impervious surfaces. There are no natural drainage features (streams, creeks, swales, or rivers) that would be affected by construction and operation of the Build Alternatives. The North Lot drains to the City stormwater drainage system. The Main Lot site drains to an existing stormwater system, which conveys surface runoff to San Francisco Bay via outfalls near the site perimeter.

During Project construction, stormwater drainage patterns could be temporarily altered. However, as discussed, implementation of BMPs in compliance with MM-HYD-CNST-1, as required in the Project SWPPP during construction, would minimize the potential for erosion or siltation in nearby storm drains and temporary changes in drainage patterns during construction. The Project will comply with the established regulatory framework, and therefore, potential erosion or siltation impacts during and following construction would be reduced to less than significant.

The proposed parking garages on the North Lot and Main Lot would be constructed on existing impervious surface parking lots. The Main Lot parking garage would be elevated so that the ground level is higher than the potential future near term (Year 2100) sea level rise (refer to Appendix E, Larkspur Ferry

Terminal Sea Level Rise Impact Assessment). New stormwater conveyance systems would be incorporated into the parking garages. Proposed stormwater infrastructure would include onsite treatment before connection to the existing storm drain system and discharged to the Corte Madera Bay though existing outfalls. An amendment would be obtained to the existing IGP and implement approved operational BMPs in compliance with MM-HYD-OP-1. Stormwater management would be designed in compliance with IGP amendment, local and regional regulations to minimize discharge from future operations and storm events.

The proposed Project would not substantially increase runoff quantities, result in substantial erosion or siltation on- or offsite, or increase the rate of flooding on- or offsite. Runoff volumes would be similar to existing conditions, and the Project would not exceed the capacity of existing or planned stormwater drainage systems. As discussed, the Project applicant would be required to apply for coverage under the NPDES Construction General Permit (SWRCB 2022) and prepare a SWPPP. Given the particular configuration of the Project, including the existing impervious surfaces, following compliance with San Francisco Bay RWQCB, MS4 permit, NPDES, MCSTOPPP, and applicable City of Larkspur and District requirements, including the amendment to the IGP. With the implementation of MM-HYD-CNST-1 and MM-HYD-OP-1, project implementation would not result in substantial erosion or siltation on- or offsite, increase the rate or amount of surface runoff resulting in flooding on- or offsite, or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Impacts would therefore be ***less than significant with mitigation***.

Mitigation Measures

MM-HYD-CNST-1: Prepare and Implement a Stormwater Pollution Prevention Plan

The proposed Project will be required to implement a site-specific construction SWPPP that complies with and is consistent with the Construction General Permit (SWRCB 2022). The SWPPP will include Project construction features designed to protect the quality of stormwater runoff. The SWPPP will be prepared by the contractor and approved by the District for implementation during construction. Some of the primary issues that the contractors SWPPP would address are the following:

- Minimization of disturbed areas to the portion of the Project site necessary for construction
- Stabilization of exposed or stockpiled soils and cleared or graded slopes
- Establishment of permanent revegetation or landscaping as early as is feasible
- Removal of sediment from surface runoff before it leaves the Project site by silt fences or other similar devices around the site perimeter
- Protection of all storm drain inlets onsite or downstream of the Project site to eliminate entry of sediment
- Prevention of tracking soils and debris off site through use of a gravel strip or wash facilities, which would be at all construction exits from the Project site
- Proper storage, use, and disposal of construction materials, such as solvents, wood, and gypsum
- Continual inspection and maintenance of all BMPs through the duration of construction
- Treatment requirements and operating procedures to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from material storage

The SWPPP will also contain a site map(s) showing the construction perimeter, existing and proposed buildings, stormwater collection and discharge points, general pre- and post- construction topography, drainage patterns across the site, and adjacent roadways; a visual monitoring program; a chemical

monitoring program for "non-visible" pollutants; and a sediment monitoring plan, should the site discharge directly into a waterbody listed on the 303(d) list for sediment. Section A of the Construction General Permit (SWRCB 2022) lists all elements that must be contained in a SWPPP. Once grading begins, the SWPPP must be kept onsite and updated as needed while construction progresses.

MM-HYD-OP-1: Amend Existing District IGP

The existing IGP SWPPP will be amended to account for the new operational stormwater conditions at the North and Main Lots to control pollutants in stormwater discharge in accordance with state and federal requirements.

In Flood Hazard, Tsunami, or Seiche Zones, Risk Release of Pollutants Due to Project Inundation

Construction and Operation

Build Alternatives

The LFT site is within FEMA Zone AE, a Special Flood Hazard Area subject to 1% annual chance flooding with BFEs of approximately 9 to 11 feet North American Vertical Datum of 1988 (FEMA 2018). The Project site is therefore within a flood hazard zone. However, under the Build Alternatives, the Main Lot parking garage would be elevated so that the ground floor is higher than the potential future sea level. This design feature would substantially reduce the risk of pollutant release because of flood inundation during Project operations.

The Project site is within the tsunami inundation zone as shown in the Tsunami Inundation Map for the San Rafael/San Quentin Quadrangle (California Emergency Management Agency et al. 2009). However, the potential for significant damage from tsunami or seiche is considered very low, given variable tides, the distance from the Corte Madera Bay front, and the short duration of a tsunami or seiche event.

Furthermore, as discussed, construction-related stormwater BMPs would be implemented to minimize degradation of water quality associated with stormwater runoff or construction-related pollutants. In addition, construction and maintenance activities would comply with local stormwater ordinances, stormwater requirements established by MS4 requirements, and regional waste discharge requirements. Operation would comply with stormwater requirements established by MS4 requirements and MCSTOPPP. Accordingly, particularly given that the design, the flood, tsunami and seiche risks are minimal, the construction and operation impacts pertaining to risk of release of pollutants because of Project inundation would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan

Construction and Operation

Build Alternatives

MMWD relies on surface water reservoirs rather than groundwater, and the Project site does not fall within a recognized groundwater basin subject to a sustainable groundwater management plan. The site is fully developed with impervious surfaces and does not provide meaningful groundwater recharge.

During construction, stormwater management BMPs would be implemented under the Project's Construction General Permit coverage and SWPPP to control construction site runoff and reduce the

discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff, as required by MM-HYD-CNST-1. Compliance with permit requirements and implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the Basin Plan (RWQCB 2021).

Construction runoff would also comply with the appropriate water quality objectives for the region. The NPDES Construction General Permit (SWRCB 2022) also requires stormwater discharges not to contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated beneficial uses. Project design incorporates post-construction stormwater management vaults and filters to treat the site's water before discharge into exiting storm drain infrastructure.

Project design would incorporate post-construction stormwater management features to capture and treat stormwater from the parking garages before discharging though the exiting storm drain infrastructure. Stormwater drainage areas outside of the garages within the remaining surface lot would continue to follow existing drainage patterns and discharge though the existing surface drains and outfalls. Treatment of stormwater discharge from the 5.5-acre parking garage would substantially reduce potential for pollutants to the Corte Madera Bay. Therefore, the proposed Project would not be a substantial source of pollutants that would result in significant impacts on surface water or groundwater quality. The proposed Project would implement and comply with the amended IGP SWPPP governing long-term operational stormwater discharges (MM-HYD-OP-1), in addition to the new Construction General Permit SWPPP governing construction-phase discharges (MM-HYD-CNST-1) and the NPDES permit. The Basin Plan's water quality objectives are implemented through these permit programs; compliance with both, as described previously, is therefore the mechanism by which the Project achieves consistency with the Basin Plan. Therefore, the proposed Project would not conflict with a water quality control plan or groundwater management plan, and ***no impact*** would occur.

Mitigation Measures

No mitigation required.

Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Construction and Operation

Build Alternatives

The proposed Project does not include construction of housing. Construction and operation of the Build Alternatives would result in ***no impacts*** associated with the construction of housing within flood areas.

Mitigation Measures

No mitigation required.

3.10 Land Use and Planning

This section describes the applicable regulatory and environmental setting for existing and proposed land uses within and around the Larkspur Ferry Service Expansion and Parking Project (Project) area, as well as the potential for the Project's Build Alternatives to divide an existing community or conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.10.1 Existing Conditions

3.10.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts.

There are no federal or state laws or regulations pertaining to land use and planning that are relevant to the Project. The following regional and local policies and long-term transportation improvements are relevant to the Project.

Regional

Plan Bay Area 2050+

The Metropolitan Transportation Commission (MTC) acts as a regional transportation planning agency and as the region's metropolitan planning organization. Because of its designation, MTC is responsible for the Regional Transportation Plan (RTP), a compilation of plans for mass transit, highway, freight, bicycle, and pedestrian facilities. MTC also reviews applications from local agencies for state and federal grants for transportation projects to determine their compatibility with the RTP. MTC and the Association of Bay Area Governments (ABAG) adopted *Plan Bay Area 2050+* in 2026 (MTC and ABAG 2026).

Plan Bay Area 2050+ is the integrated land use/transportation plan and demographic/economic forecast for the nine-county San Francisco Bay Area region. This plan coordinates housing plans, open space conservation efforts, economic development strategies, and transportation investments. Specifically, to reduce greenhouse gas (GHG) emissions, *Plan Bay Area 2050+* promotes extensive transportation strategies for all modes, including the new post-pandemic transit vision. The plan focuses on operating and maintaining existing transportation systems in addition to implementing and expanding new systems (MTC and ABAG 2026).

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) regulates a shoreline band jurisdiction over an area 100 feet wide inland and parallel to the shoreline. For projects within BCDC jurisdiction, permits may be required, depending on the activity. Those projects requiring a permit must comply with the requirements of the McAteer-Petris Act and the *San Francisco Bay Plan* (Bay Plan) (BCDC 2025).

Local

City of Larkspur 2040 General Plan

The City of Larkspur 2040 General Plan (City of Larkspur 2024) was adopted in 2024 and provides a comprehensive plan of the City's development policies. Specifically, the Land Use chapter intends to preserve and enhance the City's unique physical and natural setting, while accommodating suitable new development. The Land Use Chapter intends to preserve and enhance Larkspur's unique physical and natural setting, while accommodating suitable new development.

The Land Use chapter includes Larkspur's land use goals, policies, and program policies guiding the physical form of the City and provides direction on growth management, development, and land use compatibility. The Land Use Element is closely aligned with other elements of the General Plan and includes the following goals and policies applicable to the proposed Project (City of Larkspur 2024):

- **Goal LU-13.** Development and redevelopment that has minimal impact on the environment.
- **Policy LU-13.3**. Continue to monitor all projects found to be subject to the California Environmental Quality Act for compliance with the Act.

The Community Character chapter intends to provide goals and policies to preserve, enhance, and strengthen Larkspur's livable and attractive environment, its community identity, and its special "sense of place." The following Community Character policy is applicable to the proposed Project (City of Larkspur 2024):

- **Action Program CHAR-1.2a.** Require all major new development or redevelopment to provide connectivity to and from the site for bicyclists and pedestrians.

The Circulation chapter intends to provide safe and efficient transportation facilities for all system users; assure adequate transit service in Larkspur (bus, ferry, airport shuttle) as alternatives to the automobile; improve all forms of connections (that is, pedestrian, bicycle, and automobile) between the several parts of Larkspur and with neighboring communities, as well as access from Larkspur to the freeway; and improve traffic safety for bicyclists and pedestrians. The Circulation goals and policies that are applicable to the proposed Project are (City of Larkspur 2024):

- **Goal CIR-1.** A multi-modal transportation system that is safe, efficient, and incorporates the needs of all circulation system users.
- **Goal CIR-3.** Reduced impact of traffic congestion on Larkspur's quality of life.
- **Goal CIR-4.** Mitigation of traffic and parking impacts of new development and major redevelopment projects.
- **Goal CIR-6.** Attractive alternatives to the use of private automobiles in order to reduce automobile traffic, especially peak hour traffic, vehicle miles traveled, and transportation-related sources of air pollution and energy consumption.
- **Goal CIR-7.** Safe and convenient connections between Larkspur, neighboring communities, and the region for all modes of transportation.
- **Policy CIR**-6.4. Encourage increased transit service and ridership, and other innovative programs and alternative transportation solutions to reduce single-occupancy vehicle use.
- **Policy CIR**-6.7. Encourage continuation of the Larkspur Ferry Terminal at its present site.

- **Action Program CIR**-6.7a. Support improvement of bicycle and pedestrian connectivity between the planned Larkspur Sonoma-Marin Area Rail Transit (SMART) station and the ferry terminal.
- **Policy CIR**-12.1. Avoid when feasible, or mitigate adverse impacts of circulation system improvements on the natural environment (such as Corte Madera Creek, the Bay and its shoreline, open space lands, and recreational facilities).

City of Larkspur Bicycle and Pedestrian Master Plan

The Bicycle and Pedestrian Master Plan (City of Larkspur 2017) was developed to identify Larkspur's existing network of bicycle and pedestrian facilities and multi-use paths, lay the framework for future facilities, and develop policies that will work towards making bicycling and walking an integral part of transportation and daily life in Larkspur. The following goals and policies are relevant to the Project:

- **Goal 1:** Develop a more pedestrian and bicycle friendly community.
- **Goal 2:** Improve safety and accessibility.
- **Goal 4:** Identify regional and multi-jurisdictional gaps in connectivity.
- **Goal 5:** Improve transit access.

City of Larkspur Climate Action Plan 2030

The *City of Larkspur Climate Action Plan 2030* (City of Larkspur 2021) was developed to compile existing and potential strategies for the City's government operations and the community to pursue to address climate change. It provides a brief background on what climate change is and its potential impacts but focuses on the efforts Larkspur can take to reduce its GHG emissions and mitigate, to the extent feasible at the local level, the potential impacts of climate change. The following policy is relevant to the Project:

- **LCT-C5. Public Transit**: Support and promote public transit by taking the following actions:
  - (a) Work with Marin Transit and Golden Gate Transit to maximize ridership by making transit more frequent, accessible, cost-beneficial, and convenient through expansion and/or improvement of transit routes, schedules, and bus shelters.
  - (b) Work with the Transportation Agency of Marin, employers, and others to provide "first and last mile" programs to maximize utilization of public transit.
  - (c) Provide safe routes to the ferry landing and other transit facilities that encourage bicycle and pedestrian connections.
  - (f) Encourage Golden Gate Transit to provide secure bicycle parking at the Larkspur ferry landing.

Environmental Setting

The LFT is in the eastern part of Larkspur and is surrounded by a mix of land uses, including commercial, office, retail, open space, and residential. The ferry terminal is on Sir Francis Drake Boulevard and is bordered on the west by United States Highway 101 (US 101), which runs north–south through the City of Larkspur. US 101 is a regional transportation corridor that serves local traffic, goods movement, commuters, and tourism within Marin County and to destinations in northern California.

The LFT is at the mouth of the Corte Madera Channel and the Bay. The terminal is bordered to the west by Wood Island, a hillside professional office complex, and to the north, across from Sir Francis Drake Boulevard, the Larkspur Landing shopping center, which includes retail, restaurants, offices, administrative and public services, a theatre, and hotel. The Larkspur SMART train station is also on the northern edge

(off Victoria Way) of this shopping complex. Immediately behind the shopping complex is the Larkspur Landing Circle neighborhood of multi-family residential units, open space, and parkland, and further to the east is Drake's Cove, a single-family low-density residential neighborhood. Further east, Sir Francis Drake Boulevard leads to the entrance of the Richmond/San Rafael Bridge (Interstate 580) and to the San Quentin State Prison on the peninsula. To the north and on the west side of US 101 is the Greenbrae neighborhood. Immediately south of the terminal is a marsh/wetland conservation area, and across the Corte Madera Channel is the Greenbrae Boardwalk neighborhood and the Corte Madera Ecological Reserve.

The proposed North Lot is just northwest of the existing LFT and southeast of US 101. It is bordered between Larkspur Landing Circle and Victoria Way. It is also next to a cinema (called the CinemaWest Larkspur Landing) and the Larkspur SMART station. There are commercial buildings to the south of the proposed lot.

The three neighborhoods in the vicinity of the LFT are built out, and future land uses in these areas are expected to remain stable.

Larkspur Landing Circle Neighborhood

Larkspur Landing Circle is an area of multiple-family developments (Lincoln Village I and II, Larkspur Court, and Serenity Court) that lie between other (commercial) land uses, including office buildings, a hotel, and a regional-specialty shopping center, north and east of Larkspur Landing Circle. The area was a former quarry, and the steep hillside behind the complex is bare of vegetation. US 101 isolates the neighborhood from the rest of the community. To the east is the hillside residential neighborhood of Drake's Cove. The residential area consists of large, multi-story single-family homes, very secluded and remote from the rest of the city.

Greenbrae Boardwalk Neighborhood

The Greenbrae Boardwalk Neighborhood, directly south of the ferry terminal, is bordered on the north by Corte Madera Creek, on the west by the Northern Pacific Railroad Network right-of-way, and on the south by the Corte Madera Marsh Ecological Reserve. Its only access point from land is from Larkspur, and the homes along it can only be reached by foot from a common parking area. South of the Greenbrae Boardwalk are two mobile home parks. These homes are surrounded by industrial uses, are not on the Corte Madera Creek shoreline, and are remote (physically and visually) from the ferry terminal.

Greenbrae Neighborhood

The Greenbrae Neighborhood is off Sir Francis Drake Boulevard west of US 101 and stretches north to the San Rafael city limits (the top of the Southern Heights Ridge). The southwestern half of this area is unincorporated, and the northeastern half lies within Larkspur. This neighborhood consists of single-family houses.

Project Area

Land uses surrounding the proposed Project include areas designated as public facilities, administrative and professional commercial, shoreline/wetland conservation area, parkland, and commercial. The proposed North Lot and Main Lot construction areas are both within public facilities land use designation. The pedestrian improvements would be within commercial land use designation.

3.10.2 Environmental Impacts

Two Build Alternatives are being considered for the Project, both of which are in the City of Larkspur within the two existing parking lots owned by the District and occupy the same.

3.10.2.1 Methodology

The CEQA requires that an Environmental Impact Report consider whether a proposed project may conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's general plan or other land use plan, policy, or regulation. The former determination, which is intended for consideration in a CEQA document, is based on, and limited to, a review and analysis of environmental effects. The latter determination, by comparison, is made by the decision-making body of the jurisdiction and is based on the jurisdiction's broad discretion to assess whether a proposed project would conform to the policies and objectives of its general plan/land use plan. In addition, the broader consistency determination considers all evidence in the record concerning the project characteristics; its desirability; and its economic, social, and other non-environmental effects.

Evaluation of the proposed Project's potential to conflict with land use plans, policies, and regulations is based on the regional and local plans, policies, and regulations identified in Section 3.10.1.1, Regulatory Setting, and impacts and mitigation are presented on a per-plan, -policy, and -regulation basis.

Conflicts of a project with land use policies do not, in and of themselves, constitute significant environmental impacts. Policy conflicts are considered environmental impacts only when the policies themselves were adopted for the purpose of avoiding or mitigating an environmental effect. Such conflicts constitute significant environmental impacts only when the resulting direct environmental effects are significant.

3.10.2.2 Thresholds of Significance

The following CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to land use and land use planning.

Would the proposed Project:

- Physically divide an established community?
- 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?

3.10.2.3 Impacts

Project land use impacts are substantively the same for both Alternative 1 and Alternative 2. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Would the Project Physically Divide an Established Community?

Construction and Operation

Build Alternatives

The Build Alternatives would not physically divide an established community. The Build Alternatives would consist of building parking garages on the Main Lot and North Lot, reconfiguration of internal circulation and pickup/drop-off areas, addition of a new pedestrian crossing, expanded bicycle parking, and incrementally increasing daily ferry revenue trips from 42 up to 76 by 2050. The Build Alternatives would increase parking capacity at both the existing LFT (Main Lot) and overflow parking (North Lot) and would not require any property acquisition or land use changes. Access to all business and residential areas accessed off Larkspur Landing Circle and Sir Francis Drake Boulevard would be maintained at all times during construction. Upon completion of construction, access to all business and residential areas would be the same as existing. No substantial changes are anticipated outside of the existing parking lots, and there is no potential for the proposed Project to divide an established community. Therefore, the Build Alternatives would result in would ***no impact***.

Mitigation Measures

No mitigation required.

Would the Project 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?

Construction and Operation

Build Alternatives

Construction and operation of the Build Alternatives would not require any acquisition of property or require any changes in land use. As described as follows, the Project is consistent with applicable land use plans, policies and regulations and would not cause a significant environmental impact because of any conflicts with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Regional

San Francisco Bay Conservation and Development Commission

The BCDC regulates development within its shoreline jurisdiction pursuant to the McAteer-Petris Act and the Bay Plan (BCDC 2025), which establishes policies to protect Bay resources, maintain public access, and ensure resilience to sea level rise. Portions of the Build Alternatives would occur within BCDC's shoreline band; however, all major construction would occur outside of this jurisdiction. Work within the shoreline band would be limited to restriping of the existing surface lot to accommodate the new circulation pattern and surface parking, and modifications to landscape areas and drainage tie-ins would be required. Project components within the shoreline band would be coordinated with the BCDC, and as appliable, an amendment to the District's BCDC permit would be obtained. The Build Alternatives have been designed to remain above projected 2100 sea-level rise conditions through elevation of the parking garages, consistent with Bay Plan policies related to climate adaptation and shoreline resiliency (refer to Appendix E, Larkspur Ferry Terminal Sea Level Rise Impact Assessment). In addition, the Project would not

require dredge or fill within the Bay and would maintain existing pedestrian and bicycle access during construction. Upon completion of construction access to the North and Main Lots would be the same as the existing condition. Consistent with Bay Plan policies supporting public access. Coordination with BCDC is anticipated as Project design advances and as any work within the shoreline band is further defined. Because the Build Alternatives would comply with applicable permitting requirements and are consistent with Bay Plan policies related to shoreline use, public access, and sea-level rise adaptation, the proposed Project is consistent with BCDC regulations, and impacts would be ***less than significant.*** No mitigation required.

Plan Bay Area 2050+

The MTC, in coordination with ABAG, adopted *Plan Bay Area 2050+* (MTC and ABAG 2026) to guide regional land use and transportation planning, including strategies to reduce GHG emissions through expansion of multimodal transportation systems. The Build Alternatives would increase ferry service; improve the pickup/drop-off area to provide designated areas for fixed-route transit loading and unloading, TNCs, and drop off; upgrade bicycle storage facilities; improve pedestrian connections; and use a phased approach to construct new parking garages on the Main and North Lots. These improvements would provide increased ferry service and access to regional ferry transit and provide an alternative to single-occupancy vehicle travel along the US 101 corridor. By maintaining and expanding an existing transit facility within a developed area and including multimodal access features and circulation improvements, the Build Alternatives are consistent with *Plan Bay Area 2050+* objectives to operate, maintain, and expand regional transportation systems while reducing GHG emissions (MTC and ABAG 2026). Therefore, the Project would be consistent with *Plan Bay Area 2050+* objectives, and impacts would be ***less than significant.*** No mitigation required.

Local

City of Larkspur 2040 General Plan

The *City of Larkspur 2040 General Plan* (City of Larkspur 2024) provides a comprehensive framework to guide development while preserving environmental quality, community character, and an efficient multimodal transportation system. The Build Alternatives would involve redevelopment and improvements of an existing ferry terminal within a developed area and would be subject to CEQA, consistent with Goal LU-13 and Policy LU-13.3. The Build Alternatives would include a new pedestrian crossing, expanded bicycle parking, and associated bicycle and pedestrian access features, consistent with Action Program CHAR-1.2a.

The Build Alternatives would include features consistent with a multimodal transportation system (Goal CIR-1) by increasing ferry service, reconfiguration of access and circulation within the terminal, and incorporation of transportation demand management strategies. These features would provide connections between the ferry terminal, nearby transit services such as SMART, and surrounding communities, consistent with Goal CIR-7 and Action Program CIR-6.7a. By expanding ferry service and improved access to transit, the Build Alternatives would provide an alternative to private automobile travel and provide additional parking capacity associated with increased ridership, consistent with Goals CIR-3 and CIR-4. The Project would provide alternatives to single-occupancy vehicle travel along the US 101 corridor, consistent with Goal CIR-6 and Policy CIR-6.4, while supporting continued operation of the LFT consistent with Policy CIR-6.7.

The Build Alternatives would also include features that avoid or minimize impacts to the surrounding natural environment, including nearby shoreline areas, consistent with Policy CIR-12.1. All major construction would occur outside of the BCDC shoreline band. Work within the shoreline band would be

limited to restriping of the existing surface lot to accommodate the new circulation pattern and surface parking, and modifications to landscape areas and drainage tie-ins would be required. Project components within the shoreline band would be coordinated with the BCDC, and as appliable, amendment to the Districts BDCD permit would be obtained. The Project would not require dredge or fill within the Bay, has been designed to account for projected 2100 sea-level rise conditions, and would maintain pedestrian and bicycle access during construction. These features would avoid or minimize potential impacts to the Bay and its shoreline.

As discussed in Chapter 2, the contractor would be required to implement the Traffic Management Plan and Traffic Control Plans approved by the City and District that will ensure safe and efficient access for transit, bicycles, pedestrians, and vehicles throughout construction. The Build Alternatives would be consistent with the applicable goals and policies of the *City of Larkspur 2040 General Plan* (City of Larkspur 2024). Therefore, the Project would be consistent with the *City of Larkspur 2040 General Plan*, and impacts would be ***less than significant.*** No mitigation required.

City of Larkspur Bicycle and Pedestrian Master Plan

The Bicycle and Pedestrian Master Plan (City of Larkspur 2017) establishes a framework to enhance walking and bicycling as integral components of the City's transportation system, with goals to improve safety, accessibility, connectivity, and transit access. The Build Alternatives would enhance bicycle and pedestrian conditions at and around the LFT through improvements such as a new pedestrian crossing on Larkspur Landing Circle, improved pedestrian connections, and expanded bicycle parking (including up to 350 secure bicycle spaces). These improvements would support development of a more pedestrian- and bicycle-friendly environment and improve overall safety and accessibility for non-motorized users, consistent with Plan Goals 1 and 2 (City of Larkspur 2017).

In addition, by strengthening connections between the ferry terminal, the SMART station, and surrounding areas, the Build Alternatives would help address regional and multi-jurisdictional gaps in connectivity, consistent with Goal 4 (City of Larkspur 2017). By improving bicycle and pedestrian access to a major regional transit hub, the Project would also enhance transit accessibility and encourage multimodal travel, consistent with Goal 5 (City of Larkspur 2017). Temporary construction-related disruptions to pedestrian and bicycle access are anticipated to be minimal. As discussed in Chapter 2, throughout construction, the contractor would be required to implement the Traffic Management Plan in accordance with the Traffic Control Plan approved by the City and District, which will ensure safe and efficient access within the LFT, SMART Station, and general Project vicinity for bicycles and pedestrians at all times during construction. Pedestrian and bicycle access to and within the LFT site, as well as along Sir Francis Drake Boulevard and Larkspur Landing Circle, would be maintained at all times during construction. After construction, pedestrian and bicycle access to and within the LFT and along Sir Francis Drake Boulevard and Larkspur Landing would be the same as existing. Accordingly, the Build Alternatives would be consistent with the Bicycle and Pedestrian Master Plan goals and policies. Therefore, the Project is consistent with the Bicycle and Pedestrian Master Plan and impacts would be ***less than significant*** (City of Larkspur 2017). No mitigation required.

City of Larkspur Climate Action Plan 2030

The *City of Larkspur Climate Action Plan 2030* (City of Larkspur 2021) establishes a framework for reducing GHG emissions and addressing climate change through strategies that promote public transit and multimodal transportation. The Build Alternatives would increase ferry service capacity and improve landside access to the LFT through enhanced circulation, expanded parking facilities, and transportation demand management strategies, thereby supporting increased transit ridership consistent with Policy

LCT-C5. By improving access to ferry service and enhancing connectivity with existing transit providers, including Golden Gate Transit, Marin Transit, and SMART, the Build Alternatives would help make transit more convenient and accessible. The Project would also improve first- and last-mile connections through improved pedestrian connections and expanded secure bicycle parking, consistent with actions to provide safe routes to the ferry landing and encourage bicycle access. Collectively, these improvements would support greater use of public transit and reduce reliance on single-occupancy vehicle travel along the US 101 corridor, consistent with the Climate Action Plan's objectives to reduce GHG emissions. Temporary increases in GHG emission would occur during construction associated with combustion of fossil fuels and use of large quantities of concrete. Construction-related emissions would be temporary. Operationally the project will reduce vehicle miles traveled and GHG emissions associated with the ferry partons accessing the LFT to ride the ferry. Additionally, the entire ferry fleet is anticipated to be Liwa-class vessels by 2033. Ferry emissions would decrease because of improved efficiency resulting in less fuel use and operation of Tier 4 engines (refer to Section 3.02, Air Quality, and Section 3.07, Greenhouse Gass Emissions) when considering the incremental increase from 42 revenue trips up to a maximum of 76 revenue trips in 2050. Accordingly, the Build Alternatives are consistent with the Climate Action Plan 2030 goals and policies. Therefore, the Project is consistent with the *City of Larkspur Climate Action Plan 2030* (City of Larkspur 2021), and impacts would be ***less than significant.*** No mitigation required.

Mitigation Measures

No mitigation required.

3.11 Noise

This section addresses potential noise impacts that may result from implementing the proposed Larkspur Ferry Service Expansion and Parking Project (Project). It describes the regulatory and environmental setting for noise in the Project area, analyzes effects related to noise that would result from implementation of the proposed Project and other Build Alternatives, and provides mitigation measures to reduce the effects of any potentially significant impacts. The noise study area includes areas within a half-mile radius of the Project area. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.11.1 Fundamentals of Noise and Vibration

3.11.1.1 Noise

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, the logarithmic decibel scale is used to keep sound intensity numbers at a convenient and manageable level.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency (pure-tone) signals in the mid-frequency (1,000 to 8,000 hertz) range. It is widely accepted, however, that people are able to begin to detect sound level changes of 3 dB in typical noisy environments. Furthermore, a 10-dB increase is generally perceived as a doubling of loudness. Therefore, doubling sound energy (for example, doubling the volume of traffic on a highway), which would result in a 3-dB increase in noise, is generally perceived as a detectable but not a substantial increase in sound level.

The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies that humans are more sensitive to in a process called "A-weighting." Because humans are less sensitive to low-frequency sound than to high-frequency sound, A-weighted decibel (dBA) levels de-emphasize low-frequency sound energy to better represent how humans hear. Table 3.11-1 summarizes typical A-weighted sound levels.

Table 3.11-1. Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock band
Jet flyover at 1,000 feet		
	—100—	
Gas lawnmower at 3 feet		
	—90—	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	—80—	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	—70—	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	—60—	
		Large business office
Quiet urban daytime	—50—	Dishwasher in next room
Quiet urban nighttime	—40—	Theater, large conference room (background)
Quiet suburban nighttime		
	—30—	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	—20—	
		Broadcast/Recording studio
	—10—	
	—0—	

Source: Appendix G

mph = mile(s) per hour

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). The following are brief definitions of these measurements and other terminology used in this section:

- **Sound:** A vibratory disturbance created by a vibrating object that , when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone
- **Noise:** Sound that is loud, unpleasant, unexpected, or otherwise undesirable
- **Ambient noise:** The composite of noise from all sources near and far in a given environment, exclusive of particular noise sources to be measured
- **Decibel (dB):** A unitless measure of sound; a sound level measurement in dB describes the logarithmic ratio of a measured sound pressure level to a reference sound pressure level of 20 micropascals

- **A-Weighted Decibel (dBA):** An overall frequency-weighted sound level that approximates the frequency response of the human ear
- **Maximum and Minimum Sound Levels (L_{max} and L_{min}):** The maximum or minimum sound level measured during a specified interval
- **Equivalent Sound Level (L_{eq}):** An average of the sound energy occurring over a specified period (in effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The duration of the measurement is commonly indicated in the subscript; for example, a 1-hour L_{eq} sound level would be indicated as dBA L_{eq}[1h])
- **Exceedance sound level (L_{xx}):** The sound level exceeded "XX" percent of the time during a sound level measurement period (for example, L_{90} is the sound level exceeded 90% of the time, and L_{10} is the sound level exceeded 10% of the time. L_{90} is typically considered to represent the ambient noise level)
- **Day-night level (L_{dn}):** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM.
- **Community noise equivalent level (CNEL):** The energy-average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 PM to 10:00 PM and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving sound level.

For a point source, such as a stationary compressor, sound attenuates based on geometry at rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance. Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers, such as buildings and topography that block the line of site between a source and receiver, also increase the attenuation of sound over distance.

Auditory and non-auditory effects can result from excessive or chronic exposure to elevated noise levels. Auditory effects of noise on people can include temporary or permanent hearing loss. Non-auditory effects of exposure to elevated noise levels include sleep disturbance, speech interference, and psychological effects such as annoyance. Land use compatibility standards for noise typically are based on research related to these non-auditory effects.

3.11.1.2 Vibration

In contrast to airborne sound, groundborne vibration is not a phenomenon that most people experience every day. Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration.

The background vibration velocity level in residential areas is usually much lower than the threshold of human perception. Most perceptible indoor vibration is caused by sources within buildings, such as

mechanical equipment while in operation, people moving, or doors slamming. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Dynamic construction equipment, such as pile drivers, can create vibrations that radiate along the surface and downward into the earth. These surface waves can be felt as groundborne vibration. Vibration can result in effects that range from annoyance to structural damage. Variations in geology and distance result in different vibration levels with different frequencies and displacements.

Groundborne vibration can be expressed in terms of root-mean-square (RMS) vibration velocity to evaluate human response to vibration levels. RMS is defined as the average of the squared amplitude of the vibration signal. The vibration amplitude is expressed in terms of vibration decibels (VdB), which use a reference level of 1 micro-inch per second. Vibration can also be measured by peak particle velocity (PPV), defined as the maximum instantaneous peak of the vibration signal in inches per second.

Table 3.11-2 summarizes typical vibration levels generated by construction equipment at a reference distance of 25 feet and other distances.

Table 3.11-2. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet
Impact pile driver	1.518	0.054	0.2920	0.190
Vibratory roller	0.210	0.074	0.040	0.026
Auger drill	0.089	0.032	0.017	0.011
Hoe ram	0.089	0.032	0.017	0.011
Large bulldozer	0.089	0.032	0.017	0.011
Loaded trucks	0.076	0.027	0.015	0.010
Jackhammer	0.035	0.012	0.007	0.004
Small bulldozer	0.003	0.001	0.001	< 0.001

Source: FTA 2018

3.11.2 Existing Conditions

3.11.2.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District, as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

Noise Control Act of 1972

The Noise Control Act of 1972 (Public Law 92 574) established a requirement for all federal agencies to administer their programs in a manner that promotes an environment that is free of noise that jeopardizes public health or welfare. The U.S. Environmental Protection Agency (EPA) was given the following responsibilities:

- Providing information to the public regarding the identifiable effects of noise on public health and welfare
- Publishing information on the levels of environmental noise to protect the public health and welfare with an adequate margin of safety
- Coordinating federal research and activities related to noise control
- Establishing federal noise emission standards for selected products distributed in interstate commerce

U.S. Environmental Protection Agency Standards for Environmental Noise

In 1974, EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, a comprehensive document that identifies noise levels consistent with the protection of public health and welfare against hearing loss, annoyance, and activity interference.

In response to the requirements of the Noise Control Act, EPA identified indoor and outdoor noise limits to protect public health and welfare. Outdoor L_{dn} limits of 55 dB and indoor L_{dn} limits of 45 dB were identified as desirable for protecting against speech interference and sleep disturbance in residential areas and at educational and healthcare facilities. The sound-level criterion for protecting against hearing damage in commercial and industrial areas is identified as the 24-hour L_{eq} value of 70 dB (both outdoors and indoors). Based on attitudinal surveys, EPA determined that a 5-dB increase in L_{dn} or L_{eq} is the minimum required for a change in community reaction (EPA 1974).

The Noise Control Act also directed federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. Although EPA was given a major role in disseminating information to the public and coordinating with federal agencies, each federal agency retained authority to adopt noise regulations pertaining to agency programs. EPA can, however, require federal agencies to justify their noise regulations in terms of Noise Control Act policy requirements.

Critical federal agencies that have adopted noise regulations and standards are listed as follows:

- Housing and Urban Development: Noise standards for federally funded housing projects
- Federal Aviation Administration: Noise standards for aircraft
- Federal Highway Administration: Noise standards for federally funded highway projects
- Federal Transit Administration (FTA): Noise standards for federally funded transit projects
- Federal Railroad Administration: Noise standards for federally funded rail projects

Federal Transit Administration Standards for Construction Noise

FTA has developed methods for evaluating construction noise levels, which are discussed in the *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). The manual does not contain standardized criteria for assessing construction noise impacts but provides guidelines for suggested noise limits for different land use types exposed to construction noise to describe levels that may result in a negative community reaction. These guidelines are summarized in Table 3.11-3.

Table 3.11-3. Federal Transit Administration Construction Noise Impact Guidelines

Land Use	1-hour L_{eq} (dBA), Day	1-hour L_{eq} (dBA), Night
Residential	90	80
Commercial	100	100
Industrial	100	100

Source: FTA 2018

Thresholds for construction noise may also be set at the local level according to expected hours of equipment operation and the noise limits specified in the noise ordinances of the applicable jurisdictions.

Federal Transit Administration Standards for Transit Noise

The U.S. Department of Transportation has implemented and published impact assessment procedures and criteria pertaining to noise based on the aforementioned standards. Noise impact criteria have been adopted by FTA to assess noise contributions and potential impacts from transit sources on the existing environment. Noise impact criteria defined in the FTA manual (2018) are based on the objective of maintaining a noise environment considered acceptable for land uses that are noise sensitive. For noise from transit operations, FTA's three land use categories are as follows:

- **Category 1**: Tracts of land where quiet is an essential element in their intended purpose, such as outdoor amphitheaters, concert pavilions, and national historic landmarks with significant outdoor use
- **Category 2**: Residences and buildings where people normally sleep, including homes, hospitals, and hotels
- **Category 3**: Institutional land uses (schools, places of worship, libraries) with use typically during the daytime and evening; other uses in this category can include medical offices, conference rooms, recording studios, concert halls, cemeteries, monuments, museums, historical sites, parks, and recreational facilities

Noise exposure values are reported as the L_{dn} for residential land uses (Category 2) or hourly equivalent sound level (L_{eq}[h]) for other land uses (Categories 1 and 3). Commercial and industrial uses are not included in the vast majority of cases because they are generally considered compatible with higher noise levels. Exceptions would include commercial uses with a feature that receives substantial outdoor use, such as a playground, or uses that require quiet as an important part of their function, such as recording studios.

In the FTA manual (2018), the noise impact criteria for construction and operation of transit facilities consider a project's contribution to existing noise levels using a sliding scale based on land uses affected. The criteria correspond to heightened community annoyance because of the introduction of a new transit facility relative to existing ambient noise conditions.

Noise impacts are assessed by comparing existing outdoor exposures with future Project-related outdoor noise levels, as illustrated on Figure 3.11-1. The criterion for each degree of impact is based on a sliding scale that is dependent on the existing noise exposure and the increase in noise exposure because of a project. The noise impact categories are as follows:

- **No Impact:** A project, on average, will result in an insignificant increase in the number of instances where people are "highly annoyed" by new noise.

- **Moderate Impact:** The change in noise is noticeable to most people but may not be enough to cause strong, adverse community reactions.
- **Severe Impact:** A significant percentage of people would be highly annoyed by the noise, perhaps resulting in vigorous community reaction.

Note that the proposed Project's contribution relative to existing noise levels follows a sliding scale according to the level of existing noise exposure. The justification for this sliding scale is that people who are already exposed to high levels of noise in the ambient environment should be expected to tolerate smaller increases in noise in their community compared to locations where existing noise exposure is relatively low. For example, according to Figure 3.11-1, a project contribution of 59 dBA L_{dn} would be considered a Severe Impact at a Category 2 receiver with an existing noise exposure of up to 50 dBA L_{dn}, whereas a project contribution of 69 dBA L_{dn} would result in a Severe Impact at a Category 2 receiver with an existing noise exposure of up to 70 dBA L_{dn}.

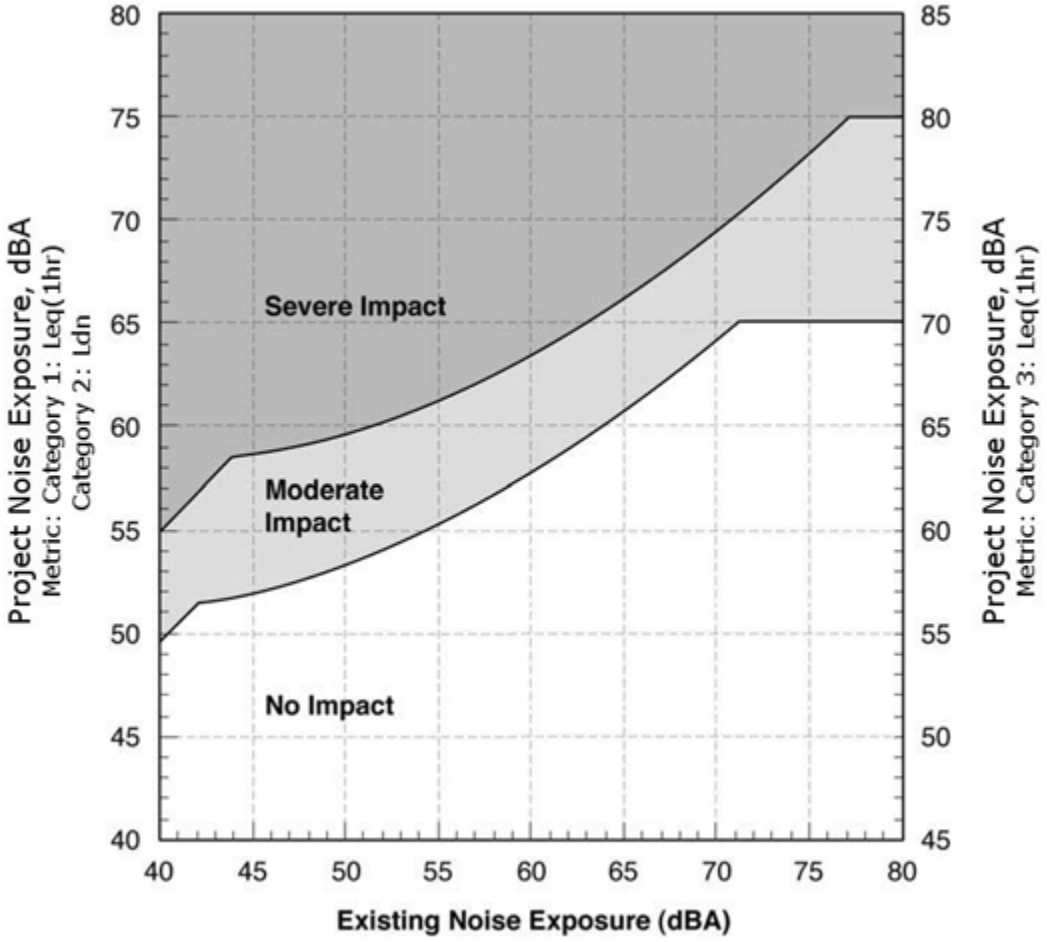


Figure 3.11-1. Federal Transit Administration Noise Impact Criteria for Transit Projects

State

California Noise Control Act

The California Noise Control Act was enacted in 1973. In preparing its general plan noise element, a city or county must identify local noise sources and analyze and quantify to the extent practicable current and projected noise levels from various sources, including highways and freeways; passenger and freight railroad operations; ground rapid transit systems; commercial, general, and military aviation and airport operations; and other stationary ground noise sources.

The *State of California General Plan Guidelines* (Governor's Office of Planning and Research 2017) provides noise compatibility guidelines for land use planning according to the existing community noise levels; however, these guidelines offer no information regarding construction noise. The state has also published its *Model Community Noise Ordinance* (California Office of Noise Control 1977), which provides guidance to cities and counties on how to develop a community noise ordinance.

California Department of Transportation Vibration Standards

The California Department of Transportation (Caltrans) provides guidelines regarding vibration associated with construction and operation of transportation infrastructure. Table 3.11-4 provides the Caltrans vibration guidelines for potential damage to different types of structures.

Groundborne vibration and noise can also disturb people. Numerous studies have been conducted to characterize the human response to vibration. In general, people are more sensitive to vibration during nighttime hours when sleeping than during daytime waking hours. Table 3.11-5 provides the Caltrans guidelines regarding vibration annoyance potential (expressed here as PPV).

Table 3.11-4. Caltrans Vibration Guidelines for Potential Damage to Structures

Maximum Peak Particle Velocity (PPV, in/sec)		
Structure Type and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans 2020

Note: Transient sources create a single, isolated vibration event (for example, blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

in/sec = inch(es) per second

Table 3.11-5. Caltrans Guidelines for Vibration Annoyance Potential

Maximum PPV (in/sec)		
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: Caltrans 2020

Note: Transient sources create a single, isolated vibration event (for example, blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

County

The single-family homes to the south of the proposed Project are in unincorporated Marin County. Therefore, Project noise to those receptors will be governed by County of Marin standards, which are presented as follows.

Marin County General Plan

California requires that a noise element be included in the general plan of each county and city in the state. The noise element establishes the local government's goals, objectives, and policies related to noise control. The Built Environment Element of *The Marin Countywide Plan* (County of Marin 2023) establishes goals and policies for ensuring that existing and proposed land uses are compatible with their noise environments. Therefore, the County of Marin (County) has adopted quantitative exterior noise compatibility criteria for various land uses. The purpose of these criteria is to reduce the potential adverse noise effects of new developments on people, including sleep disturbance, interference with speech communication, and the general sense of dissatisfaction that is often associated with high noise exposure.

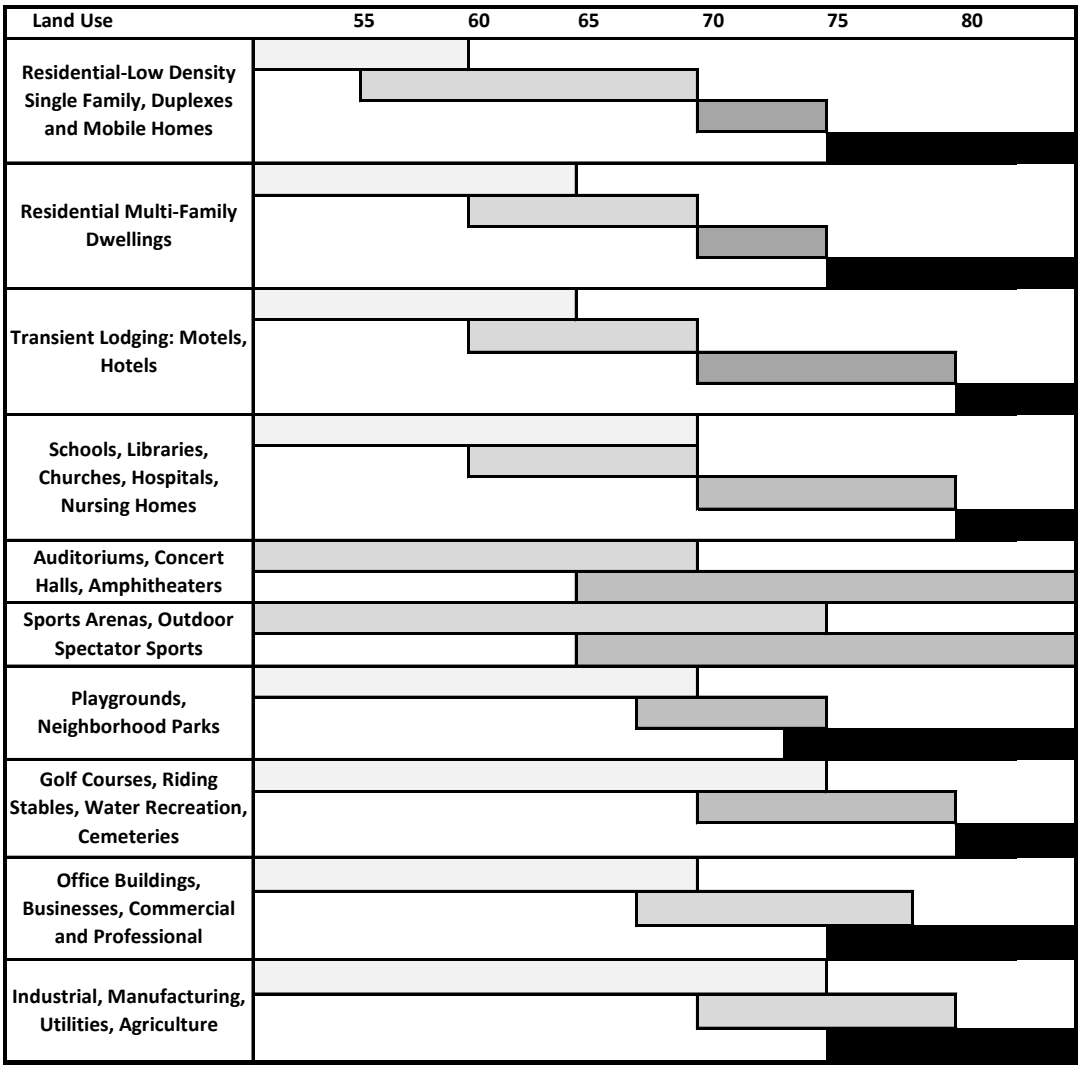
Land use compatibility noise standards are included in the County's Built Environment Element (refer to Table 3.11-6).

The following goals and policies from *The Marin Countywide Plan* Built Environment Element pertain to noise and relate to the proposed Project (County of Marin 2023):

Goal NO-I: **Protection from Excessive Noise.** Ensure that new land uses, transportation activities, and construction do not create noise levels that impair human health or quality of life.

> Policy NO-1.1: **Limit Noise from New Development.** Direct the siting, design, and insulation of new development to ensure that acceptable noise levels are not exceeded.
>
> Policy NO-1.2: **Minimize Transportation Noise.** Ensure that transportation activities do not generate noise beyond acceptable levels, including in open space, wilderness, wildlife habitat, and wetland areas.
>
> Policy NO-1.3: **Regulate Noise Generating Activities.** Require measures to minimize noise exposure to neighboring properties, open space, and wildlife habitat from construction-related activities, yard maintenance equipment, and other noise sources, such as amplified music.

Table 3.11-6. County of Marin Acceptable Noise Levels



Normally Acceptable: Specified land uses is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation or requirements.	**Conditionally Acceptable:** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.	**Normally Unacceptable:** New construction and development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.	**Clearly Unacceptable:** New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: Marin County Community Development Agency 2024

It should be noted that the standards in Table 3.11-6 are for purposes of planning and siting land uses. The standards are not a noise ordinance and are not to be used to achieve the same objectives as a noise ordinance. The standards are also not to be used for regulating existing noise sources or enforcement concerning noise problems.

Implementing Program NO-1.b: **Comply with Acceptable Noise Levels.** Require discretionary permits for residential land other noise-sensitive land uses proposed near noise sources that may exceed acceptable noise levels and/or benchmarks to provide acoustical analyses; and, if necessary, commit to measures to comply with the applicable standards set out in Program NO-1.a. Amend the Development Code to include these requirements.

Implementing Program NO-1.b: **Require Project-Specific Noise Mitigation.** Require all development to mitigate its noise impacts where the project would:

- Raise the L_{dn} by more than 5 dBA.
- Raise the L_{dn} by more than 3 dBA and exceed the Normally Acceptable standard.
- Raise the L_{dn} by more than 3 dBA and the Normally Acceptable standard is already exceeded.

Implementing Program NO-1.i: **Regulate Noise Sources.** Sections 6.70.030(5) and 6.70.040 of the Marin County Code establish allowable hours of operation for construction-related activities. As a condition of permit approval for projects generating significant construction noise impacts during the construction phase, construction management for any project shall develop a construction noise reduction plan and designate a disturbance coordinator at the construction site to implement the provisions of the plan.

Marin County Noise Ordinance

The County's Municipal Code also contains noise regulations. Though there are no countywide specific decibel limits, Chapter 6.70, Loud and Unnecessary Noises, of the County's Municipal Code contains noise limitations and exclusions for construction noise. Section 6.70.30 (5) states:

> (5) Construction Activities and Related Noise.
>
> a. Hours for construction activities and other work undertaken in connection with building, plumbing, electrical, and other permits issued by the community development agency shall be limited to the following:
>
> i. Monday through Friday: seven a.m. to six p.m.
>
> ii. Saturday: 9 am to 5 pm
>
> iii. Prohibited on Sundays and Holidays (New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.)
>
> b. Loud noise-generating construction-related equipment (e.g., backhoes, generators, jackhammers) can be maintained, operated, or serviced at a construction site for permits administered by the community development agency from eight a.m. to five p.m. Monday through Friday only.
>
> c. Special exceptions to these limitations may occur for:
>
> i. Emergency work as defined in Section 22.130.030 of this code provided written notice is given to the community development director within forty-eight hours of commencing work;

ii. Construction projects of city, county, state, other public agency, or other public utility;

iii. When written permission of the community development director has been obtained, for showing of sufficient cause;

iv. Minor jobs (e.g., painting, hand sanding, sweeping) with minimal/no noise impacts on surrounding properties;

v. Modifications required by the review authority as a discretionary permit condition of approval.

However, Project construction permits will not be issued by the County of Marin Community Development Agency, so their restrictions on construction hours do not apply.

Local

Larkspur General Plan

The Noise Element of *The City of Larkspur 2040 General Plan* (City of Larkspur 2024) establishes goals and policies for ensuring that existing and proposed land uses are compatible with their noise environments. Therefore, the City of Larkspur has adopted quantitative exterior noise compatibility criteria for various land uses. The purpose of these criteria is to reduce the potential adverse noise effects of new developments on people, including sleep disturbance, interference with speech communication, and the general sense of dissatisfaction that is often associated with high noise exposure.

Land use compatibility noise standards are included in the City's Noise Element (refer to Table 3.11-7). According to the Noise Element as outlined under Goal SAF-11: Reduction in the adverse effects of noise upon persons living or working in Larkspur, noise levels up to 55 dBA L_{dn} are considered acceptable for all new residential projects. In common outdoor areas in downtown, mixed-use residential, and high-density residential districts, up to 65 dBA L_{dn} is allowed if determined acceptable through development review. New nonresidential projects are not permitted to increase noise levels in a nonresidential or mixed-use district by more than 5 dB or create noise impacts that would increase noise levels to more than 75 dBA L_{dn} for office, retail, and industrial uses.

Table 3.11-7. Land Use Compatibility Standards for New Development

Land Use Category	Community Noise Level CNEL or Ldn (dB) 55 60 65 70 75 80 85
Residential, hotels, and motels	
Schools, libraries, churches, hospitals, nursing homes, museums, meeting halls	
Auditoriums, concert halls, amphitheaters, sports arenas	
Outdoor sports and recreation, neighborhood parks and playgrounds, golf courses, riding stables, cemeteries	
Office buildings, business commercial and professional	
Industrial, manufacturing, utilities, agriculture	
Key: *Normally Acceptable:* Specified land use is satisfactory based upon the assumption that any buildings are of normal construction without any special noise insulation requirements.	
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.	
Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible	

Source: City of Larkspur 2024

The following goals and policies from *The City of Larkspur 2040 General Plan* Noise Element pertain to noise and relate to the proposed project (City of Larkspur 2024).

Goal SAF-11: Ensure that all new living and work areas are developed with acceptable noise environments.

Action Program SAF-11.1.c: Require thorough noise assessments in all environmental analyses of major projects.

Action Program SAF-11.1.d: Revise the Municipal Code to require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to the building. A vibration limit of 0.30 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. Prior to issuance of any demolition, grading, or building permits (whichever occur first), the project applicant shall provide a vibration construction plan to reduce construction impacts at buildings where vibration level would exceed the vibration limits.

Action Program SAF-11.1.e: Require new development near the SMART Station to provide adequate mitigation to avoid vibration damage from rail operations in Larkspur.

Goal SAF-12: Reduction in noise levels in areas where the existing noise exceeds "normally acceptable" levels, to levels compatible with land uses in those areas

Policy SAF-12.2: Control unnecessary, excessive, and annoying noises within the city, where not preempted by federal or State control.

Action Program SAF-12.2.a: Continue to implement the City's Noise Control Ordinance to minimize impacts on sensitive receptors, and update as necessary, the noise ordinance to address activities and/or changes in technology that generate disturbing and/or annoying noise (e.g., leaf blowers, updated mechanical equipment).

Goal SAF-13: No significant escalation of noise levels in areas where noise sensitive uses exist Policy

Policy SAF-13.1: Analyze in detail the potential noise impacts of any actions the City may take that could significantly alter noise levels in the community.

Action Program SAF-13.1.a: Review all public works projects for potential noise impact. Conduct public outreach to inform neighbors in advance major construction and roadway improvement projects, particularly where nighttime work is necessary.

Action Program SAF-13.1.b: Consider noise emission when purchasing vehicles, construction equipment, etc. This consideration shall be balanced against the required performance and cost.

Policy SAF-13.2: Encourage creative solutions when potential conflicts arise between noise levels and land use.

Larkspur Municipal Code

The City's Municipal Code also contains noise regulations. Chapter 9.5, Noise Control Regulations, of the City's Municipal Code contains noise limitations and exclusions for land uses within the City to maintain noise levels that are not detrimental to the health and welfare of people. The noise ordinance addresses noise limits that would constitute a noise disturbance, primarily as measured at residential land uses. The City's Municipal Code regulations, provided as follows, would be applicable to the proposed Project. General noise limits are outlined in Section 9.54.040 in Chapter 9.5, Noise Control Regulations.

Section 9.54.040 – Exterior Noise Limits

A. A summary of exterior noise limits is included in Section 9.54.040.

Section 9.54.040. Exterior Noise Limits

Receiving land use	Time	Noise level not to be exceeded for more than 30 minutes per hour (dBA)
Residential	7 AM – 10 PM	50
	10 PM – 7 AM	40
Commercial	Any time	60

B. The exterior noise limit shall be adjusted as follows:

Condition	Adjustment to exterior limit (dBA)
Noise contains a steady discordant tone such as a whine or screech	-5
Noise is repetitive or impulsive (e.g., hammering, riveting)	-5
Noise consists of speech or music	-5
Noise occurs more than fifteen but less than thirty minutes per hour	+5
Noise occurs more than five but less than fifteen minutes per hour	+10
Noise occurs more than one but less than five minutes per hour	+15
Noise occurs less than one minute per hour	+20

C. If the ambient noise level is less than that permitted by subsection (A) of this section, then the measured ambient noise level plus five dBA shall be considered the "exterior noise limit," but in no case shall the noise level exceed the maximum permitted by subsection (A) of this section.

D. If the ambient noise level exceeds that permitted by subsection (A) of this section, then the measured ambient level shall be considered the "exterior noise limit."

E. For the purposes of this chapter, schools, hospitals and convalescent homes shall be considered residential land uses. (Ord. 1048 § 2, 2020; Ord. 1030 § 2(7), 2018; Ord. 697 § 1 (part), 1983).

9.54.060 Exemptions.

The following activities shall be exempted from the provisions of this chapter:

A. School bands, school athletic and school entertainment events.

B. Outdoor gatherings, public dances, shows and sporting and entertainment events, provided said events are conducted pursuant to a license or permit by the City.

C. Activities conducted in parks, public playgrounds and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity or private school.

D. Any mechanical device, apparatus, machinery, equipment, portable generator or manpower related to or connected with an emergency response or emergency work as defined in Larkspur Municipal Code Section 9.54.010.

E. A stationary generator as defined in Larkspur Municipal Code Section 9.54.010, installed and used during emergencies or utility power outages as defined in Larkspur Municipal Code Section 9.54.010, or for routine testing and maintenance as defined in Larkspur Municipal Code 9.54.010.

F. The sounding of any fire, burglar or civil defense alarm, siren, whistle or similar stationary emergency signaling device for emergency purposes or for their testing.

G. Devices used in conjunction with places of religious worship, such as bells, carillons, chimes and the like.

H. Noise sources exceeding the prescribed standards that are associated with construction, repair, remodeling, demolition, or paving of any real property, including noise from vehicles and equipment associated with these activities, occurring during the following time periods, except as otherwise provided in subsection (H)(3) of this section:

- Monday – Friday (excluding holidays) Seven a.m. to six p.m.
- Saturday (excluding holidays) Nine a.m. to five p.m.
- Sunday/holidays No exemption from prescribed standards

1. This exemption is granted on the condition that all powered construction equipment is equipped with intake and exhaust mufflers recommended by the manufacturers thereof; pavement breakers and jackhammers shall also be equipped with acoustical attenuating shields or shrouds recommended by the manufacturers thereof.

2. In lieu of or in the absence of manufacturers' recommendations, the Public Works Director and/or Community Development Director or their designee shall have the authority to prescribe such means of accomplishing maximum noise attenuation as deemed necessary in the public interest, considering the available technology and economic feasibility.

3. The Community Development Director or their designee may grant exceptions to the time limitations for work performed on private property for:

a. Resolution of unforeseen or unavoidable conditions occurring during a construction project and the nature of the project necessitates that work in progress be continued until a specific phase is completed.

b. Work that the Planning Commission, City Council or Community Development Director have determined should occur during certain hours because of special considerations, including, but not limited to, the existence of public safety concerns, if the work was performed during daytime hours.

c. When sufficient cause has been demonstrated to the Community Development Director, for reasons other than those listed above.

4. The Public Works Director or their designee may grant exceptions to the time limitations for work performed on public facilities and/or within the public right-of-way for:

a. Construction projects of City, County, State, other public agency, or other public utility.

b. When sufficient cause has been demonstrated to the Public Works Director, for reasons other than those listed above.

5. Requests for an exception permit from the time limitations as established in subsections (H)(3) and (H)(4) of this section are subject to the following requirements and procedures:

a. Payment of a fee in the amount set by resolution of the City Council. This fee may be waived for emergency work.

b. A written description of the request. The written description shall include, but not necessarily be limited to:

i. Applicant's name;

ii. Property owner's name (if different);

iii. Location of proposed work;

iv. Type of work proposed, and reason for the exception request;

v. A description of all equipment and manpower required to perform such work.

c. Any additional documents as determined necessary, such as:

i. Site plan with work location identified;

ii. Reports by consulting professionals that provide factual information to support the need for an exception permit;

iii. Application for building permit(s), if proposed work is not associated with a previously issued permit;

iv. Application for encroachment permit for any work, staging or storage of materials in the public right-of-way, if proposed work is not associated with a previously issued permit.

d. Upon receipt of all required information, to the satisfaction of the Director of Public Works or Community Development Director, a determination for approval or denial shall be issued in writing. If approved, the Director may include conditions as determined necessary to protect the health, safety and welfare of residents and/or the general public, including requiring the applicant to provide notice to all properties within three hundred feet of the subject site/location no less than three days prior to beginning work. However, a longer noticing time period may be required by the Director if warranted by the scope of work and specific request. (Ord. 1062 § 14, 2022; Ord. 1048 § 2, 2020; Ord. 1030 § 2(7), 2018; Ord. 1010 § 1, 2016)

3.11.2.2 Environmental Setting

Noise Sources in the Project Area

The Project is along San Francisco Bay on the eastern coast of Marin County in the City of Larkspur. Existing noise sources in the Project area include traffic (primarily from United States Highway 101 [US 101] and Sir Francis Drake Boulevard), ferries coming and going from the LFT, locomotive horns and rail car movements from the Sonoma-Marin Rail Transit (SMART) train passing through Larkspur Train Station, bus traffic to and from the existing transit center, and aircraft overflights. The nearest airport to the Project area is the San Rafael Airport (also called Marin Ranch Airport), a small, privately owned airport approximately 7.5 miles north of the Project area. The areas immediately surrounding the Project area include a mix of the following uses: residential homes and condominiums/apartments, residential/office, commercial/office, mixed use, and street retail characteristic of a downtown urban area, as well as protected wetlands directly south of the Project area, with a residential community directly south of the proposed site adjacent to the wetlands and San Francisco Bay to the east.

Noise Measurements

Noise-sensitive land uses in the Project area consist primarily of single- and multifamily residences, mixed-use buildings with residential uses, and outdoor recreational areas. Other land uses in the Project area include retail, office, and commercial uses, which are typically considered to be less sensitive to noise. The existing ambient noise environment in the Project area is characteristic of an urban environment (for example, highway and local vehicular traffic, train operations, people walking, aircraft overflights, commercial noise). Noise from vehicular traffic traveling on the nearby US 101, major roadways (such as Sir Francis Drake Boulevard), and the SMART commuter train are the dominant noise sources in the Project area.

To quantify existing ambient noise levels in the Project area, long-term (24-hour) and short-term (15-minute) ambient noise measurements were conducted between Wednesday, June 17 and Thursday, June 18, 2026. Measurements were conducted at locations in and adjacent to the Project area.

Two long-term measurement locations were selected to capture noise levels in residential areas that are sensitive to noise. Larson Davis 831 sound level meters were installed at both long-term sites. Conditions were clear at time of long-term meter installation, with wind gusts up to 14 mph and temperatures ranging from 70 to 71 degrees Fahrenheit. The LT-1 and LT-2 locations recorded 24-hour noise levels of 55.6 and 56.0 L_{dn}, respectively.

Short-term measurement locations were chosen to represent other noise-sensitive locations. These measurements were taken using a TSI Quest sound level meter. Conditions were clear to partly cloudy at time of short-term measurements, with wind gusts up to 16 mph and temperatures ranging from 64 to 71 degrees Fahrenheit. Noise levels at these locations ranged from 52.4 to 62.5 dBA, depending on their proximity to existing major noise sources.

The locations of the noise measurement sites are shown on Figure 3.11-2. Table 3.11-8 and Table 3.11-9 summarize the results of the noise measurement survey. For the complete dataset of measured noise levels, refer to Appendix F.



Figure 3.11-2
Sensitive Receptors and Noise Measurement Locations
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\NOISE\LARKSPUR_NOISE_2026\LARKSPUR_NOISE_2026.APRX Figure 3.11-2 Sensitve Receptors and Noise Measurement Locations

Table 3.11-8. Long-Term Noise Measurements

Site	Site Description	Date and Time	Daytime Average L_{eq} (dBA)	Nighttime Average L_{eq}(dBA)	Loudest Daytime Hour L_{eq} (dBA)	Quietest Daytime Hour L_{eq} (dBA)	L_{dn} (dBA)
LT-1	63 Greenbrae Boardwalk, On dock, 65 feet from structure	Start: Wednesday, June 17, 2026, 2:00 PM End: Thursday, June 18, 2026, 2:00 PM	52.8	48.2	54.7 2:00 PM	50.4 10:00 AM	55.6
LT-2	147 Greenbrae Boardwalk, End of dock	Start: Wednesday, June 17, 2026, 3:00 PM End: Thursday, June 18, 2026, 2:00 PM	53.4	48.3	55.9 3:00 PM	50.5 9:00 AM	56.0

Table 1.11-9. Short-Term Noise Measurements

Site	Site Description	Date and Time	Duration	L_{eq} (dBA)	L_{max} (dBA)
ST-1	Trail benches across from Ferry Loading, adjacent to Sir Francis Drake Boulevard	Thursday, June 18, 2026, 10:26 AM	15 minutes	62.4	75.5
ST-2	Southwest corner of ferry parking lot, adjacent to marsh	Wednesday, June 17, 2026, 4:26 PM	15 minutes	56.3	60.8
ST-3	West side of ferry parking lot	Wednesday, June 17, 2026, 4:08 PM	15 minutes	52.4	62.6
ST-4	North Lot Site	Thursday, June 18, 2026, 12:12 PM	15 minutes	62.5	67.1
ST-5	Marin Country Mart	Thursday, June 18, 2026, 11:25 AM	15 minutes	59.6	71.2
ST-6	Lincoln Village Circle, adjacent to hotel and apartments	Wednesday, June 17, 2026, 4:52 PM	15 minutes	56.8	65.5
ST-7	125 E Sir Francis Drake Boulevard, vacant restaurant site	Thursday, June 18, 2026, 10:55 AM	15 minutes	55.2	63.3
ST-8	Remillard Park	Thursday, June 18, 2026, 9:32 AM	15 minutes	55.4	61.0

Surrounding Noise-Sensitive Land Uses

Some land uses are more sensitive to noise impacts than others. Consistent with the Governor's Office of Planning and Research's *State of California General Plan Guidelines*, noise-sensitive receptors are defined in this document as residential land uses, schools, open spaces, nursing homes, hospitals, convalescent homes, and churches (Governor's Office of Planning and Research 2017). Potential noise-related impacts on biological resources are disclosed in Section 3.3, Biological Resources. In addition, the Golden Gate Bridge, Highway and Transportation District considers hotels, motels, libraries, and cemeteries to be noise-sensitive receptors. As noted, sensitivity to noise may vary with the source of the noise and the land use context. An important way of predicting a human reaction to a new noise environment is to compare it with the existing ambient noise level. In general, the more a new noise source exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. The noise analysis in this section accounts for the downtown urban environment and proximity of the Project area to US 101, the existing transit center, and the SMART train station. Therefore, the existing ambient noise level is louder than non-urban uses.

Existing noise-sensitive land uses in the vicinity of the Project area include residences, a hotel, a school, a nursing home, and a neighborhood park. These sensitive land uses are divided into Categories 1, 2, or 3, per the FTA standard for transit noise, as described in Section 3.11.2.1. Table 3.11-10 summarizes the sensitive receptors within 0.5 mile of the Project.

Table 3.11-10. Sensitive Receptors within 0.5 Mile of the Alternatives

Sensitive Receptor Type	Name	Address
Category 1		
None	N/A	N/A
Category 2		
Residential	Various	All surrounding zoning that falls into the following categories: Any zoning with an "R" and downtown residential zoning including the following: 4SRC, HO, CSMU, 2/3 MUE, 2/3, 2/3 MUW, WEV, and 5/MR/O
Hospitals	By the Bay Health	17 Sir Francis Drake Boulevard
Hotel	Courtyard by Marriott	2500 Larkspur Landing Circle
Category 3		
Schools	The Children's Cottage Cooperative Preschool	2900 Larkspur Landing Circle
	Tutu School Larkspur	1201B Larkspur Landing Circle
Parks and Open Spaces	Remillard Park Corte Madera Marsh Ecological Reserve	E Sir Francis Drake Boulevard 750 feet South of the Main Lot Project Area

Note: Information taken from Google Maps search in August 2026.

N/A = not applicable

Vibration-Sensitive Buildings

Existing structures within 178 feet of Project construction may be affected by groundborne vibration during Project construction activities, and occupants within buildings even farther away may be annoyed because of groundborne vibration. The degree of impact will depend on the vibration of the offending equipment, the distance to the affected structure, the type of structure, and the type of soil. Table 3.11-4 lists thresholds for potential damage to existing structures by the type of structure and whether the source is continuous or intermittent, and Table 3.11-5 lists thresholds for potential annoyance depending on whether the source is transient or continuous.

As shown in Table 3.11-4, historic buildings are considered the most sensitive to vibration, according to the Caltrans Vibration Guidance Manual. Currently, there are two historic structures withing the area of impact of the Project, a segment of the Northwestern Pacific Railroad and the Green Brae Brick House at 125 E Sir Francis Drake Boulevard. Neither will be directly impacted by the construction of the Project or is close enough to be harmed by noise or vibration that results from the construction.

3.11.3 Environmental Impacts

This section describes the environmental impacts associated with noise that would result from implementation of the proposed Project. It describes the methods used to determine the effects of the proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (that is, avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts are provided.

3.11.3.1 Methodology

Construction Noise

The noise study area includes areas within a half-mile radius of the Project area. The assessment of potential construction noise levels was based on methodology developed by FTA (2018) and construction noise criteria from applicable local guidance (such as local general plan documents or noise ordinances). Noise levels produced by commonly used construction equipment are shown in Table 3.11-11. Individual types of construction equipment are expected to generate maximum noise levels ranging from 80 to 90 dBA at 50 feet. The construction noise level at a given receiver location depends on the type of construction activity and the distance and shielding between the activity and noise-sensitive receivers.

Table 3.11-11. Commonly Used Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 Feet from Source
Heavy truck	84
Excavator	85
Bulldozer	85
Pump	81
Generator	81
Mixer	80
Grader	85

Equipment	Typical Noise Level (dBA) 50 Feet from Source
Compactor	82
Impact hammer (hoe ram)	90
Back hoe	80
Crane	83
Drill rig	85
Pile Driver (Impact)	101
Pavement saw	90

Source: FTA 2018

The construction equipment used would vary by component or construction phase of the proposed Project and would involve the use of excavators, bulldozers, heavy trucks, pumps, generators, graders, compactors, impact hammers, and other heavy equipment. The source levels used to calculate noise exposure are based on the L_{max} of equipment noise levels developed by FTA. Usage factors for construction noise are used in the analysis to develop reasonable worst-case L_{eq} noise exposure values. The L_{eq} value accounts for the energy-average of noise over a specified interval (usually 1 hour), and usage factors represent the amount of time a type of equipment is used during a typical interval.

Potential noise levels resulting from construction of the proposed Project were evaluated by combining the noise levels of the two loudest pieces of equipment that would likely operate at the same time (for example, an excavator, bulldozer, and truck being operated simultaneously during the site preparation phase) and applying the appropriate usage factor (percentage of time equipment is in operation) to each piece of equipment. Sound levels from construction activities are calculated as a function of distance from the source(s), based on point-source attenuation over hard (that is, acoustically reflective) ground, noting that 6 dB of reduction per doubling of distance can be assumed over hard ground.

All construction activities would occur within daytime hours. Daytime is defined as the hours between 7:00 AM and 6:00 PM on weekdays and 9:00 AM to 5:00 PM on Saturdays. No construction would occur on Sundays or holidays.

Construction Haul Truck Noise

Construction haul truck noise is assessed qualitatively based on the likelihood of a noticeable increase in traffic noise at sensitive land uses along proposed Project haul routes. Based on the average number of trips per day estimated by the Project design team, it is conservatively estimated that up to 125 one-way daily trips would be made by haul trucks during construction. These trucks are assumed to access or leave the Main and North Lot sites by way of Sir Francis Drake Boulevard to access US 101. These additional trips do not represent a doubling of traffic on any haul route roadways and so would not result in an impact. Therefore, construction haul truck noise will not be discussed further in this section.

Operational Noise

Ferry Terminal

The noise and vibration assessment was conducted in accordance with the FTA *Transit Noise and Vibration Impact Assessment Manual* guidelines (described in Section 3.11.2.1) (FTA 2018). The FTA manual

specifies that criteria are applied for a comparison between future project noise and existing noise and not between future project noise and projections of future "no-build" noise exposure.

An FTA general noise assessment was performed for the closest sensitive receptor using the FTA General Noise Assessment Spreadsheet. This tool uses predefined noise levels for stationary noise sources including the ferry terminal and proposed parking garage.

Existing noise levels for receptor locations were taken from results of the noise-monitoring program conducted in the area. The number of ferry landings and parking movements per hour were calculated using information provided in the Project traffic study (Appendix G). Calculated Project noise levels were then compared with the "moderate impact" and "severe impact" criteria based on the existing ambient conditions recorded for a given receptor location.

Vehicle Traffic

To determine whether the proposed Project would result in a substantial permanent increase in ambient noise levels from traffic, model calculations were developed to determine the change in Project-related traffic volumes along segments with assigned Project-generated traffic. An increase of 3 dB would be considered a noticeable increase in noise levels relative to existing conditions. Ambient noise levels obtained from sound level monitoring are also considered to determine whether an increase in traffic along a given roadway segment would result in a noticeable increase in noise levels, based on all sources of noise present in the area.

Traffic noise modeling for existing conditions and Year 2050 conditions was conducted using standard acoustical methods. For the assessment of Project-level traffic noise impacts, PM peak-hour traffic volumes were used to determine traffic noise levels under existing and Year 2050 conditions.

Construction Vibration

Potential vibration impacts during construction were evaluated using the construction vibration modeling methods recommended by the U.S. Department of Transportation, along with construction equipment data provided by the Project engineering team. Reasonable worst-case construction vibration levels are provided and compared to the Caltrans vibration guidelines for damage and annoyance (refer to Tables 3.11-4 and 3.11-5 respectively) (Caltrans 2020).

Vibration source levels for a variety of typical construction equipment types are shown in Table 3.11-2. Source levels are shown in terms of PPV at 25 feet, 50 feet, 75 feet, and 100 feet, based on FTA guidelines.

The potential for damage to adjacent architectural resources from Project-related construction vibration was investigated, in addition to the modeled noise- and vibration-sensitive receivers discussed previously. Using assumptions provided by the Project engineers and the FTA methodology, as outlined previously, the potential for construction vibration damage to structures was analyzed.

3.11.3.2 Thresholds of Significance

The following State California Environmental Quality Act Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to noise and vibration.

Would the proposed project result in:

- Generation of 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?
- Generation of excessive groundborne vibration or groundborne noise levels?
- Placement of project-related activities in the vicinity of a private airstrip or an airport land use plan, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels?

More specifically, the Project may result in a substantial increase in ambient noise levels and a potentially significant impact if any of the following thresholds are met.

Operational Noise

Project operation may result in a substantial increase in ambient noise levels and a potentially significant impact if:

1. Operation results in a moderate or severe impact to a Category 1, 2 or 3 land use in light of Figure 3.11-1, FTA Noise Impact Criteria for Transit Projects.
2. Operational noise would raise the L_{dn} outside of City of Larkspur boundaries by:
    a. More than 5 dBA
    b. More than 3 dBA and exceed the Normally Acceptable standard (refer to Table 3.11-6)
    c. More than 3 dBA and the Normally Acceptable standard is already exceeded
3. Operational noise causes an increase in noise levels in nonresidential or mixed-use districts within the City of Larkspur to increase by more than 5 dB.
4. Causes ambient noise levels to exceed 75 dBA L_{dn} at office, retail, or industrial land uses within the City of Larkspur.
5. Project-generated traffic results in an increase in traffic noise levels of 3 dB or more relative to future no-project conditions at a location where traffic noise exceeds 60 L_{dn}.

Construction Noise

1. Project construction noise exceeds 90 dBA Leq between the hours of 7 AM and 6 PM at residential land uses.
2. Project construction noise exceeds 100 dBA Leq at commercial or industrial land uses at any time.

Construction Vibration

1. Project construction could result in damage to a structure per Caltrans standards (refer to Table 3.11-4).
2. Project construction could result in human annoyance per Caltrans standards (refer to Table 3.11-5).
3. Project construction exceeds the City of Larkspur standards of 0.08 in/sec PPV for sensitive historic structures or 0.30 in/sec PPV for normal construction.

Airport Noise

There would be no impacts related to the influence of noise from aircraft or airports for the proposed Project. The nearest airport to the Project site is San Rafael Airport, a private airport, approximately 7.5 miles north of the Project area. The proposed project would not add sensitive uses that would potentially be affected by aircraft noise. Therefore, there would be no impact, and this topic related to aircraft noise at public airports or private airstrips is not discussed further in this section.

3.11.3.3 Impacts

Project noise impacts would be substantively the same for both Alternative 1 and Alternative 2. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

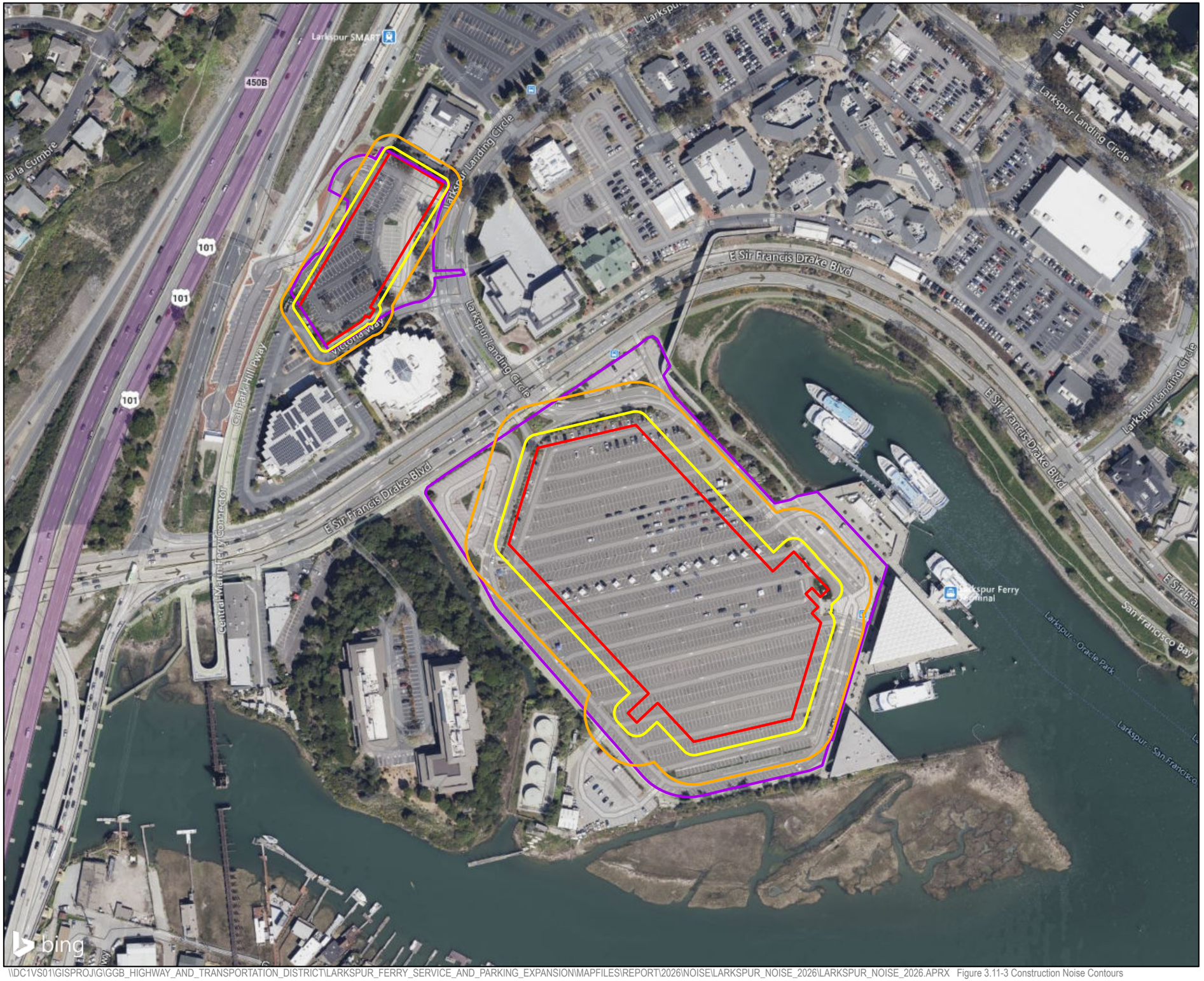
Generation of Substantial Temporary or Permanent Increase in Ambient Noise Levels in the Vicinity of the Project in Excess of Standards Established in the Local General Plan or Noise Ordinance, or Applicable Standards of Other Agencies

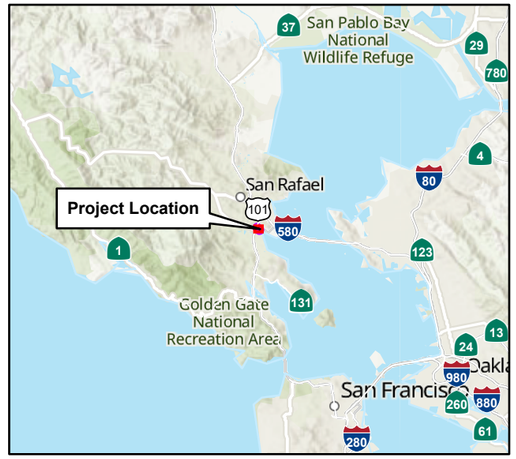
Construction

Build Alternatives

The City of Larkspur regulates construction noise by exempting daytime construction from compliance with each noise ordinance. The City has not established quantitative thresholds for the purpose of evaluating whether a project may result in a substantial increase in ambient noise levels during construction activities, and according to the FTA (FTA 2018), local noise ordinances are typically not very useful in evaluating construction noise. They often define nuisances and hours of allowed activity and sometimes specify limits in terms of maximum levels but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels produced during construction activities, the duration of the construction, and the adjacent land uses. The FTA standards for construction noise impacts on residential, commercial, and industrial land uses were used for purposes of this analysis. FTA construction noise standards are provided in Table 3.11-3. Standards presented in Table 3.11-3 are dependent upon the period (daytime or nighttime) and the type of land use being affected by the noise. The descriptor is a 1-hour L_{eq}.

Construction noise contours were created for the FTA construction noise standards and are described in Tables 3.11-12 and 3.11-13 for the North Lot and Main Lot, respectively. They are also shown on Figure 3.11-3.





LEGEND

Project Footprint (13.70 acres)

Parking Structure

Construction Noise Contours (Loudest Phase), Applicable Standards

(City of Larkspur: 7 AM to 6 PM) (Unincorporated Marin County: 8 AM to 5 PM)

90 dBA, FTA Residential

100 dBA, FTA Commercial

Service Layer Credits: Shoreline Access Inventory:
World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
Bing Maps Hybrid: © 2026 Microsoft Corporation © Maxar ©CNES (2026) Distribution Airbus DS © Mapbox © 2026 TomTom
World Hillshade: Esri, CGIAR, USGS

N

0 200 400

Feet

Figure 3.11-3
Construction Noise Contours (Loudest Phase), Applicable Standards
Larkspur Ferry Service and Parking Expansion
Golden Gate Bridge Highway and Transportation District
Marin County, California

\\DC1VS01\GISPROJ\G\GGB_HIGHWAY_AND_TRANSPORTATION_DISTRICT\LARKSPUR_FERRY_SERVICE_AND_PARKING_EXPANSION\MAPFILES\REPORT\2026\NOISE\LARKSPUR_NOISE_2026\LARKSPUR_NOISE_2026.APRX Figure 3.11-3 Construction Noise Contours

North Lot Site

Daytime Noise (FTA Standards)

All construction activities would take place during daytime hours. The nearest residential receptors are single-family homes approximately 500 feet west of the Project site and on the other side of US 101. This distance substantially exceeds the maximum residential impact distance of 38 feet associated with the loudest phase of construction at the North Lot. Therefore, no residential receptors would be exposed to daytime construction noise levels exceeding applicable FTA criteria.

The nearest Category 2 receptor, by the Bay Health hospice facility, is approximately 80 feet from the Project site, which is beyond the calculated impact area for daytime construction noise. The nearest commercial receptor, CinemaWest Larkspur Landing, is approximately 45 feet from the Project site. This distance also exceeds the maximum commercial impact distance of 13 feet during the loudest phase of construction. Accordingly, daytime construction activities at the North Lot would not result in exceedances of applicable FTA noise impact criteria. Construction noise impacts at the North Lot would be ***less than significant***. No mitigation required.

Main Lot Site

Daytime Noise (FTA Standards)

All construction activities would take place during daytime hours. The nearest residential receptors are single-family homes along the Greenbrae Boardwalk approximately 500 feet south of the Main Lot Project site. This distance is substantially greater than the maximum residential impact distance of 89 feet associated with the loudest phase of construction. Therefore, no residential receptors would be exposed to daytime construction noise levels exceeding applicable FTA criteria.

Table 3.11-12. Construction Noise Levels by Activity and Distance to Allowable Sound Levels, North Lot

Construction Activity	Loudest Equipment Used	Combined Source Level at 50 Feet (L_{eq}, dBA)	Distance to Exceedance of FTA Commercial/ Industrial Sound Level Limit of 100 dBA L_{eq} (feet)[a]	Distance to Exceedance of FTA Residential Sound Level Limit of 90 dBA L_{eq} (feet)[a]
Site Preparation	Excavator, planer	85	<10	26
Earthwork	Excavator, dozer	85	<10	28
Foundations	Crane, loader	83	<10	21
Superstructure	Crane, lift	85	<10	27
Parking Lot Improvements	Paver, grader	88	13	38
MEP, Architectural, and Finishes	Crane, lift	83	<10	75

Note: Distance calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers, which may further reduce sound levels.

[a] The maximum distance where the combined equipment level may potentially exceed the FTA construction noise limit of 100 dBA L_{eq} for commercial and industrial land uses and 90 dBA L_{eq} for residential. This standard applies during the daytime when construction noise is exempt from the City noise ordinance. Daytime is defined as the hours between 7:00 AM and 6:00 PM (9:00 AM to 5:00 PM on Saturdays) for the City of Larkspur.

MEP = mechanical, electrical, plumbing

Table 2.11-13. Construction Noise Levels by Activity and Distance to Allowable Sound Levels, Main Lot

Construction Activity	Loudest Equipment Used	Combined Source Level at 50 Feet (L_{eq}, dBA)	Distance to Exceedance of FTA Commercial/ Industrial Sound Level Limit of 100 dBA L_{eq} (feet)[a]	Distance to Exceedance of FTA Residential Sound Level Limit of 90 dBA L_{eq} (feet)[a]
Site Preparation	Excavator, planer	87	12	35
Earthwork	Excavator, dozer	89	14	42
Foundations (Impact Driven Piles)	Grader, crane	95	28	89
Foundations (Drilled Auger Cast Piles)	Pile hammer, crane	89	14	43
Superstructure	Crane, lift	87	12	36
Parking Lot Improvements	Paver, grader	88	13	39
MEP, Architectural, and Finishes	Crane, lift	89	14	43

Note: Distance calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers, which may further reduce sound levels.

[a] The maximum distance where the combined equipment level may potentially exceed the FTA construction noise limit of 100 dBA L_{eq} for commercial and industrial land uses and 90 dBA L_{eq} for residential. This standard applies during the daytime when construction noise is exempt from the City noise ordinance. Daytime is defined as the hours between 7:00 AM and 6:00 PM (9:00 AM to 5:00 PM on Saturdays) for the City of Larkspur.

There are no Category 1, Category 2, or Category 3 noise-sensitive receptors within the calculated daytime noise impact area. Likewise, no commercial receptors are within the maximum commercial impact distance of 38 feet. Accordingly, daytime construction activities at the Main Lot would not result in exceedances of applicable FTA noise impact criteria. Construction noise impacts would be ***less than significant***. No mitigation required.

Construction noise at both the North and Main Lots would be further reduced through implementation of best noise control practices during construction. Standard construction best practices to minimize construction noise include the following:

- Locating stationary equipment (for example, generators, pumps, cement mixers, idling trucks) as far as possible from noise-sensitive land uses
- Requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices, such as exhaust mufflers that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation

- Using equipment powered by electric motors instead of gasoline or diesel-powered engines (when feasible)
- Preventing excessive noise by shutting down idle vehicles or equipment
- Using noise-reducing enclosures around noise-generating stationary equipment
- Constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (such as terrain, structures) to block sound transmission to noise-sensitive land uses; the barriers should be designed to obstruct the line of sight between the noise-sensitive land use and onsite construction equipment
- Notifying nearby residents in advance of construction work

Operation

Build Alternatives

Ferry Terminal Operations

The FTA general noise assessment prepared for the proposed ferry terminal operation found that the expanded operation and parking garage would result in no change to the existing L_{dn} at the closest sensitive receptor, the single-family homes along the Greenbrae Boardwalk. all other sensitive receptors are farther away and have higher existing ambient noise levels; therefore, they are also projected to have no change in L_{dn} because of ferry terminal operations. Noise levels would not exceed the threshold for moderate or severe impacts at any sensitive receptors as defined by the FTA. This impact is considered to be ***less than significant***. No mitigation required.

Ferry Terminal Traffic

The proposed Project would expand parking capacity at the LFT through construction of the garages at the North and Main Lots. The additional parking supply would accommodate increased ferry ridership and associated vehicle trips to and from the ferry terminal. As identified in the Project traffic analysis, the Project would result in increases in traffic volumes on roadways in the vicinity of the terminal as commuters access the expanded parking facilities.

Traffic noise increases with increasing traffic volumes. A 100% increase in traffic volume (that is, a doubling of traffic) typically results in a 3-dBA increase in noise levels. As discussed previously, a 3-dBA increase is generally considered the minimum change that would be readily perceptible to the human ear; therefore, increases of less than 3 dBA are not considered substantial.

Traffic noise levels were calculated using peak-hour traffic volume data provided by the Project traffic consultant and standard acoustical analysis methods. The Project area is within an urban environment where existing ambient noise levels are dominated by roadway traffic, including traffic on local streets and the adjacent elevated section of US 101, which is approximately 200 feet from the North Lot and approximately 750 feet from the Main Lot.

As shown in Table 3.11-14, Project-generated traffic associated with ferry terminal operations would increase traffic noise levels by up to 1 dBA on roadways in the vicinity of the Project area under future Project conditions. In addition, all but two roadway segments analyzed would experience a similar increase in traffic noise levels under the No-Build condition because of anticipated regional traffic growth. The maximum Project-related increase of 1 dBA would not be perceptible over existing ambient noise levels and would not result in severe or moderate impacts.

Table 3.11-14. Increase in Traffic Noise Along Project Street Segments

Street	Segment Location	2050 No Project, dBA L_{eq}	2050 Project Versus No Project Increase, dBA L_{eq}
Bon Air Road	South of Sir Francis Drake Boulevard	57	+1
Sir Francis Drake Boulevard	West of Bon Air Road	61	0
Sir Francis Drake Boulevard	Bon Air Road to Barry Street	62	+1
Sir Francis Drake Boulevard	Barry Street to US 101 SB Off-Ramp	62	0
Sir Francis Drake Boulevard	US 101 SB Off-Ramp to US 101 NB Off-Ramp	60	+1
Sir Francis Drake Boulevard	US 101 NB Off-Ramp to LFT	63	0
Sir Francis Drake Boulevard	LFT to Larkspur Landing Circle	62	+1
Larkspur Landing Circle	Larkspur Landing Circle to Victoria Way	54	0
Eliseo Drive	North of Sir Francis Drake Boulevard	53	+1

Because the projected increase in traffic noise would be limited to approximately 1 dBA, traffic-related operational noise associated with the proposed Project would not result in a substantial increase in ambient noise levels. Therefore, the impact would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

Generation of Excessive Groundborne Vibration or Groundborne Noise Levels

Construction

Build Alternatives

Construction of the proposed Project would involve the use of construction equipment that would generate groundborne vibration. Typical vibration levels associated with construction equipment as a function of distance are shown in Table 3.11-15.

Table 3.11-15. Construction Equipment Vibration Levels by Distance

Distance (feet)	Bulldozer, Hoe Ram		Vibratory Roller		Truck		Pile Driver (Impact)	
	VdB[a]	PPV[b]	VdB[a]	PPV[b]	VdB[a]	PPV[b]	VdB[a]	PPV[b]
10	99	0.352	106	0.83	98	0.300	124	6.00
15	94	0.191	101	0.452	92	0.164	119	3.266
20	90	0.124	97	0.294	88	0.106	115	2.121
25	87	0.089	94	0.21	86	0.076	112	1.518
30	85	0.068	92	0.16	83	0.058	110	1.155
35	83	0.054	90	0.127	81	0.046	108	0.916
40	81	0.044	88	0.104	79	0.038	106	0.750
45	79	0.037	86	0.087	78	0.031	104	0.629
50	78	0.031	85	0.074	77	0.027	103	0.537
55	77	0.027	84	0.064	75	0.023	102	0.465
60	76	0.024	83	0.057	74	0.020	101	0.408
65	74	0.021	82	0.05	73	0.018	100	0.362
70	74	0.019	81	0.045	72	0.016	99	0.324
75	73	0.017	80	0.04	71	0.015	98	0.292

Note: Based on FTA vibration reference levels

[a] RMS Velocity Level re 1 micro-inch per second

[b] PPV, in/sec

Annoyance

As shown in Table 3.11-15, groundborne vibration levels from operation of a bulldozer or hoe ram would exceed the FTA criterion for annoyance of 0.04 in/sec PPV at 40 to 45 feet from a sensitive receptor. Vibration levels from the operation of pile drivers would exceed the FTA criterion for annoyance until approximately 300 feet from the sensitive receivers. Because no occupied structures aside from the existing ferry terminal lie within these distances, the FTA vibration criterion for annoyance would not be exceeded at any sensitive receptors. Therefore, vibration levels during use of heavy equipment would not exceed annoyance thresholds and would be ***less than significant***. No mitigation required.

Damage

Construction of the LFT parking garage would not require operation of heavy equipment near any historic buildings. The closest historic structure to the Project area is a section of the Northwestern Pacific Railroad, approximately 700 feet from the edge of the construction zone, which would result in 0.01 in/sec PPV to the historic building structure, which would fall below the Caltrans vibration criteria for fragile buildings.

Construction of the LFT parking garage would require use of heavy equipment near other building structures, but these structures are of modern construction, and while operation of pile drivers would exceed the vibration standard of 0.3 in/sec PPV up to a distance of 67 feet, the closest vibration-sensitive receptor to the Main Lot site where pile drivers would be operating is 150 feet away, which would

experience a vibration level of 0.1 in/sec PPV. The existing ferry terminal building is approximately 90 feet from the closest pile driving location, which would experience a vibration level of 0.193 in/sec. Large bulldozers are the heaviest construction vehicles planned to be used at the North Lot site. The closest structure to the North Lot is approximately 40 feet away and would experience vibration of 0.044 in/sec PPV. No vibration levels would exceed City of Larkspur or Caltrans building damage thresholds. Therefore, vibration levels during use of heavy equipment would be ***less than significant***. No mitigation required.

Operational

Build Alternatives

No conditions exist that would result in a significant vibration impact from rubber-tired vehicles or from the operation of the ferry terminal or the ferries themselves. Operation conditions would be similar to existing conditions. As such, this vibration impact would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

3.12 Population and Housing

This section describes the applicable regulatory and environmental setting for population and housing within and around the Larkspur Ferry Service Expansion and Parking Project (Project) area. In addition, it discusses the potential for the Project's Build Alternatives to induce substantial unplanned population growth in the area, either directly or indirectly, or to displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere. Chapter 5 discusses impacts related to the No-Project Alternative.

3.12.1 Existing Conditions

3.12.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District, as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

There are no federal regulations for population and housing that are relevant to the Project.

State

Regional Housing Needs Plan for the San Francisco Bay Area: 2015 to 2023

The ABAG administers the Regional Housing Needs Allocation (RHNA), which enables regions to address housing issues and meet housing needs based on future growth projections for the area.

The RHNA process addresses the need for housing in communities throughout the state. To ensure adequate housing is available for all income groups, the California Department of Housing and Community Development is responsible for determining the regional need in coordination with the ABAG, which is required to distribute and assign the region's share of statewide housing burden among the cities and counties within its jurisdiction. The objectives of the RHNA include increasing the supply, diversity, and affordability of housing; promoting infill development and a more efficient land use pattern; promoting an improved intraregional relationship between jobs and housing; protecting environmental resources; and promoting socioeconomic equity. The purpose of the RHNA is to allocate a "fair share" of the Bay Area's projected housing need to the cities and counties by household income groups, which are categorized as very low, low, moderate, and above moderate.

The combined RHNA target for additional housing in Marin and Sonoma Counties for the current 2023-2031 cycle is nearly 29,000 units (14,210 housing units for Marin County, and 14,562 housing units for Sonoma County).

Regional

Plan Bay Area 2050+

The Metropolitan Transportation Commission (MTC) acts as a regional transportation planning agency and the region's metropolitan planning organization. Because of its designation, MTC is responsible for the Regional Transportation Plan, a compilation of plans for mass transit, highway, freight, bicycle, and pedestrian facilities. MTC also reviews applications from local agencies for state and federal grants for transportation projects to determine their compatibility with the Regional Transportation Plan. MTC and Association of Bay Area Governments (ABAG) adopted the *Plan Bay Area 2050+* in 2026 (MTC and ABAG 2026).

Plan Bay Area 2050+ (MTC and ABAG 2026) is the integrated land use/transportation plan and demographic/economic forecast for the nine-county San Francisco Bay Area region. This plan coordinates housing plans, open space conservation efforts, economic development strategies, and transportation investments. Specifically, to reduce greenhouse gas emissions, *Plan Bay Area 2050+* (MTC and ABAG 2026) promotes extensive transportation strategies for all modes, including new post-pandemic transit vision. The plan wants to operate and maintain existing transportation systems while also expanding new systems (MTC and ABAG 2026).

Local

City of Larkspur 2040 General Plan

The *City of Larkspur 2040 General Plan* (City of Larkspur 2024a) provides a comprehensive plan of the City of Larkspur's development policies. The Community Character chapter in the plan (City of Larkspur 2024a) intends to provide goals and policies to preserve, enhance, and strengthen Larkspur's livable and attractive environment, its community identity, and its special "sense of place," while promoting a greater awareness of and sensitivity toward Larkspur's historic and archaeological heritage. The following policy is applicable to the proposed Project:

- **Action Program CHAR-1.2a.** Require all major new development or redevelopment to provide connectivity to and from the site for bicyclists and pedestrians.

The Circulation chapter in the plan (City of Larkspur 2024a) intends to provide safe and efficient transportation facilities for all system users; assure adequate transit service in Larkspur (bus, ferry, airport shuttle) as alternatives to the auto; improve all forms of connections (that is, pedestrian, bicycle, and auto) within Larkspur and with neighboring communities, as well as access from Larkspur to the freeway; and improve traffic safety for bicyclists and pedestrians. The circulation goals and policies that are applicable to the proposed Project are as follows:

- **Goal CIR-1.** A multimodal transportation system that is safe, efficient, and incorporates the needs of all circulation system users.
- **Goal CIR-3.** Reduced impact of traffic congestion on Larkspur's quality of life.
- **Goal CIR-7.** Safe and convenient connections between Larkspur, neighboring communities, and the region for all modes of transportation.
- **Policy CIR**-6.4. Encourage increased transit service and ridership, and other innovative programs and alternative transportation solutions to reduce single-occupancy vehicle use.
- **Policy CIR**-6.7. Encourage continuation of the LFT at its present site.

- **Action Program CIR**-6.7a. Support improvement of bicycle and pedestrian connectivity between the planned Larkspur Sonoma-Marin Area Rail Transit (SMART) station and the ferry terminal.
- **Policy CIR**-12.1. Avoid when feasible or mitigate adverse impacts of circulation system improvements on the natural environment (such as Corte Madera Creek, the Bay and its shoreline, open space lands, and recreational facilities).

City of Larkspur Bicycle and Pedestrian Master Plan

The *City of Larkspur Bicycle and Pedestrian Master Plan* (City of Larkspur 2017) was developed to identify Larkspur's existing network of bicycle and pedestrian facilities and multi-use paths, lay the framework for future facilities, and develop policies that will work toward making bicycling and walking an integral part of transportation and daily life in Larkspur. The following goals and policies are relevant to the Project:

- **Goal 1:** Develop a more pedestrian and bicycle friendly community.
- **Goal 2:** Improve safety and accessibility.
- **Goal 4:** Identify regional and multi-jurisdictional gaps in connectivity.
- **Goal 5:** Improve transit access.

City of Larkspur 2023 to 2031 Housing Element

The City of Larkspur 2023 to 2031 Housing Element represents the City's intent to plan for the housing needs of the Larkspur community while meeting the state's housing goals (City of Larkspur 2024b). Relevant policies include the following:

- **Policy H4.4**. Transit-Oriented Community Policy. Adopt and implement policies and programs that align with MTC's Transit-Oriented Community Policy for efficient use of land, reduction of greenhouse gas emissions, and maintenance of transportation funding.

3.12.1.2 Environmental Setting

This section provides a discussion of the existing conditions related to population and housing in the Project area, within the jurisdictional boundary of the City of Larkspur, and within the jurisdictional boundary of Marin County.

Project Area

The LFT is in the eastern part of Larkspur and is surrounded by a mix of land uses consisting of commercial, office, retail, open space, and residential. The ferry terminal is on Sir Francis Drake Boulevard and is bordered on the west by United States Highway 101 (US 101), which runs north–south through the City of Larkspur. US 101 is a regional transportation corridor that serves local traffic, goods movement, commuters, and tourism within Marin County and to destinations in Northern California.

The LFT Main Lotis at the mouth of the Corte Madera Channel and the Bay. The terminal is bordered to the west by Wood Island, a hillside professional office complex, and to the north, across from Sir Francis Drake Boulevard, by the Larkspur Landing shopping center, which consists of retail, restaurants, offices, administrative and public services, a theater, and hotel. The Larkspur SMART train station is also on the northern edge (off Victoria Way) of this shopping complex. Immediately behind the shopping complex is the Larkspur Landing Circle neighborhood of multi-family residential units, open space, and park land, and more east is Drake's Cove, a single-family low-density residential neighborhood. Farther east, Sir Francis Drake Boulevard leads to the entrance of the Richmond/San Rafael Bridge (Interstate 580) and to the San

Quentin State Prison on the peninsula. To the north and on the west side of US 101 is the Greenbrae neighborhood. Immediately south of the terminal is a marsh/wetland conservation area, and across the Corte Madera Channel is the Greenbrae Boardwalk neighborhood and the Corte Madera Ecological Reserve.

The proposed North Lot is northwest of the existing LFT and southeast of US 101. It is bordered between Larkspur Landing Circle and Victoria Way. It is also next to a cinema (called the CinemaWest Larkspur Landing) and the Larkspur Station for Sonoma-Marin SMART Area Rail Transit. There are commercial buildings to the south of the proposed lot.

The three neighborhoods in the vicinity of the LFT are built out, and future land uses in these areas are expected to remain stable.

Larkspur Landing Circle Neighborhood

Larkspur Landing Circle is an area of multiple-family developments (Lincoln Village I and II, Larkspur Court, and Serenity Court) that lie between other (commercial) land uses, including office buildings, a hotel, and a regional-specialty shopping center, north and east of Larkspur Landing Circle. US 101 isolates the neighborhood from the rest of the community. To the east is the hillside residential neighborhood of Drake's Cove. The residential area consists of large, multi-story single-family homes and is very secluded and remote from the rest of the city.

Greenbrae Boardwalk Neighborhood

The Greenbrae Boardwalk neighborhood, directly south of the ferry terminal, is bordered on the north by Corte Madera Creek, on the west by the Northern Pacific Railroad Network right-of-way, and on the south by the Corte Madera Marsh Ecological Reserve. Its only access point from land is from Larkspur, and the homes along it can only be reached by foot from a common parking area. South of the Greenbrae Boardwalk are two mobile home parks. These homes are surrounded by industrial uses, are not on the Corte Madera Creek shoreline, and are remote (physically and visually) from the ferry terminal.

Greenbrae Neighborhood

The Greenbrae neighborhood is off Sir Francis Drake Boulevard, west of US 101, and stretches north to the San Rafael city limits (the top of the Southern Heights Ridge). The southwestern half of this area is unincorporated, and the northeastern half lies within Larkspur. This neighborhood consists of single-family houses.

Population and Housing Data

The population of Marin County was 262,321 in 2020 and 258,769 in 2021, decreasing to 255,222 in 2022 and 253,223 in 2023. In 2024 and 2025, the population was 253,632 and 253,171, respectively, and 250,823 in 2026, representing a decrease of approximately 4.4% over the period. The population of the City of Larkspur was 13,080 in 2020 and 13,017 in 2021, followed by 12,804 in 2022 and 12,691 in 2023. In 2024 and 2025, the population was 12,804 and 12,772, respectively, and 12,650 in 2026, representing a decrease of approximately 3.3% over the period. Table 3.12-1 presents annual population data for Marin County and the City of Larkspur for the years 2020 through 2026.

Table 3.12-1. Marin County and City of Larkspur Annual Population Trend Data

Location	2020	2021	2022	2023	2024	2025	2026
Marin County	262,321	258,769	255,222	253,223	253,632	253,171	250,823
City of Larkspur	13,080	13,017	12,804	12,691	12,804	12,772	12,650

Source: Department of Finance 2026a

The number of housing units in Marin County was 111,564 in 2020 and 111,668 in 2021, increasing to 111,879 in 2022 and 112,183 in 2023. In 2024 and 2025, total housing units were 112,507 and 112,901, respectively, and reached 113,305 in 2026, representing an increase of approximately 1.6% over the period. Occupied housing units in Marin County were 104,167 in 2020 and 103,819 in 2021, followed by 103,920 in 2022 and 104,045 in 2023. In 2024 and 2025, occupied units were 104,022 and 104,386, respectively, and reached 104,744 in 2026. The vacancy rate in Marin County was 6.6% in 2020, 7.0% in 2021, 7.1% in 2022, 7.3% in 2023, 7.5% in both 2024 and 2025, and 7.6% in 2026.

The number of housing units in the City of Larkspur was 6,459 in 2020 and 6,460 in 2021 and 2022, increasing to 6,469 in 2023. In 2024 and 2025, total housing units were 6,519 and 6,523, respectively, and they reached 6,533 in 2026, representing an increase of approximately 1.1% over the period. Occupied housing units in Larkspur were 6,102 in 2020 and 6,103 in 2021 and 2022, followed by 6,111 in 2023. In 2024 and 2025, occupied units were 6,158 and 6,162, respectively, and they reached 6,171 in 2026. The vacancy rate in Larkspur was 5.5% in all years from 2020 through 2026. Table 3.12-2 presents annual housing data for Marin County and the City of Larkspur for the years 2020 through 2026.

Table 3.12-2. Marin County and City of Larkspur Annual Housing Trend Data

Location	2020	2021	2022	2023	2024	2025	2026
Marin County (Total Housing Units)	111,564	111,668	111,879	112,183	112,507	112,901	113,305
Marin County (Occupied Housing Units)	104,167	103,819	103,920	104,045	104,022	104,386	104,744
Marin County (Vacancy Rate)	6.6%	7.0%	7.1%	7.3%	7.5%	7.5%	7.6%
City of Larkspur (Total Housing Units)	6,459	6,460	6,460	6,469	6,519	6,523	6,533
City of Larkspur (Occupied Housing Units)	6,102	6,103	6,103	6,111	6,158	6,162	6,171
City of Larkspur (Vacancy Rate)	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%

Source: Department of Finance 2026b

3.12.2 Environmental Impacts

3.12.2.1 Methodology

Identifying a project's impact on population and housing involves a review of the California Department of Finance Data and all state, regional, and local policies relevant to the Project, such as the *City of Larkspur 2040 General Plan* (City of Larkspur 2024a). The study area for the impact analysis is the City of Larkspur and Marin County.

3.12.2.2 Thresholds of Significance

The following California Environmental Quality Act Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to existing population and housing.

Would the proposed Project do the following:

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

3.12.2.3 Impacts

Project population and housing impacts are substantively the same for both Build Alternatives. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

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)

Construction

Build Alternatives

Construction of the Build Alternatives would include temporary increase in employment resulting in up to 70 workers associated with daily construction activities for the proposed Project. Construction would occur in phases, with the North Lot constructed over approximately 18 months and the Main Lot constructed over approximately 36 months. It is anticipated that the workers would be drawn from the local/regional labor pool and that the proposed Project does not include and would not result in construction or development of residential uses or other land uses that would accommodate or facilitate substantial unplanned population growth. Construction also would not include extension of roads or other infrastructure beyond the Project site that could accommodate or facilitate additional development that would result in substantial unplanned population growth.

Therefore, the construction of the Build Alternatives would have ***no impacts*** that would result in or induce substantial unplanned population growth during construction.

Operations

Build Alternatives

Operation of the Build Alternatives would include increase ferry service; improve the pickup/drop-off area to provide designated areas for fixed-route transit loading and unloading, TNCs, and drop off; upgrade bicycle storage facilities; improve pedestrian connections; and use a phased approach to construct new parking garages on the Main and North Lots. The incremental increase in ferry service from 42 revenue trips up to a maximum of 76 revenue trips in 2050, as well as, associated landside improvements were designed to accommodate forecast ferry ridership growth based on Transportation Authority of Marin forecasts using their travel demand model, which accounts for regional population and employment forecasts, travel patterns, and transportation network conditions on regional growth projections. The forecast growth and development occur with or without the proposed Project. The Build Alternatives do not include residential development, changes to land use designations, or extension of other roads or infrastructure that would accommodate or facilitate substantial unplanned population growth

Therefore, the operation of the Build Alternatives would have ***no impacts*** that would result in or induce substantial unplanned population growth during operations.

Mitigation Measures

No mitigation required.

Displace Substantial Numbers of Existing People or Housing, Necessitating the Construction of Replacement Housing Elsewhere

Construction and Operation

Build Alternatives

Construction and operation of the Build Alternatives would occur within the existing LFT Main Lot and the North Lot. The Project site consists of existing surface parking lots and other ferry and transportation facilities. Construction and operation of the Build Alternatives would not include removal of residential structures or displacement of existing residents. Construction and operation of the Build Alternatives would not require relocation of individuals or removal of occupied buildings.

Therefore, construction and operation of the Build Alternatives would not displace any existing people or housing and would not require construction of any replacement housing elsewhere and would result in ***no impact***.

Mitigation Measures

No mitigation required.

3.13 Public Services and Recreation

This section describes the applicable regulatory and environmental setting for public services and recreation for the Larkspur Ferry Service Expansion and Parking Project (Project). This section also describes potential impacts on public services and recreation that would result from implementation of the Project's Build Alternatives and mitigation for significant impacts where feasible and appropriate. Chapter 5 discusses impacts related to the No-Project Alternative.

3.13.1 Existing Conditions

3.13.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District, as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

Occupational Safety and Health Standards

29 Code of Federal Regulations Part 1910, Occupational Safety and Health Standards, establishes a collection of federal standards for safety and health that apply to most U.S. workplaces. These include minimum standards for fire suppression, emergency medical services, exit routes, and emergency planning.

State

California Building Code

The California Building Code contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. Part 9 of the California Building Code (24 California Code of Regulations [CCR] Part 9), also referred to as the California Fire Code, provides the building standards related to fire safety and requires all new construction, including new buildings, additions, alterations, and nonresidential repairs, to adhere to the fire safety building standards.

Local

Larkspur General Plan

The Community Facilities and Services and the Community Health and Safety chapters of the *City of Larkspur 2040 General Plan* pertain to public services and recreation and include goals and objectives related to public facilities and public services availability (City of Larkspur 2024).

The Community Facilities and Services chapter addresses the public facilities owned by the City and other entities and the services related to those facilities, including recreation, education, library, law enforcement, and City government. The intent of the Community Facilities and Services chapter is to provide information about public facilities and their related level of services available and to provide

policies to guide their development in the future. This chapter of the General Plan includes the following goals and policies applicable to the Project (City of Larkspur 2024):

- Goal FAC-1: Public facilities and programs for all community members
  - Policy FAC-1.1: Maintain, upgrade, and improve the City's parks.
  - Policy FAC-1.5: Ensure that City programs and facilities are accessible to community members with disabilities.

The Community Health and Safety chapter addresses the protection of the community from natural hazards such as floods, earthquakes, landslides, and fires, as prescribed in the California Government Code requirements for Safety Elements. This chapter also addresses protection from manmade hazards such as noise, air pollution, and hazardous materials. This chapter of the General Plan includes the following goals and policies applicable to the Project (City of Larkspur 2024):

- Goal SAF-2: Planned, coordinated response to and evacuation from all disasters
  - Policy SAF-2.1: Maintain an updated emergency response plan and evacuation plan. Maintain a level of preparedness to respond to emergency situations that will save lives, protect property, and facilitate recovery with minimal disruption.
  - Policy SAF-2.3: Collaborate with other local, regional, state, and/or federal jurisdictions and private entities to plan and promote the integration and improvement of regional response capabilities.
  - Policy SAF-2.5: Identify essential emergency facilities and infrastructure and make provisions to ensure that they will function in the event of a disaster.
- Goal SAF-6: Protection of residents and property from fire hazards
  - Policy SAF-6.1: Maintain and, as necessary, upgrade or expand equipment and staffing to provide efficient fire suppression service to Larkspur residents. There are no areas in Larkspur that lack fire suppression and other services.
- Goal SAF-7: Reduced hazard from wildfire
  - Policy SAF-7.1: Continue to require that new and existing development in the most current California Department of Forestry and Fire Protection's Fire and Resource Assessment Program's Very High Fire Hazard Severity Zone Maps and adjacent High Fire Hazard areas meet all current building, property maintenance, and fuel reduction requirements for these zones. New development, including remodeling and additions, within the Very High Fire Hazard Severity Zone will be required to meet or exceed standards in title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 (commencing with section 1270) (State Responsibility Area Fire Safe Regulations) and title 14, CCR, division 1.5, chapter 7, subchapter 3, article 3 (commencing with section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations) and Fire Safe Regulation, Home Hardening, California Public Resources Code 4290.

3.13.1.2 Environmental Setting

This section describes the existing public services and public and recreational facilities that could be adversely affected by the Project.

Fire Protection and Emergency Medical Services

Fire protection, paramedic, and emergency services are provided to the Project area by the Central Marin Fire Department (CMFD), which serves the entirety of Larkspur and Corte Madera. The CMFD is a

consolidated fire agency formed through a Joint Powers Agreement between the Town of Corte Madera and the City of Larkspur in Marin County, California, and it operates four fire stations staffed by 36 authorized operational personnel across three separate shift platoons (CMFD n.d.). The CMFD provides a full range of emergency response services, including structural fire suppression, wildland fire suppression, response to hazardous materials incidents, urban search and rescue, water rescue, vehicle extrication, and technical rescue, along with basic life support and advanced life support medical services. All engine companies are staffed with at least one firefighter/paramedic and thus have the ability to immediately administer advanced life support pre-hospital emergency medical care upon their arrival (City of Larkspur 2024). The closest fire station to the Project, which would serve all Project alternatives, is the Larkspur Fire Department Station 16, located less than 1 mile away from the LFT at 15 Barry Way, Greenbrae.

Police Protection

The Central Marin Police Authority (CMPA) provides police services and public safety dispatching to the communities of Corte Madera, Larkspur, San Anselmo, and portions of Greenbrae, which include approximately 35,000 residents, and operates under a Joint Powers Agreement between the City of Larkspur, the Town of Corte Madera, and the Town of San Anselmo. The CMPA maintains 50 full-time employees, including 42 sworn officers, and part-time employees, such as reserve officers, cadets, and volunteers. There is a staffing ratio of 1 sworn officer per 833 residents, or 12 sworn officers per 10,000 people (City of Larkspur 2024). The closest police station to the Project site is the CMPA police station and headquarters, located approximately 1.5 miles southwest of the Project site at 250 Doherty Drive, Larkspur.

Schools

The City of Larkspur is served by the Larkspur-Corte Madera School District, the Kentfield School District, the San Rafael Elementary School and High School Districts, and the Tamalpais Union High School District (City of Larkspur 2024). Redwood High School, San Andreas High School, Tamalpais Adult School, Tamiscal High School, and Hall Middle School are within approximately 2 miles of the Project site to the southeast. The area containing Redwood High School, San Andreas High School, Tamalpais Adult School, and Tamiscal High School is approximately 1 mile from the Project site.

Parks and Recreation Facilities

The City of Larkspur owns 36 acres of developed parkland and open space in Larkspur, including the 22-acre Piper Park, 10 smaller neighborhood parks, and open space areas in Larkspur Landing known as Miwok Park and Tubb Lake (City of Larkspur 2024). Piper Park, the Piper Park Athletic Fields, the Marin Cricket Club, and the Larkspur Recreation Center are approximately 2 miles southwest of the Project site. Remillard Park is approximately 0.5 mile east, Greenbrae School Park is approximately 0.75 mile west, and the Niven Point Butterfly Garden is approximately 1 mile southwest of the Project site. The Corte Madera Marsh Ecological Reserve, managed by the State of California Department of Fish and Wildlife, is approximately 0.25 mile south of the Project site just across Corte Madera Creek. The Cal Park Hill Pathway, or Cal Park Hill Tunnel, is adjacent to the Project site and is a component of the Sonoma–Marin Area Rail Transit (SMART) Pathway, which is a 30-mile route (in progress planned 70-mile route) that roughly follows the SMART light rail between Larkspur and Healdsburg (TrailLink n.d.).

Other Public Facilities

Other public facilities in the vicinity of the Project include the Larkspur Library, located approximately 2 miles southwest of the Project site, and the Corte Madera Library, located approximately 2 miles south of the Project site. The *City of Larkspur 2040 General Plan* identifies the Larkspur Library Department as a key provider of year-round recreational activities for residents of all ages and abilities (City of Larkspur 2024).

3.13.2 Environmental Impacts

As described in Chapter 2, two Build Alternatives are being considered for the Project, both of which are in the City of Larkspur within the existing North Lot and Main Lot, which are parking lots owned by the Golden Gate Bridge, Highway and Transportation District. Public services and recreation impacts were analyzed for the Project area rather than specific Build Alternatives because the Build Alternatives occupy the same footprint, and each Build Alternative would experience an equivalent impact for each resource considered here. Impacts associated with the No-Project Alternative are discussed in Chapter 5, Alternative to the Project.

3.13.2.1 Methodology

The study area for public services and recreation is the City of Larkspur. Potentially significant impacts would occur if the Project would adversely affect the ability of the identified service agencies to provide adequate service to the Project area or to other existing service areas, resulting in the need for new facilities, the construction of which could cause significant environmental effects.

Identifying the Project area's public services involved reviewing the following documents and sources of information:

- City of Larkspur website
- City of Larkspur planning documents:
  - Review of *City of Larkspur 2040 General Plan* (City of Larkspur 2024)
- CMFD website
- CMPA website

3.13.2.2 Thresholds of Significance

The following California Environmental Quality Act Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts on public services and recreation.

Would the proposed Project do the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 following public services:

  a) Fire Protection?

  b) Police Protection?

c) Schools?

d) Parks?

e) Other Public Facilities?

- 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?
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

3.13.2.3 Impacts

Project public and recreation impacts are substantively the same for both Alternative 1 and Alternative 2. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Result in Substantial Adverse Physical Impacts Associated with the Provision of New or Physically Altered Governmental Facilities or a 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 Following Public Services

Construction and Operation

Build Alternatives

Fire Protection

Construction of the Project would require up to 70 workers per day for the anticipated construction schedule of 18 months for the North Lot and 36 months for Main Lot. Once construction is completed, it is not anticipated that operation of the Project would require an increase in the existing 109 LFT operations, maintenance and administrative employees to support the expanded ferry service, new parking garages, and identified transportation demand management described in Chapter 2, Project Description. All workers required for Project construction and operation would be sourced from the surrounding communities. Ferry ridership demand is projected to increase by 2050, as described in Chapter 2, Project Description. This increase in ridership demand associated with multiple factors, including projected anticipated population growth within the region. Construction and operation of the Project would not cause substantial unplanned local population growth and would not contribute to substantial permanent unplanned population growth that could negatively affect service ratios for fire protection services.

Project construction would introduce additional construction traffic on Larkspur Landing Circle during Phase I and Sir Francis Drake Boulevard, United States Highway 101, or Interstate 580 during Phases I and II. Construction-related traffic is associated with employee trips, deliveries, and material import/export. Temporary and intermittent traffic delays, typical with construction projects, could occur within the Project vicinity, Access would be maintained to the LFT, SMART, and adjacent businesses throughout construction. No long-term lane closures on Larkspur Landing Circle or Sir Francis Drake Boulevard are anticipated during construction of Phase I or Phase II. Vehicle trips on the surrounding roadways associated with construction worker and employee commutes, deliveries, and increased ferry ridership would not contribute to substantial congestion on the surrounding roadways when compared to existing traffic (refer to Section 3.14, Transportation). Construction and operation of the Project is not anticipated to

substantially affect performance objectives or response times for fire protection services. The Project would not include or require the provision of new or physically altered fire protection facilities. Therefore, impacts would be ***less than significant.*** No mitigation required.

As discussed in Chapter 2, Project Description, the Traffic Management Plan (TMP) and Traffic Control Plan (TCP) will minimize potential for delay and improve safety and efficiency within the vicinity of Larkspur Landing Circle and Sir Francis Drake Boulebard. These plans would include applicable measures that the contactor would be required to comply with and that are approved by the City. The contractor would ensure adequate emergency access throughout construction. The contractor would be required to revise these plans based on conditions during construction. The TMP and TCP are designed to safely guide vehicles, cyclists, and pedestrians around the work zone, protect construction crews, keep traffic moving smoothly, minimize and prevent accidents, and lessen the impacts of construction traffic on daily local routines. The TMP and TCP would be developed in tandem. The TMP would focus on means to reduce traveler delays in accordance with the California Manual on Uniform Traffic Control Devices.

The TCPs would include detours and signage requirements to provide advance warnings and provide alternative routes for traffic, including emergency vehicles, around construction areas. The TMP requires continuous coordination with the public, emergency services, transit, and businesses. This is accomplished through planning meetings, and the information is disseminated as widely as possible to provide advance notice of construction-related impacts. The TMP also focuses on notification and access for emergency service providers to ensure adequate emergency access is maintained within the Project vicinity and on Larkspur Landing Circle and Sir Francis Drake Boulevard.

Police Protection

Similarly to the fire protection services discussed previously, the Project would not cause unplanned population growth or vehicle trips on the surrounding roadways associated with construction worker and employee commutes, and deliveries. In addition, increased ferry ridership during operation would not contribute to substantial congestion on the surrounding roadways when compared to existing traffic (refer to Section 3.14, Transportation). Construction and operation of the Project is not anticipated to substantially affect performance objectives or response times for police protection services. The Project would not include or require the provision of new or physically altered police protection facilities. Therefore, impacts would be ***less than significant***. No mitigation required.

Schools

Construction and operation of the Project would not directly induce population growth within the Project area. All workers required for Project construction would be sourced from the surrounding communities and would commute to the Project site from their existing places of residence. No increase in maintenance, operations, or administrative staff is anticipated with the opening of the parking garages or the increase in ferry operations. The existing workforce capacity in the City of Larkspur and Marin County would be sufficient to serve the operational needs. Construction and operation of the Project is not expected to result in any substantial increased school enrollment, and existing school facilities would not be anticipated to deteriorate because of the Project. The Project would not require the provision of new or physically altered school facilities. Therefore, ***no impact*** would occur.

Parks

The closest parks and recreational areas to the Project site include Remillard Park approximately 0.5 mile east, Greenbrae School Park approximately 0.75 mile west, and the Corte Madera Marsh Ecological

Reserve approximately 0.25 mile south. Construction of the Project would not restrict access to any existing park facilities or physically affect any parks, and the Project footprint would not result in a loss of park space or other recreational facilities. As discussed under Fire Protection, the Project would not induce temporary or permanent population growth. Therefore, the Project would not be anticipated to accelerate the deterioration of existing park and recreation facilities and would not require new or physically altered park facilities to maintain appropriate performance indicators for park space. Therefore, ***no impact*** would occur.

Other Public Facilities

Other public facilities in the vicinity of the Project include the Larkspur Library, located approximately 2 miles southwest of the Project site, and the Corte Madera Library, located approximately 2 miles south of the Project site. The existing workforce capacity in the City of Larkspur and Marin County would be sufficient to serve the Project and limited if any new residents would be added because of the Project. Neither construction nor operation of the Project would induce population growth in the region. Consequently, the Project would not increase demand for public facilities, and no new or physically altered public facilities would be required. Therefore, ***no impact*** would occur.

Mitigation Measures

No mitigation required.

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

Construction and Operation

Build Alternatives

As previously discussed, the Project would not be anticipated to accelerate the deterioration of existing park and recreation facilities because it would not induce population growth in the region. Demand for nearby parks and recreational facilities would not change because of the Project; therefore, ***no impact*** would occur.

Mitigation Measures

No mitigation required.

Include Recreational Facilities or Require the Construction or Expansion of Recreational Facilities that Might Have an Adverse Physical Effect on the Environment

Construction and Operation

Build Alternatives

The Project does not include construction of recreational facilities. Other than a recreational path along the outside of the LFT, no recreational facilities are within the construction footprint for the Build Alternatives. Neither of the Build Alternatives would result in the loss of park space or other recreational facilities that would require construction of new recreational facilities or expansion of any existing recreational facilities. Existing pedestrian and bicycle paths within the LFT property would be maintained during construction and operation. Therefore, ***no impact*** would occur.

Mitigation Measures

No mitigation required.

3.14 Transportation

This section describes the regulatory and environmental settings for transportation resources in the vicinity of the proposed Larkspur Ferry Service Expansion and Parking Project (Project). It also describes the impacts on transportation resources that would result from implementing the proposed Project alternatives, along with the mitigation measures that would reduce significant impacts, where feasible and appropriate. Impacts associated with the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.14.1 Existing Conditions

3.14.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 (revised 2010) is a landmark civil rights law that prohibits discrimination based on disability. Titles I, II, III, and V of the act have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination based on disability in "places of public accommodation" (businesses and non-profit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Appendix 3.3-A to Part 36 (Standards for Accessible Design; DOJ 2010), which establishes minimum standards for ensuring accessibility for the disabled when designing and constructing a new facility or altering an existing facility, including roadways, parking lots, and sidewalks.

State

Senate Bill 743

Senate Bill (SB) 743 changed the way public agencies evaluate the transportation impacts of projects under CEQA, recognizing that road congestion or delays to vehicles, while potentially inconvenient to drivers, do not constitute an environmental impact. Under SB 743, the Office of Land Use and Climate Innovation (LCI), formerly known as the Governor's Office of Planning and Research, established vehicle miles traveled (VMT) as the preferred metric for measuring transportation impacts under CEQA, replacing vehicle level of service (LOS) and similar congestion-based measures as the primary metric. However, the legislation does not preclude local jurisdictions from continuing to use LOS or other locally appropriate operational metrics for planning, engineering, or policy purposes outside of the CEQA process.

While SB 743 primarily focuses on residential, office, and retail development projects because they have the greatest influence on VMT, the legislation also provides guidance for the review of transportation projects under CEQA. Transportation projects that may induce additional vehicle travel are required to evaluate and document the increase in VMT. However, transportation projects that increase roadway

capacity while substantially improving conditions for pedestrians, bicyclists, and where applicable, transit users are not likely to result in a substantial or measurable increase in vehicle travel. In particular, transit and active transportation projects are generally presumed to reduce VMT and therefore are typically considered to have a less-than-significant transportation impact under CEQA. LCI guidance also identifies improving or increasing access to public transit as a potential mitigation strategy for reducing VMT impacts.

California Department of Transportation (Caltrans) has developed the *Transportation Analysis under CEQA* (2024b) and *Transportation Analysis Framework* (2024c) to address VMT impacts on the State Highway System consistent with the requirements of SB 743 and the LCI Technical Advisory. Under SB 743, Caltrans no longer considers that automobile delay or roadway congestion constitute a significant impact under CEQA. The *Transportation Analysis under CEQA* provides guidance for evaluating transportation impacts and making CEQA significance determinations for projects affecting the State Highway System, while the *Transportation Analysis Framework* outlines Caltrans' preferred methodologies for analyzing the VMT impacts in various contexts, with particular emphasis on roadway capacity expansion projects (Caltrans 2024b, 2024c).

Caltrans Local Development Review Safety Review

Caltrans adopted the Local Development Review Safety Review Practitioner's Guidance in 2024 to provide a framework for evaluating potential safety impacts of land use and transportation projects affecting the State Highway System. The guidance supports Caltrans' goal of eliminating traffic-related fatalities and serious injuries by 2050 and complements the transportation impact analysis process under CEQA.

The guidance identifies circumstances under which a safety review may be required for projects that generate additional trips on the State Highway System and includes specific procedures for evaluating freeway exit-ramp queue spillback conditions. A safety review may be warranted when project-generated traffic adds two or more vehicle lengths to an off-ramp queue that extends beyond the available ramp storage and onto the freeway mainline, particularly where no such queue exists under baseline conditions. Caltrans recommends evaluating the speed differential between queued vehicles and freeway traffic during the period of queue overflow. The guidance identifies a potential safety concern when the speed differential is 30 miles per hour or greater because larger speed differentials may increase the severity of rear-end collisions. Where potential safety impacts are identified, Caltrans may recommend operational improvements, transportation demand management measures, transit improvements, or other strategies intended to reduce Project-related safety risks and minimize queue spillback onto the freeway mainline.

Regional and Local

Plan Bay Area 2050+

The Metropolitan Transportation Commission (MTC) is the transportation planning, financing, and coordinating agency for the nine-county San Francisco Bay Area, including Marin County and the City of Larkspur. MTC, in partnership with the Association of Bay Area Governments (ABAG), prepares and periodically updates the Bay Area's regional transportation plan and sustainable communities strategy.

Plan Bay Area 2050+ (MTC and ABAG 2026) was adopted in March 2026 and establishes the region's long-range transportation and land use vision through 2050. The plan identifies strategies and policies to improve access to opportunity, reduce greenhouse gas emissions, support more frequent and reliable transit service, and enhance safety for people walking and bicycling. Transportation strategies relevant to the proposed Project include enhancing transit frequency, capacity, and reliability (Strategy T11) and expanding transit services throughout the region (Strategy T12).

Plan Bay Area 2050+ (MTC and ABAG 2026) identifies ferry-related investments serving LFT, including new ferry service between Larkspur and San Francisco's Mission Bay, and improvements to existing Larkspur-San Francisco ferry service, such as potential frequency upgrades. These improvements are included among the region's prioritized long-range transportation investments anticipated through 2050 and provide a framework for future funding, project development, and regulatory review.

Plan Bay Area 2050+ serves as a regional policy and investment roadmap; it does not, by itself, fund specific projects or alter local land use authority (MTC and ABAG 2026). Local jurisdictions retain responsibility for land use decisions, while individual transportation projects identified in the plan would require separate funding decisions, project-level planning, design, environmental review, and approvals before implementation.

Transportation Authority of Marin

The Transportation Authority of Marin (TAM) coordinates and funds transportation projects and programs throughout Marin County to improve mobility for all users, including roadway, highway, transit, bicycle, pedestrian, Safe Routes to Schools, and transportation demand management (TDM) improvements.

Congestion Management Plan 2021

As the Congestion Management Agency for Marin County, TAM maintains the countywide Congestion Management Program (CMP), which establishes minimum LOS standards for designated facilities in the CMP network. This policy pre-dates VMT analysis and continues to apply to transportation facilities in counties that have not chosen to opt out. Level of service is reported in grades from A to F, with A being the least amount of congestion and F representing heavy congestion. The 2021 CMP identifies minimum of LOS D for urban and suburban arterials and LOS E for freeways, including United States Highway 101 (US 101) and Interstate 580 (I-580).

In the vicinity of the LFT, East Sir Francis Drake Boulevard is part of the CMP network. According to the 2021 CMP, East Sir Francis Drake Boulevard between US 101 and Larkspur Landing Circle currently operates at LOS B eastbound and LOS C westbound during the PM peak period. This segment is considered to satisfy the applicable minimum LOS standard, and no deficiency actions are identified for this location.

Getting Around Marin – Strategic Vision Plan

TAM's *Getting Around Marin – Strategic Vision Plan*, updated in 2017, presents a long-term vision for Marin County's transportation system based on input from transportation users, service providers, and local jurisdictions. The plan is organized around three guiding principles that support a strong economy by improving access for residents, visitors, and workers; promoting equity by ensuring transportation is accessible, affordable, and convenient; and advancing sustainability by providing travel choices that reduce reliance on driving alone.

Strategies and programs relevant to the LFT include increasing ferry service; expanding park-and-ride opportunities to support carpooling and transit trips to San Francisco; providing safe and accessible pathways to transit; improving first- and last-mile connections to regional transit services, such as Sonoma-Marin Area Rail Transit (SMART) and ferry service; and protecting transportation assets from sea-level rise.

Marin Countywide Transportation Plan 2050

The Marin Countywide Transportation Plan 2050 (CTP 2050), adopted December 2024, combines two previously separate planning efforts: the Marin Countywide Transportation Plan and the Countywide Community-Based Transportation Plan; TAM previously prepared Community-Based Transportation Plans (CBTPs) for equity priority communities in Marin City, San Rafael, and Novato, and the Countywide CBTP builds on that and establishes a holistic approach towards transportation equity on a countywide scale that's fully integrated into the CTP 2050. The plan is based on MTC's County Transportation Plan guidelines for countywide transportation plans and is intended to align local, regional, and state transportation policies and priorities.

CTP 2050 identifies strategies to advance a safe, equitable, and sustainable transportation system in Marin County. One relevant regional strategy supports coordinated regional connectivity through freeway, bridge, rail, and ferry connections serving multiple travel modes and linking Marin County with surrounding counties. The Project is identified as an exemplary project supporting this regional connectivity strategy.

Marin County Mobility Hub Plan

The *Marin County Mobility Hub Plan* (MHP), adopted September 2026, supports Marin County's implementation of the Transit-Oriented Communities (TOC) Policy adopted by MTC in 2022. The TOC policy identified nine Tier 4 transit service areas, applying a 1/2-mile radius around regional rail and ferry terminals or stations, including the Larkspur Ferry Terminal and Larkspur SMART Station. The MHP aligns with the Accessible and Walkable Communities strategy in the CTP and is an implementation activity of the CTP.

The MHP identifies strategies to improve access to the Larkspur Ferry Terminal and the Larkspur SMART Station. These include improving connectivity between the Larkspur Ferry Terminal and Larkspur SMART Station, including improving pedestrian and bicycle connectivity, wayfinding and improving transit reliability for bus connections. The MHP references the Project and examines expansion of landside access and forecast future traffic circulation from increased ferry demand.

City of Larkspur 2040 General Plan

The *City of Larkspur 2040 General Plan* was adopted in September 2024 by the City of Larkspur and establishes the City's long-term vision for future growth. The Circulation Chapter reaffirms the City's commitment to a balanced, multimodal transportation system that serves the needs of all users through an integrated network of roadways, bicycle facilities, pedestrian paths, public transit, and TDM programs (City of Larkspur 2024).

The Circulation Chapter considers local travel patterns, roadway constraints, and multimodal access needs for future conditions analysis. While regional and state transportation planning increasingly focuses on VMT as the primary measure of transportation impact under CEQA, LOS analysis remains relevant in Larkspur for evaluating local circulation, roadway operations, and the potential effects of significant development projects. Relevant policies and principles identified in the *City of Larkspur 2040 General Plan* include (City of Larkspur 2024):

Policy CIR-2.2: Sir Francis Drake Boulevard and East Sir Francis Drake Boulevard shall not be widened to allow additional through traffic lanes.

- Action Program CIR-2.2.a: Actively cooperate with the County of Marin to seek workable capacity improvements to the portion of Sir Francis Drake Boulevard in the County's jurisdiction that are not disruptive to the community.

Policy CIR-3.2: Where feasible, given the needs of all users listed in Policy CIR-3.1, maintain standards for acceptable traffic LOS during peak periods. Where these standards cannot be feasibly maintained due to new traffic generated by a proposed project, require other measures to reduce peak traffic and/or reduce the VMT generated by the new development.

- Action Program CIR-3.2.a: Strive to maintain no less than LOS at the D level for signalized and unsignalized intersections by using planning procedures defined in up-to-date releases from the Transportation Research Board. The City acknowledges that in 2020, LOS E or lower exists during the PM peak hour at the East Sir Francis Drake Boulevard/Larkspur Landing West intersection and that most measures that would alleviate traffic congestion there would not be desirable.
- Action Program CIR-3.2.b: When maintaining an acceptable LOS at an intersection is not feasible, the City will consider requiring new projects to provide offsite mitigations, such as a TDM program; ridesharing programs; SMART, ferry, and bus vouchers for employees; jitney/van connections to mass transit stops; yellow school bus programs; bicycle and pedestrian facilities listed in the City's BPMP [Bicycle and Pedestrian Master Plan]; and other alternative transportation (refer to additional discussion of transportation alternatives under Goal 6).

Policy CIR-4.2: Require a traffic impact analysis for any project generating significant additional PM peak hour trips to prevent a significant increase in peak-hour traffic on City arterials.

Policy CIR-4.5: Establish parking requirements for vehicles and bicycles and for parking programs that enhance local economic vitality and manage parking demand and capacity and avoid, where possible, impacts on surrounding residential neighborhoods.

- Action Program CIR-4.5.b: Update regulations that incorporate effective parking management strategies and best practices (for example, allow shared and reciprocal use of public and private parking spaces that serve more than a single location or use).
- Action Program CIR-4.5.e: Per the *City of Larkspur Bicycle and Pedestrian Master Plan*, ensure provision of secure bicycle parking downtown and near popular citywide destinations, including public facilities, schools, commercial and business centers, transit stops, and recreational areas (City of Larkspur 2017).

Policy CIR-4.6: Strive to reduce the amount of land and infrastructure devoted to parking through such measures as development of consolidated parking facilities, the application of shared parking for mixed-use developments, car share programs, alternative investment in bike and pedestrian facilities, and the implementation of transportation demand management programs to reduce parking demand.

Policy CIR-6.4: Encourage increased transit service and ridership and other innovative programs and alternative transportation solutions to reduce single occupancy vehicle use.

- Action Program CIR-6.4.f: Cooperate with the transit agencies to provide amenities at transit stops, such as benches, shelters, lights, maps, and bicycle parking.
- Action Program CIR-6.5-g: Encourage shared-ride and jitney services to and from transportation terminals.

Policy CIR-6.5: Cooperate with TAM, SMART, the County of Marin, and any other agencies to support the development of a rail transit corridor and associated multiuse path to Larkspur Landing and ensure impacts on Larkspur are appropriately studied and mitigated.

Policy CIR-6.7: Encourage continuation of the LFT at its present site.

- Action Program CIR-6.7.a: Support improvement of bicycle and pedestrian connectivity between the planned Larkspur SMART Station and the ferry terminal.

Policy CIR-6.8: Support the development of park-and-ride facilities in Larkspur along transit routes.

Action Program CIR-6.8.a: Coordinate with Caltrans, Marin County, and the transit agencies to expand opportunities for park-and-ride, shared-ride, and bicycle parking areas in or around Larkspur, particularly in conjunction with any reconfiguration of interchanges and on- and off-ramps.

- Action Program CIR-6.8.b: Work with transit operators to resolve parking difficulties through designation of parking facilities controls as needed.

City of Larkspur Bicycle and Pedestrian Master Plan

The *City of Larkspur Bicycle and Pedestrian Master Plan* was updated in 2017 by the City of Larkspur. The plan identifies bicycle and pedestrian improvements intended to enhance safety, close gaps in the active transportation network, and improve access to key local and regional destinations, including the LFT, SMART station, surrounding commercial areas, and nearby residential neighborhoods.

In the vicinity of the LFT, the plan recommends the following projects:

- **3A North Segment (off-ramp)**: Corte Madera Creek bridge widening between US 101 overcrossing (Lucky Drive bicycle and pedestrian bridge) and the Central Marin Ferry Connection (bridge over East Sir Francis Drake Boulevard connecting to SMART station). This project created a new multiuse path between the Lucky Drive bridge and the US 101 northbound off-ramp and widened the existing path on the northbound off-ramp to current standards. The project was completed in 2022.
- **3B South Segment**: This project will connect Redwood Highway at Wornum Drive to the north–south path on top of the levee and the new Corte Madera Creek Crossing (project 3C). There is an existing informal path. The project is funded and is in preliminary design.
- **3C North Segment (new Corte Madera Creek Crossing)**: A new bridge is proposed on the site of a disused railway bridge. It would connect between the levee path south segment (project 3B) and the Central Marin Ferry Connection (bridge over East Sir Francis Drake Boulevard connecting to the SMART station). The project is currently unfunded and subject to feasibility analysis.

City of Larkspur Municipal Code

Section 18.14 of the *City of Larkspur Municipal Code* includes provisions intended to support the goals and objectives of the General Plan (City of Larkspur 2024), including preserving the historic character of the community by avoiding disruption to neighborhoods from through traffic.

The Municipal Code defines "acceptable level of service" for most signalized intersections on the primary circulation system as LOS D during peak-hour conditions, as measured using the planning procedures in Transportation Research Circular 212 or its successor. The Municipal Code also recognizes that the following intersections currently operate at LOS E or F and should not be improved if the improvements would cause undesirable community impacts on the following:

- Sir Francis Drake Boulevard at Eliseo Drive
- Sir Francis Drake Boulevard at La Cuesta Drive
- Sir Francis Drake Boulevard at Bon Air Road

3.14.2 Environmental Setting

This section describes the existing transportation setting near the LFT. The discussion summarizes the roadway network, transit service, and pedestrian and bicycle facilities that provide access to and from the terminal. It also describes passenger loading areas and parking conditions in the terminal.

Street System

The LFT is along the western shoreline of the San Francisco Bay, east of US 101 and south of the US 101/I-580 interchange in San Rafael. East Sir Francis Drake Boulevard provides direct access to the ferry terminal and to both US 101 and I-580 freeway ramps.

US 101 is a north–south freeway extending from Los Angeles through the San Francisco Bay Area and continuing north to the Pacific Northwest. In the vicinity of the LFT, US 101 generally provides four lanes in each direction.

I-580 is an east–west highway extending from the US 101/I-580 interchange in San Rafael through the East Bay toward the Central Valley. In the vicinity of the LFT, I-580 has four lanes in each direction.

East Sir Francis Drake Boulevard is an east–west road extending between US 101 and I-580 in Larkspur. East Sir Francis Drake Boulevard becomes Sir Francis Drake Boulevard west of US 101 extending to West Marin. East Sir Francis Drake Boulevard has two travel lanes in each direction and provides direct access to the LFT. There are sidewalks on the north side of the street and a shared pedestrian/bicycle path on the south side adjacent to the ferry terminal.

Larkspur Landing Circle is a half-mile-long circular roadway serving the Larkspur Landing commercial area. It provides one travel lane in each direction and a bicycle route identified by pavement markings and supported by a designation in the City's 2017 *Bicycle and Pedestrian Master Plan*.

Transit Network and Service

The LFT is a regional multimodal hub served by ferry, bus, rail, shuttle, paratransit, and private transportation providers. Golden Gate Ferry provides ferry service between Larkspur and San Francisco. Golden Gate Transit and Marin Transit provide bus service in the vicinity of the terminal. SMART provides rail service to the Larkspur SMART Station, located north of Sir East Francis Drake Boulevard. Additional services include the Muir Woods Shuttle, Marin Airporter, Marin Access Paratransit, and occasional charter or tour buses.

Bus stops are provided at two locations for passengers transferring between ferries and ground transportation. A bus boarding island north of the ferry terminal primarily serves paratransit vehicles, Muir Woods Shuttle, and other intermittent shuttle activity. A bus stop on East Sir Francis Drake Boulevard, approximately 850 feet from the ferry terminal, serves fixed-route transit provided by Golden Gate Transit, Marin Transit, and Marin Airporter. Existing transit service is summarized in Table 3.14-1.

Golden Gate Transit and Golden Gate Ferry

Golden Gate Ferry operates ferry service between the LFT and the San Francisco Ferry Building. As of October 2025 (during which month the ferry transported a normal patron load), the Larkspur Ferry route carries approximately 3,600 passengers on a typical weekday. In addition, Golden Gate Transit operates Route 132, providing an early morning southbound trip from the terminal to San Francisco.

Marin Transit

Marin Transit operates fixed-route bus and paratransit services in the vicinity of the ferry terminal. Fixed-route bus services stop at the East Sir Francis Drake Boulevard/Larkspur Landing Circle intersection, approximately 850 feet from the ferry terminal. Paratransit service uses the bus boarding island north of the terminal.

SMART

SMART operates commuter rail service between Larkspur and Windsor, with planned future extensions to Healdsburg and Cloverdale. The Larkspur SMART Station is north of East Sir Francis Drake Boulevard, approximately 2,500 feet from the ferry terminal, and is connected to the terminal via a dedicated pedestrian pathway. SMART schedules are generally coordinated with Golden Gate Ferry arrival and departure times to facilitate timed transfers between rail and ferry services.

SMART also operates a service called "SMART Connect" that shuttles customers between the SMART Train terminus and the ferry terminal. The fare is $1.50 each way for adults, 75 cents for disabled adults, and free for youth (0 to 18 years old) and seniors (65 years and older). The service reduces the barrier to transferring between the two transit systems by bridging the 0.4-mile walk.

Private Shuttles

Several specialized transportation providers also serve the terminal area. Marin Airporter provides scheduled airport shuttle service between Marin County and San Francisco International Airport and serves the East Sir Francis Drake Boulevard/Larkspur Landing Circle stop. The seasonal Muir Woods Shuttle also operates from the terminal area. In addition, tour buses, charter buses, and other occasional shuttle services may use the terminal's bus boarding facilities.

Table 3.14-1. Summary of Existing Larkspur Ferry Terminal Transit Service

Route	Hours of Operation	Headway	Service Area
Larkspur Ferry	5:45 AM and 8:30 PM	40 to 100 minutes	Larkspur and San Francisco
GGT 132	5:16 AM	Once a day	San Anselmo, San Rafael, Larkspur, Tiburon, San Francisco
MT 17	6:30 AM to 10:30 PM	60 minutes	San Rafael, Mill Valley, Marin City, Sausalito (only stops at LFT between 9:16 PM and 11:16 PM)
MT 228	6:30 AM to 7:30 PM	60 minutes	San Rafael, Greenbrae, Marin General, College, San Anselmo, Manor
Marin Access Paratransit	5:00 AM to 11:00 PM	On demand	Local and Regional
Muir Woods	8:00 AM to 6:30 PM	20 to 30 minutes (seasonal)	Larkspur and Muir Woods National Monument
SMART	4:00 AM to 11:00 PM	32 to 64 minutes	Larkspur, Windsor, Santa Rosa, Rohnert Park, Cotati, Petaluma

Route	Hours of Operation	Headway	Service Area
SMART Connect	Monday to Friday: 7:15 AM to 12:45 PM and 1:45 PM – 6:15 PM Saturday to Sunday: 8:30 AM – 1:00 PM and 2:00 PM – 7:30 PM	On-demand	SMART Larkspur station, Larkspur Ferry Terminal, and the surrounding Larkspur Landing area Weekends include The Village and Town Center shopping malls in Corte Madera
Marin Airporter	4:00 AM to 11:00 PM	30 to 60 minutes	Marin County and San Francisco International Airport

Source: *Transportation Impact Analysis Report* (Appendix G)

GGT = Golden Gate Transit

MT = Marin Transit

Pedestrian Facilities

Pedestrian facilities in the vicinity of the LFT include sidewalks, crosswalks, multiuse paths, and pedestrian overcrossings. These facilities support walking trips between the ferry terminal, nearby bus stops, the SMART station, Larkspur Landing commercial area, and parking facilities.

East Sir Francis Drake Boulevard has continuous sidewalks on the north side and a shared pedestrian/bicycle path along the south side adjacent to the ferry terminal site. Pedestrians traveling from the north side of East Sir Francis Drake Boulevard to the ferry terminal can use three primary crossings: the Cal Park Hill Pathway overcrossing connecting the Larkspur SMART Station to the south side of East Sir Francis Drake Boulevard, the at-grade signalized crossing at the Sir Francis Drake Boulevard/Larkspur Landing Circle intersection, and the pedestrian overcrossing connecting the Larkspur Landing commercial area to the ferry terminal.

At the East Sir Francis Drake Boulevard/Larkspur Landing Circle intersection, high-visibility crosswalks are provided on the north, east, and south legs of the intersection, with pedestrian signal heads and push buttons and curb ramps.

Bicycle Facilities

Bicycle facilities serving the terminal include regional shared-use paths, local bicycle routes, bicycle parking facilities, and onboard ferry bicycle accommodations. The *City of Larkspur Bicycle and Pedestrian Master Plan* recognizes the following bicycle facility classifications (City of Larkspur 2017):

- Class I Bikeway, typically called a shared-use path, provides bicycle travel on a paved right-of-way completely separated from any street or highway. It is usually shared with pedestrians and other active transportation users.
- Class II Bikeway, often referred to as a bicycle lane, provides a striped and stenciled lane for one-way bicycle travel on a street or highway.
- Class III Bikeway, generally referred to as a bicycle route, provides shared-use with motor vehicle traffic and is identified only by signing or pavement markings.
- Class IV Bikeway, often referred to as a protected bicycle lane or bicycle track, is within a street or highway right-of-way, provides a designated area for one-way or two-way bicycle travel, and offers

physical protection from adjacent motor vehicle traffic using barriers, bollards, curbing, parked cars, posts, planters, or other vertical elements.

East Sir Francis Drake Boulevard provides shared pedestrian and bicycle access (Class I) along the south side adjacent to the ferry terminal, where two-way bicycle travel is allowed. From East Sir Francis Drake Boulevard, two-way bicycle facilities (Class IV) along the west and south perimeter of the ferry terminal parking lot provide direct access to the ferry terminal. The pedestrian overcrossings connecting the SMART station (Cal Park Hill Parkway, Class I) and Larkspur Landing commercial area (Class I) to the ferry terminal also allow bicycle access. A bicycle route (Class III) is provided along Larkspur Landing Circle.

The terminal currently provides approximately 140 bicycle parking spaces, including both bicycle racks on the sidewalk outside the terminal and more secure bicycle parking within the terminal boarding area. Each catamaran ferry vessel also provides approximately 30 onboard bicycle parking spaces. In addition, Redwood Bikeshare, a regional bikeshare system serving North Bay communities, maintains a bikeshare station at the terminal.

Passenger Loading and Parking

Passenger loading activities are accommodated along the curb south of the terminal. The existing loading area includes approximately 145 feet of white curb, consisting of one 95-foot segment and one 50-foot segment separated by a crosswalk. The curb is designated for passenger pickup and drop-off activities, with a posted 10-minute time limit, and is used by private vehicles, taxis, and transportation network companies such as Uber and Lyft.

The Main Lot adjacent to the ferry terminal provides approximately 1,808 parking spaces, including 28 ADA-accessible spaces and 30 carpool-designated spaces. An overflow parking lot (the North Lot) near the Larkspur SMART Station provides approximately 215 additional spaces.

3.14.3 Environmental Impacts

This section describes the transportation impacts of the project alternatives. It describes the thresholds used to determine whether an impact would be significant and the methods used to evaluate the impacts. Measures to mitigate significant impacts are provided, where appropriate.

3.14.3.1 Thresholds of Significance

The following State CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to transportation and traffic.

Would the proposed Project do the following:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?
- Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)
- Substantially increase hazards because of a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)?
- Result in inadequate emergency access?

State CEQA Guidelines Section 15064.3, Subdivision (b), refers to guidelines relating to analyzing potential impacts using VMT as a threshold of significance. These guidelines went into effect in the City of

Larkspur on January 24, 2024. Therefore, a detailed discussion of LOS and traffic congestion is not included in this analysis but is provided in the *Transportation Summary Report* prepared for the proposed Project (Appendix C). LOS and traffic congestion are only discussed in this analysis when changes associated with the proposed Project may conflict with any applicable transportation plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating congestion impacts.

3.14.3.2 Methodology and Approach

Transportation impacts were evaluated using forecasts of future travel demand for each access mode, VMT, and freeway exit-ramp queuing analysis. These analyses were conducted for 2035 and 2050 conditions for the No-Project Alternative and the Build Alternatives, detailed information can be found in the *Transportation Impact Analysis Report* completed for the proposed Project (Appendix G).

Travel Demand

Future travel demand was estimated using a combination of regional travel demand modeling, ferry passenger survey data, observed terminal operations, and Project-specific assumptions regarding ferry service levels, parking supply, and multimodal access improvements. A detailed description of travel demand assumptions and results can be found in the *Transportation Impact Analysis Report* completed for the proposed Project (Appendix G).

Ridership Demand Forecast

Future ferry ridership was estimated using the TAM travel demand model, which incorporates projected population and employment growth; travel behavior assumptions, including future work-from-home trends; and transportation network conditions.

The ferry ridership forecast was developed for Year 2050 and then prorated for Year 2035 based on anticipated growth patterns and future congestion levels in the Golden Gate Bridge corridor. The 2050 TAM model indicates that, among all person trips between Marin and Sonoma Counties and San Francisco, approximately 82% are projected to travel by private vehicle across the Golden Gate Bridge, 12% are expected to use the Larkspur Ferry, and the remaining 6% are projected to use Golden Gate Transit bus service or other ferry routes. Based on these forecasts, unconstrained daily Larkspur Ferry ridership is projected to reach approximately 7,500 passengers in 2035 and 17,600 passengers in 2050.

Mode of Arrival

Future passenger access to the terminal was estimated using existing mode of arrival data and anticipated travel behavior changes for each alternative. Existing mode of arrival conditions were established using a ferry passenger survey conducted in September 2024. The survey collected information on how passengers traveled to and from the terminal and was supplemented with observed parking use, passenger loading activity, SMART transfer data, bicycle parking counts, onboard bicycle counts, and ferry ridership data. The resulting mode shares were used as the baseline for forecasting future access patterns.

Future mode shares were developed by considering both planned background improvements and alternative-specific improvements. Background assumptions included regional bicycle and pedestrian network enhancements, expansion of SMART rail service, regional transit fare integration, Marin Transit service improvements, and planned housing growth in the North Bay from the Metropolitan Transportation Commission and Association of Bay Area Governments (including 29,000 new homes in Marin and Sonoma Counties by 2031).

Build Alternative-specific improvements will affect future mode of arrival estimates because access to the terminal is expected to vary depending on the availability of parking, transit connections, bicycle facilities, and TDM measures. The No-Project Alternative, which is considered baseline for the traffic analysis, assumes no substantial Project-specific improvements beyond planned background transportation projects and that the existing parking constraints are retained. Alternative 1 emphasizes expanded parking capacity through construction of parking garages and includes limited multimodal and TDM improvements. Alternative 2 combines expanded parking capacity with additional bicycle, pedestrian, transit, and shuttle improvements intended to increase the use of alternative modes..

Daily ridership is also expected to vary by alternative. In 2035, all Project Build Alternatives are anticipated to meet the full ridership demand, while daily ridership for the No-Project Alternative would be constrained at approximately 7,130 daily passengers because of limited terminal access capacity. In 2050, similarly, ferry ridership under the No-Project Alternative is expected to be constrained at approximately 8,800 daily passengers, which is approximately half of the projected unconstrained ridership demand in 2050.

Tables 3.14-2 and 3.14-3 summarize the existing mode of arrival and estimated mode of arrival for 2035 and 2050 conditions, respectively. Table 3.14-4 includes the resulting project vehicle trips during the AM and PM peak hours for each Build Alternative.

Table 3.14-2. 2035 Mode of Arrival and Daily Ridership

Mode	Existing	No-Project Alternative	Alternative 1	Alternative 2
Park	73.0%	67.9%	69.5%	68.0%
Drop-Off	6.5%	6.9%	6.5%	6.5%
Bike/Scooter	9.0%	10.4%	9.8%	10.8%
SMART	8.0%	9.0%	8.5%	8.5%
Bus	1.0%	3.2%	3.0%	3.5%
Walk	2.5%	2.8%	2.7%	2.7%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Daily Ridership	**3,600**	**7,130**	**7,500**	**7,500**

Source: *Transportation Impact Analysis Report* (Appendix G)

Table 3.14-3. 2050 Mode of Arrival and Daily Ridership

Mode	Existing	No-Project Alternative	Alternative 1	Alternative 2
Park	73.0%	56.5%	65.0%	56.0%
Drop-Off	6.5%	7.5%	6.5%	7.0%
Bike/Scooter	9.0%	14.5%	11.0%	13.0%
SMART	8.0%	11.5%	9.5%	10.0%
Bus	1.0%	6.0%	5.0%	11.0%
Walk	2.5%	4.0%	3.0%	3.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Daily Ridership	**3,600**	**8,800**	**17,600**	**17,600**

Source: *Transportation Impact Analysis Report* (Appendix G)

Table 3.14-4. Peak-Hour Vehicle Trips

Peak Hour	Direction[a]	No-Project Alternative	Alternative 1	Alternative 2
AM Peak Hour	Inbound	826	896	862
	Outbound	110	125	125
PM Peak Hour	Inbound	91	91	91
	Outbound	605	693	663
AM Peak Hour	Inbound	851	1,229	1,163
	Outbound	134	205	225
PM Peak Hour	Inbound	116	217	248
	Outbound	540	1,356	1,118

[a] Vehicle trips include drive-and-park trips, passenger pick-up/drop-off trips, and Golden Gate Transit bus trips. Drive-and-park trips were counted in one direction only, while pickup/drop-off and transit vehicle trips were counted in both directions.

Source: *Transportation Impact Analysis Report* (Appendix G)

Trip Distribution and Assignment

Project vehicle trips were distributed using origin-destination data from the TAM travel demand model and cross-checked using results from the 2024 ferry passenger survey. Both data sources indicate that approximately one-third of ferry passengers originate from communities more than 6 miles from the terminal, including Novato, Petaluma, Santa Rosa, Rohnert Park, and other Sonoma County communities. The remaining two-thirds originate from communities closer to the terminal, including San Rafael, Larkspur, Corte Madera, Greenbrae, Fairfax, San Anselmo, Kentfield, and Mill Valley.

Based on the travel demand model and observed travel patterns, approximately 72% of ferry-related vehicle trips are projected to access the terminal via US 101 from the north, 6% via US 101 from the south, 20% via Sir Francis Drake Boulevard west of US 101, and the remaining 2% from areas east of the terminal. The distribution of parking demand between the Main Lot and North Lot was also considered, with approximately 10% to 15% of drivers assumed to use the North Lot, depending on the parking supply available under each alternative.

Project vehicle trips were assigned to the Project roadway network and Project intersections based on the distribution assumptions described previously. These project vehicle trips for each alternative are provided in the *Transportation Impact Analysis Report* (Appendix G).

Vehicle Miles Traveled Analysis

VMT was estimated using projected ferry ridership, mode of arrival assumptions, and trip distribution patterns developed as part of the travel demand analysis. Ferry access VMT was calculated by multiplying projected daily vehicle trips associated with ferry access by the average trip distance between ferry riders' origins and the terminal. Average trip distances were obtained from the TAM travel demand model.

For alternatives where forecast ferry demand could not be fully accommodated, riders unable to access the ferry system were assumed to drive directly to San Francisco. The additional automobile travel associated with these unmet ferry trips was included in the VMT calculation to estimate the net regional transportation effect of each alternative. Total daily VMT was calculated as the sum of VMT associated with terminal access trips and VMT associated with unmet ferry demand.

The average vehicle trip distance under existing conditions is approximately 9.6 miles, and it is projected to increase to approximately 11.6 miles in 2050. For 2035, the average trip distance was interpolated at approximately 10.2 miles. The additional driving distance from the terminal area to San Francisco is estimated at approximately 15.5 miles. Based on these assumptions, Tables 3.14-5 and 3.14-6 summarize projected daily ferry ridership, vehicle trips, and VMT for each alternative under 2035 and 2050 conditions, respectively.

In 2035, under the No-Project Alternative, limited terminal access capacity combined with today's limit on revenue ferry trips would constrain ferry ridership below forecast demand, resulting in a portion of potential ferry riders driving directly to San Francisco. Alternatives 1 and 2 would accommodate the full forecast ferry demand and reduce total regional VMT relative to the No-Project Alternative.

In 2050, under the No-Project Alternative, limited terminal access capacity and capped ferry trips would constrain ferry ridership at approximately half of the full ferry passenger demand, resulting in a substantial number of potential ferry riders instead driving directly to San Francisco. Alternatives 1 and 2 would accommodate the full ferry demand and substantially reduce regional VMT relative to the No-Project Alternative.

Table 3.14-5. 2035 Daily Vehicle Miles Traveled

Measure	No-Project Alternative	Alternative 1	Alternative 2
Ferry Ridership	7,130	7,500	7,500
Private Vehicle Trips to/from LFT	10,060	10,780	10,500
VMT to/from LFT	102,612	109,956	107,100
Transit Trip VMT	195	195	286
Unmet Ferry Ridership	370	N/A	N/A
VMT by Unmet Ferry Riders Driving Directly to San Francisco	9,509	N/A	N/A
Total VMT	112,316	110,151	107,386
VMT Reduction compared with No Project	N/A	2,165	4,930

Source: *Transportation Impact Analysis Report* (Appendix G)
N/A = not applicable

Table 3.14-6. 2050 Daily Vehicle Miles Traveled

Measure	No-Project Alternative	Alternative 1	Alternative 2
Ferry Ridership	8,800	17,600	17,600
Private Vehicle Trips to/from LFT	10,520	23,660	20,220
VMT to/from LFT	122,032	274,456	234,552
Unmet Ferry Ridership	8,800	0	0
Transit Trip VMT	195	364	1,406
VMT by Unmet Ferry Riders Driving Directly to San Francisco	238,480	N/A	N/A
Total VMT	360,707	274,820	235,958
VMT Reduction compared with No Project	N/A	85,887	124,749

Source: *Transportation Impact Analysis Report* (Appendix G)

3.14.3.2.1 Freeway Exit-Ramp Queuing Analysis

A focused queuing analysis was conducted for the US 101 southbound off-ramp at Sir Francis Drake Boulevard to evaluate whether Project-related traffic could cause queues to exceed the available off-ramp storage and extend onto the US 101 mainline.

More than 70% of Project-related vehicle trips are projected to originate from areas north of the LFT and would generally use US 101 to access the site. During the AM peak hour, these trips would exit the US 101 southbound off-ramp at access Sir Francis Drake Boulevard and proceed east to the ferry terminal. As a result, the Build Alternatives would increase volumes, thus potentially extending queues for the US 101 southbound off-ramp at the Sir Francis Drake Boulevard/US 101 southbound on- and off-ramp intersection. The queuing analysis was conducted using Synchro Version 12. The available storage length on the US 101 southbound off-ramp is approximately 1,150 feet. Although the off-ramp includes a free-flow right-turn lane to westbound Sir Francis Drake Boulevard, this movement is not controlled by the traffic signal at the ramp terminal and therefore was not considered part of the signal-controlled queue at the intersection because it does not materially add to the queue length.

Table 3.14-7 summarizes the 95th percentile queue length at the US 101 southbound off-ramp during the AM peak hour. Under all 2035 scenarios, and under the 2050 No-Project Alternative, projected queues would remain within the available off-ramp storage. Under the 2050 Alternative 1 and Alternative 2 scenarios, projected queues would exceed the available off-ramp storage.

Table 3.14-7. 95th Queue Length (feet) at US 101 Southbound Off-Ramp during AM Peak Period

Year	Storage	No-Project Alternative	Alternative 1	Alternative 2
2035	1,150	715	783	762
2050		1,122	1,521	1,416

Source: *Transportation Impact Analysis Report* (Appendix G)

3.14.3.3 Impacts

Project transportation impacts are substantively the same for both Build Alternatives. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Conflict with a Program, Plan, Ordinance, or Policy Addressing the Circulation System, Including Transit, Roadway, Bicycle, and Pedestrian Facilities

Operation

Build Alternatives

Plan Bay Area 2050+ (MTC and ABAG 2026) supports reduced greenhouse gas emissions, increased transit frequency and capacity, and expanded transit service throughout the region. The Project would directly support these regional objectives by expanding ferry service between the City of Larkspur and San Francisco, improving access to regional transit, and enhancing multimodal access to the terminal. *Plan Bay Area 2050+* (MTC and ABAG 2026) also identifies improved ferry connections between the City of Larkspur and San Francisco; therefore, the Project would advance identified regional transit investment priorities.

TAM's *Getting Around Marin Strategic Vision Plan* supports increased ferry service, expanded park-and-ride opportunities, improved first- and last-mile connections to regional transit services, and safe and accessible pathways to transit (TAM 2017). The Project would support these objectives by expanding ferry capacity, providing parking capacity to accommodate ferry demand, and improving multimodal access to the terminal.

TAM's *CTP 2050*, adopted in 2024, supports coordinated regional connectivity through freeway, bridge, rail, and ferry connections serving multiple travel modes and linking Marin County with surrounding counties. The Project is specifically identified as an exemplary project supporting this regional connectivity strategy.

With respect to TAM's 2021 CMP, Sir Francis Drake Boulevard is part of the CMP network near the Project site. The CMP identifies LOS D as the minimum standard for arterials. It is anticipated that the traffic operations on Sir Francis Drake Boulevard would likely fall below the CMP LOS standard in the future with or without the Project depending on the horizon year and the project alternatives considered. As a result, the City may be subject to CMP monitoring requirements and development of deficiency plans, as applicable. However, the Project would not directly conflict with the objectives of the CMP because it is intended to improve regional transit access and support multimodal transportation connections to the LFT. In addition, while LOS continues to be used within the CMP framework for evaluating roadway operating conditions, transportation impacts under CEQA are now evaluated primarily using VMT pursuant to SB 743. Further, the source of congestion on East Sir Francis Drake Boulevard is not local traffic; it is regional traffic bypassing the US 101/I-580 interchange in San Rafael, and implementation of other planned projects are the proper means to alleviate this congestion.

The Project would generally be consistent with the circulation and transportation policies of the *City of Larkspur 2040 General Plan* (City of Larkspur 2024). As described in Chapter 2, Project Description, the Build Alternatives would both expand ferry service, increase bicycle parking, and provide multimodal access improvements to support expanded ferry ridership.

The Build Alternatives would provide additional parking capacity to accommodate anticipated ferry passenger demand while also incorporating multimodal access improvements. Alternative 2 would

provide additional feeder shuttle service, along with TDM measures intended to encourage ferry passengers to access the terminal by transit, bicycle, walking, shared-ride, or other non-drive-alone modes. Therefore, the Project would be consistent with Policies CIR-2.2, 4.5, 4.6, 6.4, 6.5, and 6.7.

The Build Alternatives would include construction of parking garages in the North Lot and Main Lot. These improvements would be consistent with Policy CIR-6.8, which supports development of park-and-ride facilities along transit routes and encourages coordination with transit agencies to expand opportunities for shared-ride facilities, bicycle parking, and parking management.

The Build Alternatives would increase localized vehicle traffic on Sir Francis Drake Boulevard (focused on the segment between the ferry terminal and the US 101 interchange), and intersections along the corridor may operate below the City's LOS standard under future conditions. However, the City acknowledges that certain constrained intersections already operate deficiently or may not be feasible to improve through traditional roadway capacity measures. In such cases, the General Plan (City of Larkspur 2024) identifies TDM programs, ridesharing, transit incentives, shuttle or van connections to transit, and bicycle and pedestrian improvements as appropriate measures. The Project's emphasis on ferry service expansion, multimodal access improvements, feeder shuttle service, bicycle and pedestrian improvements, parking management, and TDM would be consistent with this policy direction. Therefore, the Project would be consistent with Policy CIR-3.2.

The Project would be consistent with the regional transportation goals and strategies identified in *Plan Bay Area 2050+* (MTC and ABAG 2026), TAM's *CTP 2050* (TAM 2024), as well as local circulation and transportation policies in the *City of Larkspur 2040 General Plan* (City of Larkspur 2024). Therefore, the Project would not conflict with applicable local transportation plans and policies addressing transit, roadway, bicycle, or pedestrian circulation. The impact would be ***less than significant***. No mitigation required.

Construction

Build Alternatives

Construction of the Build Alternatives would be subject to applicable City of Larkspur requirements including encroachment permits and approval of Traffic Control Plans (TCPs). The TCPs would comply with the latest California Manual on Uniform Traffic Control Devices and include measures to maintain safe and efficient circulation for vehicles, pedestrians, and bicyclists during construction. The City may also require a Transportation Management Plan (TMP) to minimize construction-related delays and manage circulation. With implementation of these requirements, construction of the Build Alternatives would not conflict with applicable transportation plans, ordinances, or policies, and the impact would be ***less than significant.*** No mitigation required.

Mitigation Measures

No mitigation is required.

Conflict or Be Inconsistent with CEQA Guidelines §15064.3, Subdivision (b)

Construction

Build Alternatives

Construction of the Build Alternatives would result in temporary increases in VMT associated with construction workers, material deliveries, equipment, and hauling activities. Construction would also temporarily displace parking at the LFT, particularly during Main Lot construction, which could affect travel patterns for ferry passengers. Although some passengers may travel farther to find alternative parking, others may shift to transit, carpooling, telework, or other travel options, potentially reducing VMT. Because these construction-related changes in travel and parking availability would be temporary and would cease upon completion of construction, they would not substantially affect long-term VMT. Therefore, the construction-related VMT impact would be ***less than significant***. No mitigation required.

Operation

Build Alternatives

The City of Larkspur evaluates transportation impacts under CEQA using VMT consistent with State CEQA Guidelines Section 15064.3. Guidance from the LCI identifies transit and active transportation projects, as well as projects that improve access to public transit, as transportation improvements that generally reduce VMT and are therefore presumed to have a less-than-significant transportation impact under CEQA.

The Project would expand ferry service and improve access to the LFT through a combination of ferry service enhancements, parking improvements, bicycle and pedestrian access improvements, transit connections, and TDM measures. Accordingly, the Project is generally consistent with transportation projects that are expected to reduce regional VMT. Because the Project would increase localized vehicle activity to and from the terminal, including drive-and-park and pickup/drop-off trips, to provide a Project-specific evaluation, VMT was analyzed by comparing total VMT under each Build Alternative to the corresponding No-Project condition. VMT analysis methodology and results are presented in Section 3.14.2.2.

As summarized in Table 3.14-5, in 2035, compared with the No-Project Alternative, the Build Alternatives would each reduce total VMT by accommodating additional ferry trips that would otherwise occur as longer automobile trips to San Francisco. Similarly, according to Table 3.14-6, the Build Alternatives would each reduce total VMT compared with the No-Project Alternative.

Therefore, consistent with State CEQA Guidelines Section 15064.3, subdivision (b), the Project would not increase VMT, and the impact would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation is required.

Substantially Increase Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment)

Construction

Build Alternatives

Construction of the Build Alternatives would temporarily alter vehicle, pedestrian, bicycle, and transit circulation within and around the LFT, potentially resulting in temporary conflicts with construction activities. A qualified traffic engineer would prepare a TMP and TCPs to safely manage circulation, minimize conflicts and delays, and maintain access for all roadway users and emergency responders. The plans would include appropriate traffic control, detours, signage, and construction management measures and would be subject to applicable agency review and approval. With implementation of the approved TMP/TCPs, construction activities would not substantially increase transportation hazards, and the impact would be ***less than significant***. No mitigation required.

Operation

Build Alternatives

The Build Alternatives would improve pedestrian, bicycle, transit, and passenger loading access to the terminal. Proposed improvements include enhanced pedestrian connections between the North Lot and the ferry terminal, upgraded bicycle parking facilities, expanded passenger loading areas, designated transit loading space, and other multimodal access improvements intended to support increased ferry ridership. The Build Alternatives would also include parking garages in the Main Lot and North Lot. These facilities would be designed in accordance with applicable local and District standards and are intended to improve multimodal circulation, reduce conflicts among transportation modes, and enhance access to the terminal. In addition, they would not introduce hazardous conditions.

The Project would not substantially alter the overall roadway network or introduce unusual geometric design features. Access to the Main Lot, North Lot, and ferry terminal would continue to operate generally consistent with existing conditions using the existing terminal loop driveway and the Sir Francis Drake Boulevard/Larkspur Landing Circle West intersection. Under the Build Alternatives, parking garages would be ungated, and users would pay after parking, minimizing the potential for vehicle queues at garage entrances. Surface parking areas and circulation routes outside of the proposed parking garages would generally maintain existing circulation patterns.

A focused queuing analysis was conducted for the US 101 southbound off-ramp at Sir Francis Drake Boulevard to determine whether Project-related traffic could cause queues to extend beyond the available ramp storage and spill back onto the US 101 mainline.

The Project is expected to increase vehicle queues on westbound Sir Franciso Drake Boulevard leading to the US 101 northbound on-ramp during the PM peak hour. However, vehicle queuing on local streets is generally an operational condition related to congestion and delay and does not, by itself, create a safety hazard. Therefore, this section focuses on off-ramp queuing where spillback onto the freeway mainline could create potential safety concern.

The freeway ramp analysis methodology and results are presented in Section 3.14.2.2. Table 3.14-7 indicates that projected queues would remain within available off-ramp storage under all 2035 scenarios, and the No-Project Alternative in 2050. Under the Build Alternatives in 2050, projected queue lengths

would exceed the available storage length and could extend onto the US 101 mainline during the AM peak period. Although this queuing would generally coincide with periods of freeway mainline congestion, it is likely that at times the speed differential between the off-ramp and the mainline will exceed 30 miles per hour, thus exceeding the Caltrans safe speed differential threshold. Potential improvements to address queue spillback would be subject to Caltrans approval, and the District itself cannot undertake a project to mitigate the safety impact. No specific improvements have been identified at this time. Therefore, this impact is considered to be ***significant, unavoidable, and under the jurisdiction of others.***

Mitigation Measures

No mitigation required.

Result in Inadequate Emergency Access

Construction

Build Alternatives

Emergency responders would be notified in advance of construction activities that could affect roadway access, and emergency access routes and necessary detours would be coordinated during construction planning. Temporary traffic control measures would be designed to maintain emergency access during roadway closures. With these measures, construction activities would not result in inadequate emergency access, and the impact would be ***less than significant***. No mitigation required.

Operation

Build Alternatives

Access to the Main Lot and ferry terminal area would continue to operate as it does today, using the existing terminal loop driveway and the Sir Francis Drake Boulevard/Larkspur Landing Circle West intersection. Access to the North Lot would continue to be provided from Larkspur Landing Circle West. Under the Build Alternatives, the proposed parking garages would be designed to provide adequate emergency vehicle access in accordance with applicable fire and building code requirements, including appropriate vehicle turning clearance and vertical clearances for emergency response vehicles. Emergency access through the North Lot parking garage to the SMART station and parking lot would also be maintained.

The Project would not result in roadway closures or modifications that would substantially affect emergency access routes serving the project vicinity. Emergency response services are currently provided by Larkspur Fire Department Station 16 at 15 Barry Way in Greenbrae, the Central Marin Police Authority at 250 Doherty Drive in Larkspur, and Marin Health Medical Center at 250 Bon Air Road in Greenbrae. Emergency vehicles would continue to access the Project site from the surrounding roadway network, including US 101 and Sir Francis Drake Boulevard.

Although the Project would generate additional vehicle traffic associated with increased ferry ridership, it would not alter the surrounding roadway network, eliminate existing access points, or restrict emergency vehicle circulation in the project vicinity. Emergency vehicles would continue to have multiple access routes available during emergency response conditions, and the final design would be reviewed for compliance with applicable emergency access requirements.

Therefore, the Project would not affect emergency vehicle access or emergency response times, and impacts related to emergency access would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

3.15 Tribal Cultural Resources

This section evaluates the potential impacts related to tribal cultural resources that may result from implementation of the proposed Larkspur Ferry Service Expansion and Parking Project (Project). The following discussion addresses existing tribal cultural resources of the Project area and surroundings, considers applicable laws and regulations, identifies and analyses environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from Project implementation, as applicable. Information in this section is based on the *Cultural Resources Report* prepared for the Project, unless otherwise noted (Appendix D). Information provided in Section 3.4, Cultural Resources, is included by reference. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project. Specific, precise locations of sensitive tribal resources are withheld from public disclosure consistent with state confidentiality laws.

3.15.1 Existing Conditions

3.15.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District (District), as the owner of the Larkspur Ferry Terminal, is the California Environmental Quality Act (CEQA) Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

Federal

National Historic Preservation Act and National Register of Historic Places

Traditional cultural properties are protected through the National Historic Preservation Act (NHPA) (16 United States Code 470f). Section 106 of the NHPA requires federal agencies to evaluate project impacts on historic properties, consult with tribal nations, and recognize traditional cultural properties when projects involve federal funding or permitting or occur on federal land. Traditional cultural properties are historic properties of religious and cultural significance to tribes. They are sites tied to the traditional beliefs, cultural practices, or history of a living community and are protected under the NHPA.

The NHPA establishes the National Register of Historic Places (NRHP), which provides a framework for resource evaluation and informs the process of determining impacts on historic properties.

The NRHP is the nation's official comprehensive inventory of historic resources. Administered by the National Park Service, the NRHP includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, tribal, or cultural significance at the national, state, or local level. Typically, a resource that is more than 50 years of age is eligible for listing in the NRHP if it meets any one of the four eligibility criteria and retains sufficient historical integrity. A resource less than 50 years old may be eligible if it can be demonstrated that it is of "exceptional importance" or a contributor to a historic district. NRHP criteria are defined in *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (NPS 1997).

Properties that are listed in the NRHP, as well as properties that are formally determined to be eligible for listing in the NRHP, are automatically listed in the California Register of Historical Resources and, therefore, are considered historical resources under CEQA.

State

California Environmental Quality Act

CEQA, as codified in Public Resources Code (PRC) Section 21000 et seq. and implemented by the State CEQA Guidelines (14 CCR Section 15000 et seq.), is the principal statute governing environmental review of projects in California. CEQA defines a historical resource as a property listed in, or eligible for listing in, the California Register of Historical Resources (CRHR); included in a qualifying local register; or determined by a lead agency to be historically significant. To be considered a historical resource, a property must generally be at least 50 years old. Section 21084.1 of the PRC and Section 15064.5 of the State CEQA Guidelines define a historical resource for purposes of CEQA. When discovered during construction, an archaeological resource is potentially also a tribal cultural resource. Determining whether an archaeological resource is a tribal cultural resource requires consultation with Native American tribe(s) with cultural and heritage ties to the geographic region in which it is discovered.

CEQA requires lead agencies to determine whether a proposed project would have a significant effect on important historical resources or unique archaeological resources. If a resource is neither a unique archaeological resource nor a historical resource, the State CEQA Guidelines note that the effects of the project on that resource shall not be considered a significant effect on the environment (State CEQA Guidelines Section 15064.5[c][4]). In addition, projects that comply with the secretary's standards benefit from a regulatory presumption under CEQA that they would have a less-than-significant impact on a historical resource (14 CCR 15126.4[b][1]). Projects that do not comply with the secretary's standards may or may not cause a substantial adverse change in the significance of a historical resource and must be subject to further analysis to assess whether they would result in material impairment of a historical resource's significance.

Under CEQA, a substantial adverse change in the significance of a historical resource, including tribal cultural resources, means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter the physical characteristics that convey the property's historical significance and qualify it for inclusion in the CRHR, the NRHP, or in a local register or survey that meets the requirements of PRC Sections 5020.1(k) and 5024.1(g), as follows:

- PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet the listing criteria of the NRHP, including significant tribal cultural resources. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer before altering, transferring, relocating, or demolishing state-owned historical resources that are listed or eligible for listing in the NRHP or registered or eligible for registration as California Historical Landmarks.
- PRC Sections 5097.9–5097.991 provide protection to tribal cultural resources, including Native American historical and cultural resources as well as sacred sites. These sections also identify the powers and duties of the Native American Heritage Commission (NAHC) and require notification of descendants when Native American human remains are discovered. They also provide for the treatment and disposition of human remains and associated grave goods.
- PRC Section 21084.2 outlines the key points of Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014), which establishes a formal consultation process for California Native American tribes as part of CEQA. This section equates significant impacts on tribal cultural resources with significant environmental impacts.

Assembly Bill 52

Tribal cultural resources were identified as a distinct CEQA environmental category with the adoption of AB 52 in September 2014. Cultural resources, in particular precontact Native American archaeological sites, such as shellmounds commonly found in the San Francisco Bay Area, may also be considered tribal cultural resources by California Native American tribes. For all projects that are subject to CEQA and received a notice of preparation, notice of negative declaration, or mitigated negative declaration on or after July 1, 2015, AB 52 requires the lead agency on a proposed project to consult with the geographically affiliated California Native American tribes.

AB 52 defines tribal cultural resources as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are included in or determined to be eligible for inclusion in the CRHR; included in a local register of historical resources, as defined in PRC Section 5020.1(k); or determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria of PRC Section 5024.1(c) (CEQA Section 21074).

The CRHR criteria for the listing of resources, as defined in PRC Section 5024.1(c), are the following:

1. The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. The resource is associated with the lives of persons important in our past.
3. The resource embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. The resource has yielded, or may be likely to yield, information important in prehistory or history.

AB 52 also sets up an expanded consultation process. For projects initiated after July 1, 2015, lead agencies are required to provide notice of the proposed projects to any tribe that is traditionally and culturally affiliated with the geographic area that requested to be informed by the lead agency, following PRC Section 21018.3.1(b). If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include a discussion regarding the type of review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (1) the parties agree to mitigation measures or (2) any party concludes, after a good-faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation, or to otherwise assist in identifying mitigation measures during the consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change to a tribal cultural resource.

Assembly Bill 168

AB 168, adopted in September 2020, provides additional protection for tribal cultural resources as defined in AB 52. This bill applies in situations where a developer seeks to streamline approval under Senate Bill (SB) 35 and, in doing so, bypass CEQA requirements. AB 168 rectifies a loophole in SB 35 that allowed developers to apply for fast-tracked approval without notifying Native American tribes affiliated with the project area. Instead, under AB 168, projects would be ineligible for SB 35 and subject to CEQA if (1) the site of the proposed development is a tribal cultural resource that is on a national, state, tribal, or local historic register list; (2) the local government and the California Native American tribe do not agree

that no potential tribal cultural resource would be affected by the proposed development; or (3) the local government and California Native American tribe find that a potential tribal cultural resource could be affected by the proposed development and the parties do not document an enforceable agreement regarding the methods, measures, and conditions for treatment of those tribal cultural resources, as provided.

Local

Marin County Ordinance 1589

The Marin County Code of Ordinances includes Ordinance 1589, which outlines procedures related to protecting archaeological resources in the county. Because some archaeological resources may also be tribal cultural resources, the protection procedures relevant to tribal cultural resources that are archaeological resources include the following:

- Requirement of a permit to excavate an Indian midden (Section 5.32.020)
- Designation of a liaison agency between institutions of higher learning or an association and the department of public works for the purpose of the study of Indian relics of archaeological significance (Section 5.32.030)
- Requirement of permits to excavate Indian middens to follow formats approved by the director of public works and to note that the excavation is for either archaeological or nonarchaeological purposes (Section 5.32.040)
- Requirement for the director of public works or designee to send the application for excavation to the liaison agency and, within 5 days of receipt, for the liaison agency to inform the director of public works if the midden is of archaeological significance; only nonarchaeological midden sites will be issued a permit (Section 5.32.050)
- If the midden requesting permit for excavation is certified to have archaeological significance, allowance for the director of public works to issue a permit with certain conditions (Section 5.32.060)
- Requirement for actions done under an issued permit to follow the permit's terms and conditions (Section 5.32.070)
- Requirement that persons in violation of the chapter's provisions are guilty of a misdemeanor and shall incur punishments as listed under Section 1.04.270; violations that occur on multiple days will each be considered as separate violations per day (Section 5.32.090)

The conditions of Section 5.32.050 are as follows:

A. Prior to nonarchaeological excavation or removal of materials from the middens, the permittee shall not excavate for a period of sixty days in order to allow archaeological excavation of the site.

B. The permittee or owner of the property shall be required to grant a license for the excavation, identification, and classification of artifacts and proper scientific analysis of materials having historical or archaeological significance to recognized institutions of higher learning or associations having as their major purpose the study of Indian relics and other sites having archaeological value. The terms of the license shall be such as are agreed to by the prospective licensee and property owner (Ord. 1825 § 2, 1971: Ord. 1589 § 6, 1967).

The City of Larkspur 2040 General Plan

In 2024, the City adopted *The City of Larkspur 2040 General Plan* to guide future planning efforts and development in the city. *The City of Larkspur 2040 General Plan* includes the following goal and policies related to the protection of tribal cultural resources as well as built environment, archaeological resources (City of Larkspur 2024).

Larkspur's archaeological and tribal cultural resources. Archaeological resources are the material remains of past human life, culture, or activities. Historic archaeological resources may include buried remains of built structures or artifacts dating from Larkspur's settlement by Europeans. Precontact archaeological resources in Larkspur include several known Native American sacred sites, which are protected under state and federal law. Tribal cultural resources may include a site, feature, place, habitat, landscape, sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register or included in a local register of historical resources. The Federated Indians of Graton Rancheria (FIGR), a federally recognized tribe and sovereign government, remains responsible for preserving the culture of the Coast Miwok people throughout its tribal territory, including the City of Larkspur. FIGR may at its discretion choose to treat a resource as a tribal cultural resource. The City of Larkspur has and will continue to ensure the continued protection of all archaeological and tribal cultural resources existing within its Planning Area (City of Larkspur 2024).

Archaeological and Tribal Cultural Resources

Goal CHAR-4: Awareness of and sensitivity toward Larkspur's archaeological and tribal cultural resources

Policy CHAR-4.1: Consult and cooperate with the California NAHC, the FIGR, and the Northwest Information Center to identify, protect, and preserve Native American archaeological sites and tribal cultural resources. Action Programs applicable to the Project are listed as follows:

Action Program CHAR-4.1.a: As required by the State PRC, notify FIGR (or other appropriate Tribe[s]), if recommended by the NAHC, when a project application is complete, or when a draft General Plan update or amendment is proposed, or designated open space is proposed to determine whether the Tribe(s) chooses to engage in the formal consultation process defined by State law. If consultation is requested, complete the consultation process as defined by State law.

Action Program CHAR-4.1.b: Comply with the State PRC requirements regarding notifications, assessments and disposition of resources, mitigation (including permanent conservation easements), confidentiality requirements, and other requirements enacted for review and protection of cultural and tribal cultural resources.

Action Program CHAR-4.1.d: Treat with respect and dignity any human remains discovered at a project site and ensure full compliance with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

Action Program CHAR-4.1.e: At the initial application stage for new projects that would involve disturbance of soils, inform project applicants of the legal mandates incumbent on the applicant and his/her contractors not to damage or remove archaeological resources and tribal cultural resources. Explain the City's duty and intent to notify FIGR about the project once the City deems the application complete. Encourage applicants to contact FIGR prior to completing the application to avoid the need to subsequently revise the project design if the Tribe requests, and the City concurs, that such changes are

needed to avoid damage or disturbance of tribal cultural resources. Alternatively, the project applicant can request that the City initiate this early consultation with FIGR.

Policy CHAR-4.2: Ensure that the loss of archaeological and tribal cultural resources is avoided, when feasible, or mitigated appropriately. Action Programs applicable to Project are listed as follows:

Action Program CHAR-4.2.b: When a project is found to be in proximity to a known Native American or historic archaeological site, City staff will work in conjunction with a professional archaeologist, or FIGR (or other appropriate Tribe[s]), and the Northwest Information Center to determine the particular qualities to be preserved and the methods of preservation.

Action Program CHAR-4.2.c: Comply with the requirements of the California Environmental Quality Act to ensure a complete analysis of potential impacts to Native American and historic archaeological sites and that feasible mitigation options are identified.

Action Program CHAR-4.2.d: Develop guidelines and standards to address situations where a historic or archaeological resource is discovered during any phase of construction and grading activities of ongoing maintenance or ministerial projects that may not be subject to CEQA. Provide a "quick-response" assessment of the site's significance by the City's historic or archaeological consultant and identify appropriate preservation strategies, or tribal consultation if appropriate, before allowing project construction to re-commence.

Action Program CHAR-4.2.e: Add the following construction best management practices to the Larkspur Municipal l Code Chapter 14.42.040 (C) to follow if a potentially significant archaeological resource or tribal cultural resource is encountered during ground-disturbing activities. Best management practices could include the following:

- All construction activities within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource requires further study.
- All developers, contractors, and subcontractors in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement.
- Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation forms and evaluated for significance in terms of the CEQA criteria by a qualified archaeologist.
- If the resource is a tribal resource, the consulting archaeologist shall consult with the FIGR to evaluate the significance of the resource and to recommend appropriate and feasible avoidance, testing, preservation or mitigation measures, in light of factors such as the significance of the find, Project design, costs, and other considerations.
- If avoidance is infeasible, other appropriate measures (e.g., data recovery) may be implemented.
- If the resource is a nontribal resource determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant.

- The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources.
- The report shall be submitted to the City of Larkspur, Northwest Information Center, and State Historic Preservation Office, if required (City of Larkspur 2024).

3.15.1.2 Environmental Setting

The environmental setting of the Project area consists of the existing conditions and relevant historical conditions of the CEQA study area, which is limited to the footprints of the Build Alternatives being considered, including the Main and the North Lots. The CEQA study area is delineated to consider potential impacts on archaeological and tribal cultural resources because of Project activities, including ground disturbance and alteration, relocation, or demolition of buildings in the Project area. This information is provided in Section 3.4, Cultural Resources.

Native American Consultation

The District initiated Native American outreach and consultation February 18, 2021, requesting a Sacred Lands File (SLF) search and contact list of California Native American tribes that are traditionally and culturally affiliated with Marin County from the NAHC. As the CEQA lead agency, the District has responsibilities under AB 52 to consult with California Native American tribes that are affiliated with the geographic area of any proposed project.

The NAHC responded on March 2, 2021, stating that the SLF search was negative and providing a list of the two Marin County tribes requesting consultation, the FIGR and Guidiville Indian Rancheria. On April 16, 2021, the District sent a letter to the identified tribes describing the project and informing the tribes that that the NAHC search of the SLF was negative and that the record search conducted by the NWIC did not identify any previously recorded archaeological resources within the CEQA study area. A record of Native American outreach communications is documented in Appendix A of the Cultural Resources Report (Appendix D).

The Tribal Historic Preservation Officer (THPO) for the FIGR, Buffy McQuillen, replied to the District by email on June 9, 2021. She indicated "The Tribe has reviewed the project notification dated April 16, 2021, and would like to let you know that there may be Tribal Cultural Resources in the project area. Please let us know if you have any questions."

The District met with FIGR representatives on August 23, 2021. The FIGR shared their concerns about the potential presence of tribal cultural resources in the Project area of the Larkspur Ferry Terminal.

In a letter dated July 18, 2023, sent by email and certified mail, the District provided a project status update and invited the FIGR to monitor preliminary geotechnical investigations to be undertaken the week of August 14, 2023. The direct push coring and core penetration tests were designed to determine the underlying geotechnical site conditions for building foundation design. The District received no response from FIGR.

The District sent a letter by email and certified mail to THPO McQuillen of FIGR September 19, 2024, inviting FIGR to attend the upcoming Open House and Scoping Meeting to be held October 15, 2024, to formally initiate the environmental process for the Project and invite the public to provide feedback on the Environmental Investigation Report.

The District sent a letter by email and certified mail to FIGR THPO McQuillen June 10, 2026, notifying her of upcoming soil coring investigations to test archaeological sensitivity of subsurface deposits, and inviting FIGR to provide a monitor for the investigation. FIGR THPO McQuillen, Cultural Resources Specialist Hector Garcia Cabrales, and Kyle Rabellino, Archaeologist for FIGR, visited the investigation on Friday, June 26, observed the coring, and discussed observations with Jacobs geoarchaeologist Kyle Brudvik.

3.15.2 Environmental Impacts

This section describes the impact analysis related to tribal cultural resources for the Project. It describes the methods and thresholds used to determine whether an impact would be significant. Measures to mitigate (that is, avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, as applicable. The CEQA study area includes the project footprints within the Main and North Lots.

3.15.2.1 Methodology

Tribal Cultural Resources and Archaeological Resources in the Project Area

The FIGR, a federally recognized tribe and sovereign government, remains responsible for preserving the culture of the Coast Miwok people throughout its tribal territory, including the City of Larkspur and the CEQA study area. FIGR may at its discretion choose to treat a resource, including archaeological resources, as a tribal cultural resource. The City of Larkspur has and will continue to ensure the continued protection of all archaeological and tribal cultural resources existing within its Planning Area (City of Larkspur 2024). When archaeological resources are discovered during Project activities, the FIGR are consulted on whether they choose to treat the resource as a tribal cultural resource. For this reason, the identification of tribal cultural resources is linked to all discussions of archaeological resources in Section 3.4, Cultural Resources.

To identify previously recorded tribal cultural resources, the District asked the NAHC for a SLF search and consulted with the FIGR. No tribal cultural resources were identified in the CEQA study area. To identify archaeological resources, including those potentially considered tribal cultural resources, Jacobs obtained a records search April 5, 2026, from the NWIC. No archaeological or potential tribal cultural resources were identified within the CEQA study area. Four precontact archaeological resources were identified within 0.5 mile of the CEQA study area.

Jacobs cultural resources staff conducted a pedestrian survey of the CEQA study area in 2021 and examined the reported location of the nearest precontact archaeological site. No archaeological resources were identified in the CEQA study area, which is obscured by pavement and other development and has no exposed native soils. The nearest precontact archaeological site, outside of the CEQA study area, was no longer visible because of disturbance related to development, erosion, and thick vegetation.

The CEQA study area has heightened sensitivity for buried archaeological deposits that may be considered tribal cultural resources, based on its location at the edge of the San Francisco Bay, and the FIGR have expressed concerns that there may be such deposits in the CEQA study area. Jacobs conducted a geoarchaeological study to investigate the potential of the CEQA study area for such deposits. A review of the history of site development, underlying soils and geology, and known precontact era Coast Miwok sites in the surrounding area confirms the sensitivity of the CEQA study area for buried tribal cultural resources. Jacobs drilled six core samples spread across the Main and North Lots in June 2026 and confirmed the potential for underlying sediments to have archaeological and tribal cultural resources but did not identify archaeological materials or tribal cultural resources (Jacobs Forthcoming).

3.15.2.2 Thresholds of Significance

The following State CEQA Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to tribal cultural resources.

Would the proposed Project do the following:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC § 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:
  - Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC section 5020.1(k)?
  - 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 PRC § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 15064.5(b)(1) of the State CEQA Guidelines defines "substantial adverse change to a historical resource" as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired." Material impairment of a historical resource, as defined in State CEQA Guidelines Section 15064.5(b)(2), occurs when a project "demolishes or materially alters in an adverse manner" those physical characteristics of the resource that express its significance and justify its inclusion in, or eligibility for listing in, the CRHR or a qualified local register of historical resources or evaluation as historically significant in a qualified local survey.

3.15.2.3 Impacts

Project tribal cultural resource impacts would be substantively the same for both Build Alternatives. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource, Defined in PRC § 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 Listed or Eligible for Listing in the California Register of Historical Resources, or in a Local Register of Historical Resources as Defined in PRC Section 5020.1(k) or 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 Resource Code § 5024.1

Construction

Build Alternatives

No known tribal cultural resources are in the CEQA study area.

Construction of the Build Alternatives would involve ground-disturbing activities that may extend below existing artificial fill, including the mass removal of fill, installation of piles to support the new parking garage in the Main Lot, trench excavation for tie-ins to existing storm drain and utility infrastructure and the excavation of an elevator shaft in proposed parking garages in both the Main Lot and the North Lot. The planned depth of disturbance of these activities would extend beneath the artificial fill into underlying

Bay Mud, and therefore, construction of the Build Alternatives has the potential to disturb previously undiscovered and unrecorded subsurface tribal cultural resources. Should this occur, the ability of the deposits to convey their significance, either as containing information about prehistory or history, or as possessing traditional or cultural significance to Native American descendant communities, would be materially impaired, and ***impacts would be significant***.

These impacts would be reduced to a less-than-significant level with the implementation of the mitigation measures outlined as follows.

While no tribal cultural resources were previously recorded or observed in the CEQA study area, construction of Build Alternatives could impact previously unidentified tribal cultural resources. This ***impact would be significant***. However, implementation of MM-CULT-CNST-1, MM-CULT-CNST-2, and MM-CULT-CNST-3 described in Section 3.4, Cultural Resources, and MM-TCR-CNST-1, described as follows, would ensure that impacts related to tribal cultural resources would be ***less than significant with mitigation***.

Operation

Build Alternatives

Operation of the Larkspur Ferry Terminal under any alternative would not include ground disturbance and therefore would result in ***no impact*** on any tribal cultural resources.

Mitigation Measures

Four mitigation measures have been proposed to reduce the impacts on tribal cultural resources to a ***less-than-significant*** level. These include three mitigation measures from Section 3.4, Cultural Resources, and one proposed as follows.

MM-CULT-CNST-1: Conduct Cultural Resource and Tribal Cultural Resource Awareness Training Prior to Project- Related Ground Disturbance (refer to Section 3.4, Cultural Resources)

MM-CULT-CNST-2: Develop and Implement a Tribal Cultural and Archaeological Monitoring and Discovery Plan (refer to Section 3.4, Cultural Resources)

MM-CULT-CNST-3: Comply with State Laws Relating to Human Remains (refer to Section 3.4, Cultural Resources)

MM-TCR-CNST-1: Tribal Monitoring

A qualified Tribal Monitor, approved by the FIGR, will be present during all ground-disturbing activities as detailed in the Tribal Cultural and Archaeological Monitoring and Discovery Plan.

3.16 Utilities and Service Systems

This section describes the existing utilities and service systems serving the proposed Larkspur Ferry Service Expansion and Parking Project (Project) area, including water supply, wastewater and stormwater infrastructure, solid waste, and energy systems. It also evaluates the potential for increased demand on these systems associated with the proposed Project and the Build Alternatives.

3.16.1 Existing Conditions

3.16.1.1 Regulatory Setting

The Golden Gate Bridge, Highway and Transportation District, as the owner of the Larkspur Ferry Terminal (LFT), is the California Environmental Quality Act Lead Agency for the Project and has prepared this Draft Environmental Impact Report to evaluate potential impacts and identify required mitigation to avoid or reduce potentially significant impacts. The federal, state, and regional and local regulations applicable to the Project are provided in this section.

State

California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency and oversees energy-related planning and regulations throughout California. The CEC is responsible for forecasting energy demand, maintaining statewide energy data, licensing large thermal power plants, promoting energy efficiency through building standards, supporting the development of renewable energy and emerging technologies, and coordinating the state's response to energy emergencies. The CEC plays a key role in ensuring the reliable and efficient provision of electricity and natural gas throughout the state.

California Department of Resources Recycling and Recovery

The California Integrated Waste Management Board was a state agency established in 1989 that regulated solid waste handling and recycling. California Department of Resources Recycling and Recovery (CalRecycle) was established in 2010 to replace the California Integrated Waste Management Board. CalRecycle and local enforcement agencies oversee the management and operation of solid waste facilities throughout California. Through permitting, inspection, and enforcement programs, these agencies work to ensure compliance with state regulations and minimum standards designed to protect public health, safety, and the environment and to minimize the impacts of solid waste and wastewater disposal.

Consistent with the California Integrated Solid Waste Management Act of 1989, local jurisdictions are required to implement programs that reduce the amount of solid waste disposed of in landfills through source reduction, reuse, and recycling. Construction and demolition activities are encouraged to maximize waste diversion and recycling to minimize landfill disposal through appropriate waste management practices.

Wastewater

Wastewater services within the proposed Project area are provided and regulated by the following agencies:

- State Water Resources Control Board
- San Francisco Bay Regional Water Board
- California Department of Toxic Substances Control

Local

City of Larkspur 2040 General Plan

The Land Use Element of the *City of Larkspur 2040 General Plan* contains the Land Use, Community Facilities and Services, and Community Health and Safety chapters, which present the following policies and programs that are applicable to the proposed Project (City of Larkspur 2024).

Land Use Element

- **Policy LU-1.2:** Require new development to pay its fair share of infrastructure improvements and public service costs to maintain infrastructure capacity and service levels in the City to the extent allowed by law and except as provided by other policies and programs in the Plan.
  - **Action Plan LU-1.2.a:** Establish and periodically review public facilities and service impact fees.
  - **Action Plan LU-2.1a:** This designation is also suitable for areas with limited development potential because of their unusual configuration (e.g., railroad right-of-way), difficult access, lack of utilities, and/or location within Very High Fire Hazard Zones.

Community Facilities and Services

- Policy FAC-3.3: Continue to share information with the school districts regarding land use planning efforts in the City that will impact school district services, including anticipated residential development, infrastructure projects, and population and demographic trends.
- Policy FAC-5.3: As opportunities arise, support continued consolidation of municipal function (police, fire, land use, sewage, storm drainage, school districts, etc.) where it may improve efficiencies and cost effectiveness without compromising the needs of the Larkspur community.
  - Action Program FAC-5.3.a: Pursue annexations and de-annexations, as necessary, to foster more logical service area boundaries. Appropriate environmental analyses should be undertaken for all annexations and de-annexations pursuant to this program.

Community Health and Safety

- Action Program SAF-5.5b (a). Areas subject to recent slope movement or within the paths of debris flow are not suitable for the development of occupied structures. Further disruption of these high-risk areas will only be permitted to protect public safety or by the City for roads, utilities, and other similar facilities after intensive geologic studies have determined that mitigation is practical and their costs warranted.
- Action Program SAF-7.1.f: Continue to work with Marin Municipal Water District [MMWD] to meet its goal to expand its water supply to meet a four 4-year demand and to provide and maintain water supply systems and the long-term integrity of the systems to supply for fire suppression for all

structural and wildfire fire suppression, which should include the maintenance and replacement of fire hydrants located within the City of Larkspur. Require proof of adequate water supply for suppression of wildfires and structural fires for all conditional project approvals.

- Action Program SAF-7.4.e: Work with Marin Water to Prioritize fire flow upgrades in the Very High Fire Hazard Severity Zone to meet a goal, where feasible, of 1,000 gallons per minute for two hours.

Natural Environment and Resources

- Policy ENV-2.6: Support efforts by the MMWD, Marin County Flood Control and Water Conservation District, and other interested agencies and organizations to enhance water quality and other interested agencies and organizations to enhance water quality and reduce peak stormwater runoff in the Ross Valley Watershed.
- Action Program ENV-3.2.b: Adopt requirements for master plan approval to assure adequate emergency, utilities, fire safety, environmental protection, and protection of surrounding open space resources in conjunction with any private development with open space areas.
- Goal ENV-6.1: Support local and regional efforts to reduce water consumption.
- Goal ENV-6.2: Apply water conservation development standards for residential, commercial, and civic development, reconstructions, and remodels.
  - Action Program ENV-6.2.a: Include and implement Water and Wastewater programs in City's Climate Action Plan [CAP] to promote efficiency in water use, consumer conservation, graywater use, rainwater catchment systems, and other applicable actions.
  - Action Program ENV-6.2.b: Through the permitting process, require new and replacement public and private landscaping to use drought tolerant plantings and water-conserving landscape techniques consistent with State (CALGreen), regional (Marin Water), and local (local CALGreen code implementation) regulations.
  - Action Program ENV-6.2.c: Through the permitting process, require the installation of water-conserving plumbing fixtures in new buildings and when existing fixtures are replaced consistently with state (e.g., CALGreen code, regional [Marin Water], and local [local CALGreen code implementation]) regulations.
- Policy ENV-6.4: Promote waste reduction strategies for residential, commercial, and civic sectors.
- Policy ENV-6.5: Increase energy efficiency and conservation in City buildings, equipment, and operations. Promote energy and water conservation and building upgrades to the community.

City of Larkspur Climate Change Action Plan 2030

The CAP, adopted in 2021, is a tool to develop programs and actions needed to reduce greenhouse gas emissions. The City of Larkspur recognizes the potential effects of climate change on the community and has prepared the CAP to outline strategies, programs, and actions to reduce reliance on fossil fuels, improve energy efficiency, support renewable energy use, and reduce transportation-related emissions. The plan also establishes a framework of ongoing climate action and adaptation and recognizes that Larkspur has achieved its 2020 greenhouse gas emissions reduction target (City of Larkspur 2021).

California Green Building Standards Code

In 2025, Ordinance No. 1089 of the City of Larkspur Municipal Code amended the building code regulations adopting the 2025 edition of the CALGreen code. The purpose of the code is to improve public

health and safety through effective building construction and features regulations for energy efficiency, water efficiency and conservation, material conservation, resource efficiency, and environmental quality.

Marin Municipal Water District

MMWD prepared the Urban Water Management Plan (UWMP) to provide a comprehensive assessment of the MMWD's water supply system, which relies primarily on seven local, rain-fed reservoirs supplemented by imported water from Sonoma Water and limited recycled water for nonpotable uses. UWMP serves as the MMWD's principal planning document for evaluating future water demands, supply reliability, drought preparedness, and water conservation programs. The current UWMP updates the MMWD's 2020 UWMP and incorporates information from the 2023 Strategic Water Supply Assessment to support long-term water resource planning and management.

The UWMP Act of 1983 was amended by the Water Conservation Act of 2009 and later by the 2018 Water Conservation Legislation (Assembly Bill 1668 and Senate Bill 606), which introduced enhanced water-use efficiency, drought planning, and reporting requirements. These amendments strengthened the role of UWMPs as key planning tools for sustainable water management and long-term water supply reliability (EKI 2024).

3.16.1.2 Environmental Setting

Water Supply

MMWD serves the Project area. MMWD obtains its water from seven reservoirs and the Russian River Intertie Pipeline System. Five of the seven MMWD Reservoirs (Alpine, Bon Tempe, Kent, Lagunitas, and Phoenix Lake) are on the north slope of Mount Tamalpais. The total reservoir storage operated by MMWD is 25.9 billion gallons. MMWD's distribution system consists of pipelines ranging from small service connections to large transmission mains and include a network of water mains, pump stations, and treated water storage facilities that deliver potable water throughout its service area. The system is supported by ongoing infrastructure replacement programs to maintain reliability and service capacity. Water treatment is provided by the Bon Tempe and San Geronimo treatment plants, which treat water from the MMWD Reservoirs, and the Ignacio Treatment Facility, which treats imported water received through the North Marin Intertie Pipeline. Together, these facilities provide sufficient treatment capacity to serve existing and Project water demands within the service area (Leonard Charles and Associates 2022). The LFT uses minimal amounts of water onsite for vessel maintenance, two restrooms, drinking fountains, and limited landscaping.

Wastewater

Ross Valley Sanitary District (RVSD) provides wastewater collection services to portions of central Marin County, including the City of Larkspur. The RVSD serves an area with a population of approximately 47,700 and maintains an extensive wastewater collection system consisting of gravity mains, force mains, pump stations, and siphons. Wastewater generated within the RVSD is conveyed through this system for treatment, while private property owners are responsible for maintaining sewer laterals that connect individual properties to the public sewer system. There is 15,451 lateral connections to the system (RVSD 2025). The RVSD operates and maintains approximately 200 miles of sewer collection pipelines and 19 pump stations that collect, convey, and transport an average of approximately 4 million gallons of wastewater per day to the Central Marin Sanitation Agency for treatment (RVSD 2026). The LFT includes two restroom facilities and seven ferries with up to 600-gallon sewage tank capacity. The new Liwa-class

vessels would have up to 650-gallon sewage tank capacities. The entire ferry fleet is anticipated to be Liwa class by 2033.

Stormwater

Onsite surface drainage and adjacent municipal storm drains adjacent to the LFT discharge to the Bay. The Golden Gate Bridge, Highway and Transportation District and the City of Larkspur implement stormwater management programs and treatment requirements, where applicable, to reduce pollutants and protect water quality. Refer to Section 3.9, Hydrology and Water Quality, for further information regarding stormwater.

Solid Waste

Solid waste generated within the Project area is collected by Marin Sanitary Service, which provides garbage, recycling, and organic waste collection services to commercial customers throughout the City of Larkspur. Collected materials are processed through Marin Sanitary Service's Resource Recovery and Recycling Facility and transfer station, where waste is consolidated and transported to the Redwood Landfill for final disposal. These facilities provide the primary solid waste management infrastructure serving the Project area. Redwood Landfill is a 420-acre facility, with approximately 222.5 acres dedicated to waste disposal and the remainder supporting recycling, composting, reuse operations, open space, and a freshwater lagoon. The landfill is permitted to accept non-hazardous waste and is regulated by multiple federal, state, and local agencies to ensure compliance with environmental and public health standards. In addition to municipal solid waste, the facility provides services for construction and demolition debris processing and is permitted to accept up to 2,310 tons of material per day (Waste Management 2026). Marin Sanitary Service is the waste hauler for the LFT, collecting both solid waste and recycling.

Natural Gas and Electricity

Pacific Gas and Electric Company (PG&E) provides natural gas and electric services to the Project area. MCE Community Choice Energy operates in Larkspur, providing residents with alternative renewable energy options while using PG&E lines for delivery. There is one natural gas line for heat in the terminal building. LFT electrical use is primarily to power vessel shore power, night lighting, terminal operations and maintenance activities, and electric car chargers.

3.16.2 Environmental Impacts

Both Build Alternatives would be within the City of Larkspur and provide increased ferry service and landside access improvements to accommodate forecast future ridership demand and ensure that ferry service remains a reliable and competitive travel option that reduces vehicle miles traveled and greenhouse gases along the U.S. 101 highway corridor in Marin and Sonoma Counties and for the greater Bay Area through 2050 and beyond.

3.16.2.1 Methodology

Utilities and service systems were evaluated at a programmatic level, as impacts are anticipated to be generally consistent across the Build Alternatives. Potential impacts on water supply, wastewater and stormwater systems, solid waste, and energy services were evaluated based on reviewing the *City of Larkspur 2040 General Plan* (City of Larkspur 2024), MMWD, and Central Marin Sanitation Agency document and plans.

3.16.2.2 Thresholds of Significance

The following significance thresholds, based on Appendix G of the California Environmental Quality Act guidelines, are used to evaluate whether the proposed Project would result in significant impacts related to utilities and service systems.

Would the proposed Project do the following:

- 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?
- Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?
- 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?
- 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?
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

3.16.2.3 Impacts

Project utility and service system impacts would be substantively the same for both Build Alternatives. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

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

Construction and Operation

Build Alternatives

Construction and operation of the parking garages would occur within the existing paved North and Main surface parking lots. The Build Alternatives would not result in an increase in impervious surface and would not require relocation or new or expanded stormwater drainage facilities. The existing drainage patterns would be maintained; however, the Build Alternatives would disturb more than 1 acre and would therefore be subject to the State Water Resources Control Board Construction General Permit, which requires preparation and implementation of a Stormwater Prevention Pollution Plan (SWPPP). In addition, the existing LFT Industrial General Permit SWPPP would need to be amended to address discharge during operation of the new garages. The SWPPPs would incorporate best management practices to minimize construction- and operation-related impacts to stormwater quality. There are no new or expanded water, wastewater, natural gas, or telecommunication facilities proposed for the Build Alternatives, and the Build Alternatives would connect to existing onsite stormwater, wastewater, natural gas, and telecommunication facilities, as applicable. Solar panels would be added to the top of the garages and would also connect to the existing power lines onsite. Construction of the new solar panels on the top level of the garages would have no potential to result in a significant impact. As applicable, the Build Alternatives would connect to

existing utilities onsite and would not require or result in relocation or construction of new facilities, which could cause significant environmental effects; therefore, construction and operational impacts are ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

Have Sufficient Water Supplies Available to Serve the Project and Reasonably Foreseeable Future Development During Normal, Dry, and Multiple Dry Years.

Construction and Operation

Build Alternatives

Construction of the Build Alternatives would require a temporary increase in water use during construction for activities, such as dust control and equipment cleaning. Water for construction purposes may be provided by temporary onsite storage, water trucks, or from temporary points of connection with the municipal supplier. This demand would be minimal and short term. It is anticipated that water required for construction would primarily be required during the site preparation and foundation construction phases for dust control. Except for the installation of fire suppression systems within the new parking garages, there would be no new operational water needs. The terminal has limited public restroom facilities/drinking fountains and minimal landscaping. The would be no change in the number of ferries that use potable water for on-board restroom facilities but not for consumption. Riders are expected to purchase at the terminal, on board, or bring their own water for consumption. The increased ferry service is not anticipated to result in any substantial changes in water demand associated with the operation or maintenance of the ferries. It should be noted that the existing ferry fleet is anticipated to be replaced with Liwa-class vessels by 2033. Liwa-class vessels will have similarly sized water-holding tanks. Construction and operation of either of the proposed Build Alternatives would not result in any substantial change in overall water demand compared to existing water demand to accommodate the incremental increases in ferry service to meet forecast ridership to 2050 and beyond. The Build Alternatives would have sufficient water supply available to serve the proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years. Impacts would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

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

Construction and Operation

Build Alternatives

Construction and operation would not result in any substantial change in wastewater demands from the proposed Project. Temporary sanitation needs during construction would be met through portable restroom facilities provided and serviced by a licensed sanitation contractor. Construction activities would not require additional wastewater treatment capacity.

During operation, wastewater generation would remain comparable to existing levels, and the proposed Project would not require modifications or expansions to existing wastewater treatment or conveyance system. The LFT has two restroom facilities onsite and two restrooms on each ferry. General daily solid waste generation would be expected to increase proportionally as ferry ridership increases through 2050 and beyond. It should be noted that the existing ferry fleet is anticipated to be replaced with Liwa-class vessels by 2033, which will have three restrooms on board to accommodate the additional number of riders; however, there would be no change in fleet size. Vessel-holding tanks are pumped daily and disposed of offsite. The Build Alternatives do not include new or additional bathroom facilities, and wastewater flows would continue to be conveyed to and treated by the existing wastewater treatment provider via onsite sewer and offsite disposal.

Given that the Build Alternatives would not meaningfully increase wastewater demand and do not include design features that would generate substantial additional wastewater, the wastewater treatment provider would have adequate capacity to serve the Build Alternatives. Therefore, construction and operational impacts would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

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; and Comply with Federal, State, and Local Management and Reduction Statutes and Regulations Related to Solid Waste

Construction

Build Alternatives

Construction of the proposed Project would generate typical solid waste associated with construction activities. However, the overall quantity would be limited and temporary. Construction debris would be recycled or disposed of in accordance with applicable federal, state, and local regulations, including requirements for construction and demolition waste diversion. Construction debris would consist primarily of surface parking lot demolition materials at the North and Main Lots (asphalt and electrical lighting and conduits) and minimal amounts of vegetation. Given the availability of a local landfill and recycling capacity, solid waste generated during construction would not exceed applicable standards or impair attainment of waste reduction goals and would comply with statues and regulations related to solid waste. Impacts would be ***less than significant***.

Operation

Build Alternatives

Operation of the proposed Project would not substantially change existing solid waste generation because the proposed Project involves improvements to an existing facility with similar operational characteristics. General daily solid waste generation would be expected to increase proportionally as the ferry ridership increases through 2050 and beyond. Trash removal would continue to be handled through existing local waste management hauling contracts.

The proposed Project would continue to comply with all applicable federal, state, and local regulations related to solid waste management and diversion, including requirements to reduce, recycle, and properly dispose of waste. As a result, solid waste generated during operation would not exceed applicable

standards or impair attainment of waste reduction goals and would comply with statues and regulations related to solid waste. Impacts would be ***less than significant***.

Mitigation Measures

No mitigation required.

3.17 Wildfire

This section evaluates potential wildfire-related impacts associated with the implementation of the proposed Larkspur Ferry Service Expansion and Parking Project (Project) and the Build Alternatives. It describes existing wildfire hazard conditions within the proposed Project area and surrounding vicinity, identifies applicable goals and policies, and analyzes potential environmental effects. Where appropriate, measures to avoid or minimize adverse impacts are also identified.

Based on the review of the California Fire Hazard Severity Zone (CAL FIRE 2025), the proposed Project is not in a state responsibility area and is not within a very high severity fire zone.

3.17.1 Existing Conditions

3.17.1.1 Regulatory Setting

Federal

Federal Wildland Fire Management Policy

Federal wildfire management is guided by interagency standards and policies that direct fire prevention, preparedness, suppression, and ecosystem management activities for agencies such as the Bureau of Land Management, U.S. Forest Service, National Park Service, U.S. Fish and Wildlife Service, and Bureau of Indian Affairs. These policies emphasize protection of firefighters and public safety as the highest priority, use of science-based decision-making, coordination among agencies, and integration of wildfire management with land and resource planning. This also recognizes wildfire as a natural ecological process while establishing guidelines for risk management, interagency cooperation, and protection of public health, infrastructure, and natural resources.

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 establishes federal requirements for hazard mitigation planning as a condition for receiving Federal Emergency Management Agency (FEMA) mitigation funding. The act requires local jurisdictions to prepare and maintain a Local Hazard Mitigation Plan that is reviewed by the State and approved by FEMA, with updates required at least every 5 years. These plans must include an assessment of local hazards, risks, and vulnerabilities, along with strategies to reduce potential impacts from natural hazards such as earthquakes, flooding, and wildfires.

State

California Department of Forestry and Fire Protection Strategic Fire Plan 2024

The 2024 California Department of Forestry and Fire Protection (CAL FIRE) Strategic Plan (CAL FIRE 2024) establishes CAL FIRE's direction for improving wildfire prevention, response, and natural resources management across California. It emphasizes strengthening emergency response capabilities, reducing wildfire risk through mitigation and forest management, and building resilient communities through partnerships and public engagement. The plan also focuses on enhancing workforce development, modernizing infrastructure and technology, and promoting safety, equity, and collaboration to better protect lives, property and natural resources. Many of the goals and objectives from the 2019 strategic plan remain relevant. Goals and objectives consist of the following:

- Goal 1: Improve our core capability.
- Goal 2: Enhance internal operations.
- Goal 3: Ensure health and safety.
- Goal 4: Build an engaged, motivated, innovative workforce.

California Public Resources Code Sections 4201–4204

Fire Hazard Severity Zone mapping was developed in response to significant and destructive wildfires, which highlighted the need to identify high risk areas and implement measures to reduce wildfire hazards. State legislation requires the mapping of these zones under California Public Resources Code Sections 4201 through 4204, which apply to all lands designated as State Responsibility Areas (SRAs).

Senate Bill 1241

Senate Bill (SB) 1241 requires that Fire Hazard Severity Zone maps prepared by CAL FIRE be incorporated into local general plans. These maps establish the basis for policies to address wildfire prevention and protection in areas designated as High or Very High Fire Hazard Severity Zones. In addition, SB 1241 requires that updates to the Safety Element in the *City of Larkspur 2040 General Plan* (City of Larkspur 2024) be reviewed by CAL FIRE before adoption to ensure adopted policies adequately address wildfire risks and protection measures (Senate Bill SB 1241, 2012).

California Fire Code (California Code of Regulations Title 24, Part 9)

The California Fire Code, adopted as part of California Code of Regulations (CCR) Title 24, incorporates the International Fire Code with state specific amendments and establishes minimum fire safety standards applicable statewide. The code is updated and published every 3 years by the California Building Standards commission and local jurisdictions, including the City of Larkspur. More stringent requirements may be adopted based on local conditions.

The California Fire Code regulates fire safety requirements for new and existing buildings, facilities, and operations, including provisions for emergency planning, fire protection systems, hazardous materials, fire flow, and hydrant placement. Typical requirements address features, such as automatic sprinkler systems, fire-resistant construction materials, and vegetation defensible space, around structures in wildfire-prone areas.

Local

2023 Marin County Unit Strategic Fire Plan & Community Wildfire Protection Plan

The Marin County Unit Strategic Fire Plan & Community Wildfire Protection Plan (CWPP) was adopted by the Marin County Fire Department in May 2023. The CWPP is a coordinated, regularly updated plan that integrates wildfire prevention, preparedness, and response strategies across the county. It focuses on reducing risks to life, property, and natural resources through measures such as defensible space compliance, vegetation management, fuel reduction, improved access, and public education. The plan also emphasizes coordination with partner agencies and enforcement of wildfire-related codes to strengthen community resilience and guide targeted investments in wildfire reduction (Marin County FD 2023).

Marin Operational Area Emergency Operations Plan

The *Marin Operational Area Emergency Operations Plan*, adopted in October 2014, outlines response procedures and large-scale disasters affecting Marin County. The Marine Operational Area (OA), which includes the City of Larkspur, facilitates coordination with other governmental agencies as needed. The Emergency Operations Plan (EOP) does not address routine, day-to-day emergencies or established emergency response procedures. It serves as a planning reference, and the three main goals are to provide effective life safety measures and reduce property loss and damage, provide for the rapid resumption of impacted businesses and community services, and provide accurate documentation and records required for cost recovery efforts (Marin County Sheriff's OES 2014).

Marin Wildfire Prevention Authority

The Marin Wildfire Prevention Authority (MWPA) establishes countywide goals and objectives to reduce wildfire risk and improve community resilience. Key program areas include vegetation management to reduce fuel loads, enhancement of wildfire detection and evacuation systems, grant programs to support defensible space and home hardening, public outreach and education, and coordination with partner agencies. These efforts are intended to reduce wildfire hazards, improve emergency preparedness, and limit potential impacts to life and property.

City of Larkspur 2040 General Plan

The *City of Larkspur 2040 General Plan* was adopted in September 2024 (City of Larkspur 2024) and contains goals and includes goals and policies relevant to wildfire under the following elements:

Community Health and Safety Element

Goal SAF-1: Ensure community fully informed about natural hazards and methods to avoid or mitigate the effects of these hazards.

Action Program SAF-1.1.b: Conduct public outreach to inform residents about the actions they need to take in the case of wildfire, flood, or other emergency. Make hazard maps available. Prepare updates regularly and make available public maps depicting evacuation routes and areas prone to environmental hazards.

Action Program SAF-1.1.c: Continue to support the Marin County Wildfire Prevention Agency in coordinating and leading the County efforts to reduce the risk from wildfire and provide regulations and recommendations on efforts to reduce that risk.

Action Program SAF-1.1.e: Continue to coordinate with local and regional Marin fire agencies to publicize wildfire awareness and prevention strategies with applicable wildfire awareness programs.

Action Program SAF-1.1.f: Continue to coordinate with the Central Marin Fire Department, the MWPA, and state, federal, and regional Marin fire agencies to develop and implement emergency services training protocols and to practice disaster preparedness drills.

Action Program SAF-1.1.k : Continue to implement the resale inspection permit program that provides disclosure of hazard risk information to prospective buyers before the sale of property. The program should include detailed hazard information, such as high and very high hazard wildfire severity zones, flood zones, and tsunami and future sea-level rise inundation areas.

Policy SAF-2.2: Prepare and maintain a comprehensive multi-modal evacuation plan.

Action Program SAF-2.2.d: Identify and improve deficient access and evacuation routes. Implement findings of the Marin Wildfire Protection Authority Evacuation Ingress-Egress Risk Assessment. Use the visual risk assessment and risk factors to identify and prioritize existing deficient access and evacuation routes. Improve evacuation routes based on the prioritization ranking and in areas identified as having deficient evacuation routes affected by new development, but also in consideration of improvements required for a transportation network which is resilient to flooding and inundation from sea-level rise (City of Larkspur 2024).

Policy SAF-2.7: Implement the Marin County Multi-Jurisdiction Hazard Mitigation Plan and Larkspur Annex (MJHMP) and updates to that plan when the updates are adopted (City of Larkspur 2024).

Action Program SAF-2.7.b: Work with the County and other jurisdictions covered by the MJHMP to complete current evacuation plans being prepared by the MWPA and to ensure all State requirements for Safety Elements included in Assembly Bill 747 (2019) are met, including identifying evacuation routes and their capacity, safety, and viability under a range of emergency scenario

Goal SAF-6: Ensure protection of residents and property from fire hazards.

Goal SAF-7: Reduce hazard from wildfire.

Policy SAF-7.1: Continue to require that new and existing development in the most current CAL FIRE Fire and Resource Assessment Program Very High Fire Hazard Severity Zone Maps and adjacent High Fire Hazard areas meet all current building, property maintenance, and fuel reduction requirements for these zones. New development, including remodeling and additions, within the Very High Fire Hazard Severity Zone will be required to meet or exceed standards in title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations) and title 14, CCR, division 1.5, chapter 7, subchapter 3, article 3 (commencing with section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations) and Fire Safe Regulation, Home Hardening, PRC 4290 (City of Larkspur 2024).

Action Program SAF-7.1.a: Amend the Larkspur Municipal Code Section 14.10.010 that defines the City's Very High Fire Hazard Severity Zone to include the area north of E. Sir Frances Drake Boulevard from the east end of Larkspur Landing Circle to the Larkspur city limits and from Drakes Way east to the Larkspur city limits. Amend the code section to be consistent with the City's map of the Very High Fire Hazard Severity Zone.

Action Program SAF-7.1.b: Continue to monitor properties designated Fire Hazard Severity Zones on Figure 7-10. As these maps are updated By CAL FIRE, the City will monitor properties within the most current Very High Fire Hazard Severity Zone maps, as presented on the CAL FIRE FRAP website, which can be accessed at: https://osfm.fire.ca.gov/fire-hazard-severity-zones-maps-2022/.

Action Program SAF-7.1.d: The City will require that new development, including remodeling and additions, within the Very High Fire Hazard Severity Zone will be required to meet or exceed standards in title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations) and title 14, CCR, division 1.5, chapter 7, subchapter 3, article 3 (commencing with section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations) and Fire Safe Regulation, Home Hardening, PRC 4290. The City will require fire-safe design for future development proposals.

Action Program SAF-7.1.e: Continue to monitor properties in Very High Fire Hazard Zones and require abatement of flammable vegetation and fire hazards, as determined by the Fire Chief.

Action Program SAF-7.1.f: Continue to work with Marin Municipal Water District to meet its goal to expand its water supply to meet a 4-year demand and to provide and maintain water supply systems and the long-term integrity of the systems to supply for fire suppression for all structural and wildfire fire suppression, which should include the maintenance and replacement of fire hydrants within the City of Larkspur. Require proof of adequate water supply for suppression of wildfires and structural fires for all conditional project approvals.

Action Program SAF-7.1.g: The City will locate new essential critical and public facilities, including healthcare facilities, emergency shelters, fire stations, emergency command centers, emergency communications facilities, and utility infrastructure outside the Very High Fire Hazard Severity Zone.

Policy SAF-7.2: Reduce the risk of loss of life, personal injury, and property damage resulting from fire hazards and wildfire through code enforcement to protect residents and businesses from structural fires and wildfire.

Action Program SAF-7.2.a: Continue to inspect businesses, public buildings, and multi-family dwelling complexes regularly for fire and safety code violations, as required by the State Fire Marshal's office.

Action Program SAF-7.2.b: Continue to implement the most recent updated versions of the California Fire Code, the International Fire Code, and Appendix A of the International Wildland Urban Interface Code standards (as amended and adopted by the City of Larkspur) for all new construction and applicable remodeling or additions, as determined by the Fire Chief. Consistent with the Marin County CWPP, promote home hardening using fire-resistant materials and construction methods.

Action Program SAF 7.2.c: Enforce fire safety codes requiring fire suppression, management of combustible materials, and fuel and ignition sources in conjunction with construction activities and vegetation management/tree removal.

Action Program SAF 7.2.d: Request Fire Department review of City requirements for peak-load water supply and roadways (especially on hillsides) to determine whether those provisions need modification to meet evolving State standards, such as limiting narrow roads or one-way road use, grade/slope limits, minimum turning radius, and turnaround widths, to ensure adequate fire protection and suppression.

Action Program SAF 7.2.e: Evaluate redevelopment potential after a large fire in Larkspur. Develop requirements for rebuilding after a disaster so redevelopment meets all current state and local wildfire protection building code requirements relevant to the particular Fire Hazard Severity Zone of the Project, including requirements for adequate defensible space, home hardening, adequate water supply, and adequate access and evacuation routes.

Action Program SAF 7.2.f: Prohibit new development and land divisions in very high and High Fire Hazard areas unless the availability of adequate and reliable water for fire suppression is provided; access for firefighting vehicles and equipment, as well as evacuation for residents, is provided from more than one point; necessary fire trails and fuel breaks are provided; structures are built consistent with the most current building code and fire code requirements for home hardening; and adequate clearances from structures and use of fire-resistant plants in any landscaping is required.

Action Program SAF 7.2.g: A Fire Protection Plan will be prepared and approved for new development within the Very High Fire Hazard Severity Zone. The main components of this plan will include at least (1) a risk analysis; (2) fire response capabilities; (3) fire safety requirements–defensible space, infrastructure, and building ignition resistance; (4) mitigation measures and design considerations for non-conforming fuel modification; (5) wildfire education and limitations; (6) long-term maintenance of fire hazard reduction projects; and (7) evacuation planning. The plan will require that new development meets all

current building code and fire safety standards, including ensuring the provision of an adequate water supply for fire suppression and fire flow requirements; providing sufficient road width and road clearance for emergency vehicles and equipment, along with evacuation for residents, which should be provided from more than one point; and identifying and maintaining defensible space around structures and that structures are built consistent with the most current building code and CAL FIRE requirements for Very High Fire Hazard Severity Zones.

Action Program SAF 7.2.j: Collaborate with the MWPA Ecologically Sound Practices Partnership, which focuses on developing Best Management Practices (BMPs) for fuel reduction projects in wildlands and provides subject matter expertise for environmental regulatory compliance. Use the best fuel reduction methods (depending on the time of year, fuel types, reduction prescriptions, presence of sensitive biological resources, and cost) to implement the Marin County CWPP and MWPA projects.

Action Program 7.2.k: For SB 99 (Nielsen 2019) "Evacuation Constrained Parcels," work with the MWPA to continue to identify constrained parcels and develop alternate evacuation routes or other measures to reduce risk to these constrained parcels. Include evacuation and access route planning in the updated Local Hazard Mitigation Plan (LHMP).

Policy SAF-7.3: Coordinate with the Marin County Fire Department Office of Emergency Management, other local fire departments, state and federal fire protection agencies, and local organizations, such as FireSafe Marin, Firewise Sites and Neighborhood Response Groups (NRG), and Fire Site Councils, with respect to fire suppression, rescue, mitigation, long-term maintenance of fire hazard reduction projects, training, and education.

Action Program SAF-7.3.a: Implement actions pertinent to fire hazards listed in the MJHMP.

Action Program SAF-7.3.b: Implement a regional fire management plan with the MWPA and Central Marin Fire Department. Develop a collaborative, proactive approach to manage wildfire losses by identifying hazard risks and enacting effective mitigation strategies.

Policy SAF-7.4: Manage public lands as appropriate and feasible to minimize the chances of a wildfire affecting residences and businesses while maintaining habitat functions and values. Work with the Marin County Open Space District and Marin Municipal Water District to assess and reduce the wildland fire hazards on their holdings within and adjacent to the City.

Action Program SAF 7.4.d: Continue to work with the Central Marin Fire Department to encourage the Marin County Open Space District and Marin Water to facilitate creation of fuel reduction and shaded fuel breaks along the perimeter of their lands where they abut residential lots in the City.

Action Program SAF-7.4.e: Work with Marin Water to prioritize fire flow upgrades in the Very High Fire Hazard Severity Zone to meet a goal, where feasible, of 1,000 gallons per minute for 2 hours (City of Larkspur 2024).

3.17.1.2 Environmental Setting

Wildfires are unplanned fires that occur in vegetated areas, such as forests, grasslands, and rangelands, and are a common hazard in the western U.S. These events typically occur during the summer and fall months when dry conditions and weather patterns heighten fire potential. Wildfire season is generally defined by the period between the onset of the first large fire and the containment of the last major fire. Marin County sites in one of the world's five Mediterranean climate zones, which include just 2% of the earth's land but 20% of the plant species. Mediterranean climates are typically characterized by cool, wet

winters with infrequent freezing conditions, followed by extended dry periods during the summer and fall when temperatures are warm to hot, and precipitation is minimal.

CAL FIRE has identified areas of wildfire hazard throughout the state through its Fire and Resource Assessment Program. These maps classify lands into Fire Hazard Severity Zones based on factors such as vegetation, fire history, topography, weather conditions, and development patterns that may contribute to wildfire risk. Lands where CAL FIRE has primary responsibility for wildland fire protection, typically in unincorporated areas, are designated as SRAs. Areas where local agencies, such as the Central Marin Fire Department, provide fire protection services are designated as Local Responsibility Areas (LRAs). The Project is located in an LRA, meaning the responsibility of preventing and suppressing wildfires is primarily the responsibility of a local agency. The closest SRAs are classified as Moderate Fire Hazard Severity Zones and are approximately 1.8 miles west and 2.3 miles south of the Project area (CAL FIRE 2025). The Project area is separated from these SRAs by the Corte Madera Creek, which forms a nonflammable break between the Project area and the nearest wildland fire hazard areas. Given that separation and distance of over a mile and a half, the project is not in or near an SRA for purposes of the Appendix G wildfire thresholds. At the local level, areas where residential development occurs adjacent to undeveloped wildland vegetation are identified as part of the Wildland Urban Interface, where wildfire risk is elevated. According to the wildland urban interface map (USFS 2020), the Project area is within a Non-Vegetated or Agriculture area consisting of low and very low housing density and medium and high housing density. Therefore, the proposed Project is not within a Wildland-Urban Interface area and is not located in an area identified as a wildfire hazard area.

3.17.2 Environmental Impacts

3.17.2.1 Methodology

All Build Alternatives are within a developed area of the City of Larkspur containing paved parking surface lots. Wildfire impacts were evaluated uniformly across the proposed Project and alternatives because each alternative would occur under similar site conditions and be expected to result in comparable wildfire risk.

The wildfire analysis considers the proposed Project site and the surrounding area , including proximity to SRAs and Very High Fire Hazard Severity Zones. The evaluation focuses on potential effects related to emergency response access, evacuation, and consistency with applicable federal, state, and local wildfire regulations. Information sources include the *City of Larkspur 2040 General Plan* (City of Larkspur 2024), applicable mapping databases, and CAL FIRE resources.

3.17.2.2 Thresholds of Significance

The following significance thresholds, based on Appendix G of the California Environmental Quality Act Guidelines, are used to evaluate whether the Project would result in significant impacts related to wildfire.

If in or near SRAs or lands classified as Very High Fire Hazard Severity Zones, would the proposed Project do the following:

- Substantially impair an adopted emergency response plan or emergency evacuation plan?
- Because of 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?
- 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 on the environment?

- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, because of runoff, post-fire slope instability, or drainage changes?

3.17.2.3 Impacts

As described in Section 3.17.1.2, the Project area is not located in or near an SRA or land classified as a Very High Fire Hazard Severity Zone. The Appendix G wildfire thresholds are nonetheless analyzed below for the Build Alternatives. Existing conditions are large, paved parking areas with little to no vegetation. Future conditions would add concrete parking garages to the site Project wildfire impacts are substantively the same for both Build Alternatives. Within this section, impacts for Alternative 1 and Alternative 2 are discussed together as the Build Alternatives.

Substantially Impair an Adopted Emergency Response Plan or Emergency Evacuation Plan

Construction

Build Alternatives

Construction of the proposed Project would result in construction related traffic on Larkspur Landing Circle and Sir Francis Drake Boulevard associated with soil import/export or material delivery. Construction activities could intermittently affect adjacent sidewalks, walkways, and roadways because of staging activities. Where such conditions occur, traffic control measures would be implemented to maintain access, including rerouting pedestrians, posting signage, and managing vehicle circulation. No long-term lane closures on Larkspur Landing Circle or Sir Francis Drake Boulevard are anticipated. Coordination with Larkspur Public Works, Central Marin Fire Department, and the Central Marin Police Authority would occur as needed to ensure adequate emergency access. Implementation of the proposed Project would not require revisions to the Marin OA EOP or other local emergency plans. Therefore, construction would not substantially impair or interfere with emergency response or evacuation plan, and impacts would be ***less than significant***. No mitigation required.

Operation

Build Alternatives

Access to the Main Lot and ferry terminal area would continue to operate as it does today, using the existing terminal loop driveway and the Sir Francis Drake Boulevard/Larkspur Landing Circle West intersection. Access to the North Lot would continue to be provided from Larkspur Landing Circle West. The Build Alternative parking garages would be designed to provide adequate emergency vehicle access in accordance with applicable fire and building code requirements, including appropriate vehicle turning clearance and vertical clearances for emergency response vehicles. Emergency access through the North Lot parking garage to the Sonoma-Marin Area Rail Transit (SMART) station and parking lot would also be maintained. Emergency vehicles would continue to access the Project site from the surrounding roadway network, including United States Highway 101 and Sir Francis Drake Boulevard.

Although the Project would generate additional vehicle traffic associated with increased ferry ridership, it would not alter the surrounding roadway network, eliminate existing access points, or restrict emergency vehicle circulation in the project vicinity. Nor would it meaningfully alter site access, circulation, or surrounding roadway conditions (refer to Section 3.14, Transportation). Therefore, operation of the proposed Project would not substantially interfere with emergency response or evacuation plans, and impacts would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

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

Construction

Build Alternatives

The proposed Project site is not within a Very High Fire Hazard Severity Zone (CAL FIRE 2025) and is within a fully developed urban area of Larkspur. The North Lot is on a paved, flat site that is not susceptible to wildfire. The North Lot will be accessed from Larkspur Landing Circle for construction personnel and will be closed to parking during construction. The Main Lot and Larkspur Ferry Terminal (LFT) is on a paved, flat site that is not susceptible to wildfire. The Main Lot will be accessed off Sir Francis Drake Boulevard for construction personnel. Access to the LFT will be maintained for emergency vehicles and transit, as well as pedestrian and bicycle access during construction. No day use parking for ferry users will be available at the LFT during construction. If a wildfire were to occur and result in hazardous conditions related to pollutant concentrations, construction activities would stop until it is determined that that it is safe to resume work, or workers would use sufficient personal protective equipment in accordance with Occupational Safety and Health Administration requirements to avoid exposure to pollutants. As a result, construction of the proposed Project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire and impacts would be ***less than significant***. No mitigation required.

Operation

Build Alternatives

Operation of the proposed Project would not exacerbate wildfire risks related to slope, prevailing winds, or other site-specific factors. The proposed Project involves improvements to an existing, developed facility and would not substantially alter site conditions, topography, or exposure to wind patterns.

The proposed Project involves the addition of concrete parking garages to existing paved lots and would not introduce new ignition sources or features that would increase the potential for wildfire spread. The site consists of impervious fire-resistant surfaces, consistent with existing conditions. The LFT functions like a park and ride, with users spending little time onsite. If a wildfire were to occur and result in hazardous conditions with the potential to impact ferry riders, the LFT would be closed, and the ferry would stop operations until it was determined that it was safe to resume operations. As a result, the proposed Project would not increase exposure to occupants to wildfire-related pollutant concentrations or contribute to the uncontrolled spread of wildfire and impacts would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

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 on the Environment

Construction

Build Alternatives

Construction of the proposed Project would occur on existing paved sites within urbanized areas with existing utilities. The contractor will use exiting utilities and supplement as necessary with temporary generators or water hauling and does not require any new infrastructure, such as fuel breaks, emergency water sources, or utility extensions that could exacerbate wildfire risk. Construction of the Build Alternatives would not exacerbate fire risk or related impacts on the environment, and impacts would be ***less than significant***. No mitigation required.

Operation

Build Alternatives

Operation of the proposed Project would not require new or expanded infrastructure that could exacerbate wildfire risk. The proposed Project involves parking improvements at an existing paved facility, located on a flat, low-lying area, adjacent to the San Francisco Bay. The Build Alternatives would be connected to existing utilities and would not introduce features such as new roadways, fuel breaks, or utility systems that would increase fire hazards. Therefore, operation of the proposed Project would result in ***no impacts*** that would exacerbate fire risk or result in associated wildfire impacts on the environment.

Mitigation Measures

No mitigation required.

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

Construction

Build Alternatives

Construction of the Build Alternatives would be located at existing paved facilities on a flat, low-lying areas within an urbanized area, adjacent to the San Francisco Bay. Neither the North Lot nor Main Lot are susceptible to wildfire. Construction of the proposed Project would occur at an existing developed facility and would not substantially alter the site topography, slope conditions, or drainage patterns. The Build Alternatives would result in ***no impacts*** that would expose people or structures to significant wildfire risks associated with runoff, instability, or drainage changes.

Operation

Build Alternatives

Operation of the proposed Project would not change existing site conditions that would affect runoff, slope stability, or drainage. The proposed Project involves improvements to an existing parking facility,

and the addition of a new parking garage would not introduce substantial changes to site grading. Impervious surfaces would remain largely similar to preconstruction conditions.

In addition, the proposed Project is on a flat, low-lying area, adjacent to the San Francisco Bay, in an urbanized area outside of a Fire Hazard Severity Zone (CAL FIRE 2025) and is not subject to wildfire-related risks, such as post-fire slope failure, debris flows, or downstream flooding. Therefore, the proposed Project would not expose people or structures to increased risks from runoff, slope instability, or drainage changes associated with wildfire. Impacts would be ***less than significant***. No mitigation required.

Mitigation Measures

No mitigation required.

4. Cumulative Impacts

An Environmental Impact Report (EIR) is required to examine cumulative impacts. California Code of Regulations Section 15130(a)(1) defines a cumulative impact as consisting "of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." The analysis of cumulative impacts need not provide the same level of detail as that for project-specific impacts, but it shall "reflect the severity of the impacts and their likelihood of occurrence" (per California Code of Regulations Section 15130[b]). The California Environmental Quality Act (CEQA) Guidelines Section 15065 states that a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited but cumulatively considerable. As defined in State CEQA Guidelines Section 15065(a)(3), *cumulatively considerable* means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." The cumulative impacts analysis in an EIR must analyze either a list of past, present, and probable future projects or a summary of projections contained in an adopted general plan or related planning document.

4.1.1 Approach and Methodology

State CEQA Guidelines Section 15130(b) states that the discussion of cumulative impacts should include the following:

- Either (1) a list of past, present, and probable future projects producing related or cumulative impacts or (2) a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document, that described or evaluated conditions contributing to a cumulative impact
- Discussion of the geographic scope of the area affected by the cumulative impact
- Summary of expected environmental effects to be produced by these projects
- Reasonable, feasible options for mitigating or avoiding the project's contribution to any
- Significant cumulative effects

According to CEQA Guidelines Section 15130 (a)(1), an EIR should not discuss impacts that do not result in part from the project evaluated in the EIR. For a project to contribute to cumulative impacts, it must result in some level of impact on a project-specific level. As described in Section 1.3.2.41, Environmental Resources Not Considered in this Draft Environmental Impact Report, the Larkspur Ferry Service Expansion and Parking Project (Project) would have no impact on mineral resources or agricultural and forestry resources. Because the proposed Project would have no impact on these resources, it cannot contribute to any potential cumulative impacts, and these resource areas are not discussed further in the cumulative impact analysis. Additionally, based on analysis in this Draft EIR, it was also determined that the Project would not result in any impacts on population and housing. Consequently, the Project would not have the potential to contribute to cumulatively considerable adverse impacts related to this resource, and it is not discussed in this cumulative impact analysis.

4.1.2 Projects Considered

Reasonably foreseeable future projects are defined as the projects that have been adopted or have otherwise demonstrated likelihood to occur based on documentation from project sponsors.

Table 4-1 presents the projects considered and includes their applicable jurisdictions, potential impact areas, estimated construction schedules, and distance from the proposed Project. Project information listed in Table 4-1 is based on information supplied by the Golden Gate Bridge, Highway and Transportation District (District), City of Larkspur, Marin County, and other sources.

Table 4-1. Projects Considered in the Cumulative Impacts Analysis

Project	Description	Distance from Site
Ferry Projects		
Purchase new ferry (Project 1940) Ongoing	This project includes the purchase new, 500-passenger, high-speed ferry vessel to improve existing service and better serve routes between Marin County and San Francisco.	Onsite
Spaulding Scheduled Replacement (Project 2446) Ongoing since 2020	The project involves the phased replacement of aging Spaulding-class vessels with newer, more fuel-efficient vessels (aligned with Liwa-class design principles).	Onsite
Spaulding Class Dry Docking (Project 2644) Fiscal Years 2026 to 2034	This project includes designing and constructing a fleet of CARB-compliant vessels to replace the three 750-passenger capacity Spaulding-class vessels.	Onsite
Del Norte Catamaran Replacement (Project 2445) Ongoing since 2025	This project replaces the Del Norte ferry to address CARB-proposed Commercial Harbor Craft regulations that developed an Alternative Control of Emissions Plan. The Del Norte is the first of the existing catamaran fleet to be replaced. The project aligns the fleet upgrade schedule to support the District's Climate Emergency Action Plan to reduce GHG emissions from revenue vehicles.	Onsite
Ferry Vessel Rehab (Project 2341) Fiscal Year 2023	This project involves the scheduled rehabilitation and capital improvement of ferry vessels beginning in Fiscal Year 2023. Projects are associated with the propulsion system, hull inspection, and navigational equipment required to reach the full economic life of a ferry vessel and ensure compliance with USCG regulations. This project is intended to fund dry dockings for the District's catamaran high-speed vessels for the remainder of their service life.	Onsite
Spaulding Drydocking and Capital Improvements (Project 2447) Fiscal Year 2024	This project involves the scheduled rehabilitation and capital improvement of Spaulding-class ferry vessels. Projects are associated with propulsion and auxiliary and control systems, hull inspection, and navigational equipment required to reach the full economic life of a ferry vessel and ensure compliance with USCG regulations until they are retired. This project is intended to fund drydocking for the Ferries MS Marin, MS San Francisco, and MS Sonoma.	Onsite
Camels and Floats Restoration (Project 2645)	This project rehabilitates the floating mooring equipment at the LFT. Project includes renewing buoyancy to the floating	Onsite

Project	Description	Distance from Site
	camels, addressing corrosion and structural repairs to the steel structures, renewing marine coatings, and maintaining and improving the vessel servicing equipment to improve safety, efficiency, and reliability of vessel servicing.	
Ferry Fleet and Infrastructure Electrification Concept (Project 2342) Ongoing	This project provides feasibility studies and design concept development for future ferry electrification, which is necessary for shore-side charging infrastructure. This project is necessary to support a larger scale study and concept, including charging infrastructure and electrification of District ferry vessels.	Onsite
Landside Projects		
Drainage Culvert Rehabilitation (Project 2641)	This project provides slip lining of the existing deteriorated storm drain culvert to restore the integrity of the storm drain and underlying earth berm at LFT diesel fuel tank farm. The work includes pulling a smaller HDPE pipe through the full interior length of the existing storm drain, grout filling the annular space between the HDPE and existing corrugated pipe, and constructing new concrete headwalls at both ends of the drain pipe.	Onsite
Fixed Containment Boom Replacement (Project 2544)	This project replaces the fixed oil spill containment boom at LFT because of the state of poor repair and its reaching the end of its useful life. The containment boom requires complete replacement to help mitigate any potential oil spill from the ferry terminal ramp and gangway hydraulics, vessel fueling, or oily bilgewater systems that are used to service the vessels. This project will replace the closing project LFT Fixed Boom Service Life Extension Project.	Onsite
LFT Parking Expansion Study (Project 2042) Ongoing since 2020	The project includes the study of mid- and long-term growth scenarios for LFT service, including environmental clearance for increased crossings and parking expansion options. LFT service has reached capacity during peak periods, constrained by both the limited number of crossings allowed per current environmental clearance and parking demand, which has exceeded availability.	Onsite
Gangways and Piers (Project 0503)	This project provides preliminary engineering and environmental work to replace and rehabilitate the existing hydraulic gangway and ramp system installed at the San Francisco, Larkspur, and Sausalito ferry terminals that were built in the mid-1970s.	Onsite and at Sausalito (7.7 miles)
LFT Berth Rehabilitation	This project rehabilitates the passenger access system at Berths 1 and 2 because of deterioration requiring emergency	Onsite

Project	Description	Distance from Site
(Project 2541) 2026 to 2027	attention instead of the floating mooring equipment and passenger gangways of both LFT and San Francisco Ferry Terminal. An increase to the project budget is required because the contract estimate and staff labor needed for the LFT berth portion is higher than originally estimated.	
LFT Berth 1 Berthing Arrangement Feasibility (Project 2442)	This project provides the feasibility study and development of a conceptual plan view for a Larkspur Berth 1 float installation to facilitate main deck loading. The plan may include the removal of the existing hydraulic ramp and camel float infrastructure	Onsite
LFT Berth and Channel Dredging (Project 2642) Ongoing since 2020	This project includes the design and permitting associated with dredging the LFT berths, turning basin, and approach channel. These areas require periodic dredging to remove sediment that accumulates over time and which, if not removed, will impact ferry operations.	Onsite
Ramp Infrastructure Capital Improvements (Project 2545)	This project implements necessary ramp infrastructure improvements at Angel Island, Tiburon, Larkspur, and Sausalito to ensure continued service reliability and enhance the safety of mooring operations.	Onsite
LFT Kiosk A Rehabilitation (Project 2542) 2025 to 2028	This project includes the design and rehabilitation to the LFT Kiosk A, located inside the paid waiting area of the LFT. Work includes rehabilitating the roofs, water damaged areas inside the kiosks, improving ventilation, painting, and other necessary work to repair damaged and deteriorated conditions.	Onsite
LFT Kiosk C Rehabilitation Project (Project 2543)	This project will rehabilitate Kiosk C because of the antiquated dating from original construction in 1976, which no longer meets the current and future needs of the Ferry Division. Kiosk C, originally designed for physical ticket vending and collecting by District staff, requires significant updates to make a functional office space for terminal supervisors. Updates include updating of restrooms, carpet (currently torn out), paint, and updated furnishings.	Onsite
LFT Service Building Roof Rehabilitation (Project 2546) Fiscal Year 2025 to 2026	This project will rehabilitate the LFT service building roof and install a fall restraint system around the roof perimeter.	Onsite
Larkspur DEF Storage and Transfer Infrastructure Design (Project 2540)	This project includes investigation and design for the installation of a new fuel tank and piping system at the LFT. The new fuel tank will be for storage of diesel exhaust fluid	Onsite

Project	Description	Distance from Site
	(aqueous urea solution), a necessary additive required for diesel powered vehicles, including the District's new ferry vessels.	
LFT ADA Parking Lot (Project 2646) Fiscal Year 2025 to 2026	This project provides ADA parking lot rehabilitation improvements: grinding existing asphalt concrete surfacing, placing new asphalt concrete overlay, improving the embankment slope, replacing ADA signage, and adding new striping and wheel stops.	Onsite
US 101/I-580 Multimodal and Local Access Improvement Project Fiscal Year 2032	Address congestion and enhance connectivity between northbound US 101 and eastbound I-580 to the Richmond-San Rafael Bridge. Received voter support for funding in the local Marin 1/2-Cent Transportation Sales Tax, Measure AA, renewed in 2018. The project is also included in Regional Measure 3 (toll-bridge funds), which was approved by voters in June 2018. It is anticipated that additional funding will be needed to fully fund the construction of the project.	Approximately 2 miles
Oak Hill Workforce Housing project Marin County Public Financing Authority Fiscal Year 2028	This project includes future development on 8.5 acres of unused state property in the unincorporated area of San Quentin to provide 135 units for educators and County of Marin employees who qualify based on income. This project is public/private partnership with Educational Housing Partners, College of Marin, Marin Office of Educations, San Rafael City Schools, Novato Unified and the County. Educational Housing Partners is designated to manage construction once the project is fully permitted.	1 mile by road, 1/2 mile direct
2000 Larkspur Landing Circle Development Ross Valley Sanitary District	It is a future development project on 10.7 acres of land at 2000 Larkspur Landing Circle in Larkspur where a wastewater treatment plant was previously located. The project may include high-density residential use, limited commercial or office use to serve local and regional needs, or public facilities. Residential units are multiple dwelling units up to 35 units per acre. Request for Qualifications was issued on August 4, 2025. Project team will work with Brookfield Residential/Carmel Partners.	.7 mile
Larkspur Library and Comm Center City of Larkspur and TCF	The project for City of Larkspur and TCF is to build a $5 million library building at the Rose Lane Community Facility on 2-acre parcel of land. It is anticipated that the building will serve as the first phase in a multi-phased approach to building a larger library and community center. The site is on Doherty Drive at Rose Lane.	3 miles by road, 1 mile direct

Project	Description	Distance from Site
Larkspur Library and Comm Center City of Larkspur and TCF	The project for City of Larkspur and TCF is build a $5 million library building at the Rose Lane Community Facility on 2-acre parcel of land. It is anticipated that the building will serve as the first phase in a multi-phased approach to building a larger library and community center. The site is on Doherty Drive at Rose Lane.	3 miles by road, 1 mile direct
City Hall Renovation Study Page and Turnbull Fiscal Year 2026	Opportunity to explore renovation options and reassess how the vacated space in City Hall can best serve the Larkspur community when the Larkspur Library moves to Rose Lane from its current location. The Historic Structure Report will examine the history and condition of City Hall and explore renovation options, as well as prioritized repair and maintenance recommendations and cost estimates associated with renovation schemes.	3 miles by road, approximately 1.5 miles direct
250 Bon Air Drive, Greenbrae Behavioral Health Building Count of Marin Health Fiscal Year 2026	This improvement project is for common areas and building systems: the Behavioral Health Building ("BHB") contains approximately 40,000 square feet in two stories and was constructed in 1967. Therefore, the first task is to evaluate the standby power needs of the facility. County and Marin Health will continue to meet in Fiscal Years 2025 and 2026 to plan the next set of projects based on importance to each party using the Facility Condition Assessment, and they will return to the Board with recommendations.	2 miles
Traffic Improvements Fiscal Year 2026 $3.2 million	This includes traffic improvement projects consisting primarily of grant-funded projects, with the most consistent (but not only) grant source being the HSIP. Grants awarded under the HSIP program fund safety improvements such as guardrail installation and replacement, enhanced signage and striping, roadway and intersection lighting, horizontal and vertical roadway geometry improvement projects and technological upgrades to traffic signals that often extend across jurisdictional boundaries, and pedestrian improvements beyond paving project requirements.	Scattered
Sir Francis Drake Boulevard Corridor Operations and Innovation Plan Request for Proposal #2906 Fiscal Year 2027	The County of Marin seeks a consultant to evaluate corridor operations through targeted data collection and analysis; identify innovative and practical solutions to improve travel time reliability, transit performance, safety, and multimodal mobility; and prioritize recommendations through stakeholder and community engagement. The desired outcome is a corridor plan that identifies near-term actions, pilot opportunities, and long-term improvements	Starts next to LFT and spans approximately 1.5 miles away

Project	Description	Distance from Site
	capable of delivering measurable improvements in reliability, safety, transit performance, and multimodal mobility.	
Environmental Projects		
Stormwater Management Program 2017	This project reduces urban runoff pollution and protects local bodies of water from water quality impairment in response to regulatory mandates from the California State Water Resources Control Board and the U.S. Environmental Protection Agency. Program aims include: ▪ Public outreach ▪ Industry facility inspections ▪ Illicit discharge investigation and enforcement ▪ Construction site management ▪ Maintenance of the facility drainage system	Onsite
Hillview Gardens Storm Drain Project No. 2016-011 Fiscal Years 2018 to 2021	Reconfigure the storm drain system in Hillview Garden neighborhood and reroute it to a new storm drain pump station on Bon Air Road in Hillview Garden neighborhood on the east side of Magnolia north of Bon Air Road in Larkspur. The Hillview Gardens neighborhood, sandwiched between King Mountain and Corte Madera Creek, is subject to frequent flooding. The existing storm drain system has proved inadequate to handle the levels of runoff passing through the neighborhood in combination with high creek tides.	Approximately 2 miles
Corte Madera Creek Flood Management Project – Zone 9 Fiscal Year 2026	Reduce peak flood flows and overbank flooding in Corte Madera Creek, including a new maintenance access ramp (2022), the Granton Park Stormwater Pump Station (2024), restoration at the Lower College of Marin (2025), improved fish resting pools within the concrete channel, and natural channel transition and flood risk reduction work upstream. Remaining project components will proceed after the completion of the Federal Emergency Management Agency compliance process ($10 million approved, $1.28 million potential future).	Approximately 2 miles

Sources: City of Larkspur. n.d.
ADA = Americans with Disabilities Act
CARB = California Air Resources Board
GHG = greenhouse gas
HDPE = high-density poly ethylene
HSIP = Highway Safety Improvement Program
I-580 = Interstate 580
LFT = Larkspur Ferry Terminal
US 101 = United States Highway 101
USCG = U.S. Coast Guard
TCF = The Commons Foundation

4.2 Cumulative Impacts Analysis

The following discussion presents the cumulative impacts of the proposed Project, organized by resource area. There is the potential for cumulative impacts where other projects and the Project overlap in location or are adjacent (affecting the same resource/receptor but potentially at different times) or if they overlap in time (affecting the same resource/receptor at the same time).

The discussion in this section evaluates the potential for the proposed Project to contribute to a cumulative adverse impact on the environment. The analysis considers there to be a significant cumulative impact if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts.

The cumulative analysis that follows addresses the incremental contribution of the Project to cumulative impacts associated with aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, GHG, hazards and hazardous materials, hydrology and water quality, land use and planning, noise and vibration, transportation, tribal cultural resources, utilities and service systems, and wildfire. This analysis is based on the Project impacts on each resource as described in the individual resources analyses in Chapter 3, Environmental Analysis.

4.2.1.1 Aesthetics

A significant cumulative impact on aesthetics would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would do the following:

- Have a substantial adverse effect on a scenic vista
- In nonurbanized 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 publicly accessible vantage point). If the Project is in an urbanized area, would conflict with applicable zoning and other regulations governing scenic quality
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

As discussed in Section 3.1, the Project would have no impact on scenic resources within a state scenic highway. No consideration of cumulative impacts on this topic is warranted.

The geographic scope for aesthetics consists of the area of visual effect as defined in Section 3.1.

The Project would have no direct impact on scenic vistas; however, it may obscure views to and from scenic resource areas. While cumulative impacts may occur from the Project when considered along with other projects that would add structures that could also affect views to and from scenic resource areas, the Project would not have direct impacts on these resource areas. The impact of the Project on scenic vistas would not be cumulatively considerable.

As detailed in Section 3.1.2.4, the Project would have a significant and unavoidable impact on the existing visual character or quality of public views of the site and its surroundings, both during construction and operations. Project construction activities would occur over a 54-month period, and so activities are not considered temporary. Because impacts on visual character or quality of public views would be significant and unavoidable, Project impacts would be cumulatively considerable.

During the construction phase, temporary daytime glare may occur from construction equipment. Glare from construction equipment from the Project and other construction projects could result in a cumulative impact if the construction projects occur at the same time and in proximity to each other. However, construction equipment is not considered a source of substantial light and glare, and impacts from the Project would not be cumulatively considerable. No nighttime construction would occur, so the Project would not contribute to cumulative impacts related to light or glare affecting nighttime views. Operational lighting for the Project would be shielded and directed to the ground, whereas most current site lighting is not, and measures to reduce light and glare impacts would be implemented so that the impact on the Project would not be cumulatively considerable.

Because impacts on visual character or quality of public views would be significant and unavoidable, Project impacts would be cumulatively considerable, and cumulative impacts to aesthetics would be significant and unavoidable.

4.2.1.2 Air Quality

A significant cumulative impact on air quality would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would do the following:

- Conflict with or obstruct implementation of the applicable air quality plan
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard
- Expose sensitive receptors to substantial pollutant concentrations
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

The air quality study area is in the Marin County Basin portion of the San Francisco Bay Area Air Basin.

The applicable air quality plan for the San Francisco Bay Area Air Basin is the *2017 Clean Air Plan* (BAAQMD 2017). The Project would comply with the applicable air quality regulations and rules that ensure air emissions resulting from the construction and operation of the Project would not exceed the Bay Area Air District (BAAD) emission thresholds that are in place ensure a project would not conflict or hinder implementation of air quality plans. MM-AQ-CNST-1 would be implemented during Project construction to ensure health risks and hazard impacts to nearby offsite workers and residents would be lower than the BAAD CEQA thresholds. Because the Project would not conflict with or obstruct implementation of the applicable air quality plan, Project impacts would not be cumulatively considerable.

The impact analysis in Section 3.2 for the threshold shows the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is a nonattainment area for an applicable federal or state ambient air quality standard was addressed as a cumulative impact. The analysis concluded that cumulative impacts related to this topic would be less than significant.

Operational criteria air pollutant emissions would have a net decrease compared to existing conditions and therefore would not be cumulatively considerable.

Diesel particulate matter emissions from Project construction activities would exceed cancer risk thresholds but would be reduced through mitigation measures. MM-AQ-CNST-1 would ensure construction activities would not result in exposure of sensitive receptors to substantial pollutant concentrations. Project operations are not expected to result in carbon monoxide hot spots or substantial

amounts of diesel particulate matter emissions. Project impacts related to exposure of sensitive receptors to substantial pollutant concentrations would not be cumulatively considerable.

The Project is not of a type of land use associated with nuisance odors that can adversely affect a substantial number of people, and construction and operation activities are not expected to cause odors that would affect nearby residents or workers. Impacts from odors produced by the Project would not be cumulatively considerable.

Cumulative impacts on air quality would not be significant.

4.2.1.3 Biological Resources

A significant cumulative impact on biological resources would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would result in 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 result in 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.

As discussed in Section 3.3, the Project would have no impacts on State or Federally Protected Wetlands and would not 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 consideration of cumulative impacts on these topics is warranted

The geographic scope for biological resources consists of the biological site assessment as defined in Section 3.3 and the ferry route corridor between the Larkspur and Downtown San Francisco Terminals.

The Project would have no impacts on special-status plant species, and therefore, there would be no cumulative impacts on these species from the Project. Noise from Project construction activities would have no impact on special-status marine mammals (California sea lions, harbor seals, dolphins, whales and porpoises) and special-status fish species, and therefore, there would be no cumulative impacts on these species from Project construction. Noise from pile driving during Project construction could affect California Ridgway's rail, black rail, and salt marsh harvest mouse. Noise impacts on these species would be reduced to less than significant through avoidance and minimization measures and mitigation measures. Cumulative impacts could occur if similar noise levels are produced by other construction projects occurring simultaneously with Project pile-driving activities.

The increase in ferry operations expected in 2050 could impact marine mammals within the ferry route corridor directly because of increased collision risk (vessel-strike) or indirectly through behavioral disturbance. The Project's increase in ferry operations would be minimal compared to existing conditions, and impacts would not be cumulatively considerable. No other projects have been identified that would result in a significant increase in marine vessel operations within the ferry route corridor that could result in significant cumulative impacts on marine mammals in this area.

Cumulative impacts on biological resources would be less than significant.

4.2.1.4 Cultural Resources

A significant cumulative impact on cultural resources would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts

that would cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5, cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5, or disturb any human remains, including those interred outside of dedicated cemeteries?

The geographic scope for cultural resources are the footprints of the two Build Alternatives. As explained in Section 3.4.1.2, adjacent built-environment resources that the Project would not physically change are not included in the CEQA study area. There would not be cumulatively considerable impacts on the built-environment historical resources adjacent to the Project area.

Project construction impacts on historical resources would be limited to the LFT and would be less than significant. No other projects are proposed for the immediate vicinity of the terminal that could affect the terminal building or its setting; therefore, Project impacts on historical resources would not be cumulatively considerable. Project construction impacts on archaeological resources and human remains would be limited to those associated with unexpected encounter of undocumented archaeological resources and human remains and would be less than significant with mitigation. No other projects with potential to encounter undocumented archaeological resources or human remains are proposed for the Project site; therefore, Project impacts on archaeological resources and human remains would not be cumulatively considerable.

Project operations would have no impact on historical resources, archaeological resources, or human remains. There would be no cumulative impacts on historical resources from Project operations. Cumulative impacts on cultural resources would be less than significant.

4.2.1.5 Energy

A significant cumulative impact on energy would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would result in potentially significant environmental impact because of wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The cumulative geographic context for energy is the service areas of Marin Clean Energy and Pacific Gas and Electric Company.

As discussed in Section 3.5.2.3, Project construction activities would require large quantities of energy in the form of gasoline and diesel and would result in a short-term intensive demand for diesel fuel to power heavy excavation equipment and heavy-duty haul trucks. This energy consumption is necessary to construct the Project and would not be unnecessary. Use of Tier 4-certified construction equipment required by MM-AQ-CNST-1 and CARB anti-idling regulations would ensure energy efficiency use and minimize petroleum consumption. The Project includes design features and operational measures to increase energy efficiency during operations and maintenance. Energy consumption for Project construction and operation would not be wasteful, inefficient, or unnecessary. Other projects in the cumulative geographic context would also consume nonrenewable energy resources during construction and operation, and together those projects would represent some regional demand. The Project's contribution to that demand is limited in duration and scale. In the construction phase, energy use would be confined to two phases, and operational energy use would be offset by onsite renewable generation and by the reduction in vehicle miles traveled attributable to increased ferry service. Because the Project's incremental energy consumption would be efficient rather than wasteful, and because the state and local energy efficiency and renewable energy requirements applicable to the Project apply equally to other development in the service areas of Marin Clean Energy and Pacific Gas and Electric Company, the

Project's contribution to cumulative energy consumption would not be cumulatively considerable. Cumulative impacts on energy would be less than significant.

4.2.1.6 Geology and Soils

A significant cumulative impact would occur if the proposed Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would do the following:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction
- Result in substantial soil erosion or the loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse
- Be located on expansive soil, creating substantial direct or indirect risks to life or property

As discussed in Section 3.6, the Project would have no impacts related to landslides, septic tanks, and unique paleontological resources, sites, or geologic features. No consideration of cumulative impacts for these topics is warranted.

The geographic scope for geology and soils cumulative study area is the Project footprint and adjacent areas.

Hazards associated with fault rupture and seismic shaking are not unique to the Project site but could affect other projects in the adjacent area. All projects in the adjacent area would need to comply with the California Buildings Standard Code, Marin County policies, and Larkspur Municipal Code seismic requirements, as applicable, which would ensure that cumulative risks to life from damage would be less than significant. The Project site is not within a mapped Alquist-Priolo earthquake fault zone, and the risk of surface fault rupture from a seismic event is very low; therefore, the impacts from fault rupture at the Project site would not be cumulatively considerable. Potential impacts at the Project site associated with soil liquefaction, seismic densification, and lateral spreading would be addressed through design and construction recommendations presented in the Project Geotechnical Report. All construction projects in the area would be required to implement similar geotechnical report recommendations, and cumulative impacts from these hazards would be less than significant.

During construction, the Project would be required to implement best management practices (BMPs) to control sediment and minimize erosion from ground disturbance. Other projects would be required to implement similar measures during ground-disturbing construction, which would result in less than significant cumulative soil erosion and loss of topsoil impacts.

Impacts associated with potential liquefaction, lateral spreading, soil compression, settlement and subsidence because of dewatering in soil that is unstable or could become unstable because of construction and operation, and from being located on expansive soils would be reduced through adherence to design recommendations presented in the Project Geotechnical Report. All construction projects in the area would be required to implement similar Project Geotechnical Report recommendations, and cumulative impacts from these hazards would be less than significant.

Cumulative impacts on geology and soils would be less than significant.

4.2.1.7 Greenhouse Gas Emissions

From the standpoint of CEQA, GHG impacts on climate change are inherently cumulative and were discussed in detail in Section 3.7; a summary of that discussion is provided here.

A significant cumulative impact would occur if, when past, present and probable future projects are considered together with potential impacts from the proposed Project, they were to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

The global nature of climate change requires a broad analytic approach. Although Section 3.7 focuses on GHG emissions generated in the Project area because of construction and operation, the analysis considers potential regional and global GHG impacts.

GHG emissions from Project construction activities would be temporary and variable. BAAD has not developed a quantitative threshold of significance for construction-related GHG emissions. Construction activities would incorporate BMPs, including those in the BAAD CEQA Guidelines to minimize GHG emissions, and Project GHG emissions during construction would not be cumulatively considerable

Project operations would produce direct GHG emissions from ferry operation and vehicle trips and indirect GHG emissions associated with electricity consumption during operation. CEQA Guidelines Section 15183.5(b) allows a lead agency to determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances. Because the Project would be consistent with a local GHG reduction strategy that meets the criteria in CEQA Guidelines Section 15183.5(b), GHG emissions are not considered cumulatively considerable.

The proposed Project includes measures that would be consistent with state regulations that will reduce GHG emissions and the applicable policies described in the Scoping Plans for Assembly Bill 32, Senate Bill 32, the City of Larkspur's *Climate Change Action Plan 2030*, *2017 Clean Air Plan*, and *Plan Bay Area 2050+* (City of Larkspur 2021; BAAQMD 2017; MTC and ABAG 2026). Consequently, the proposed Project would not conflict with achievement of Assembly Bill 32 reduction goals for 2020, Senate Bill 32 reduction goals for 2030, or the regional transportation plan/sustainable community strategy reduction goals for 2020 and 2035.

Cumulative impacts from GHG emissions would be less than significant.

4.2.1.8 Hazards and Hazardous Materials

A significant cumulative impact from hazards and hazardous materials would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would do the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- 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
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile of an existing or proposed school

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

As discussed in Section 3.8, the Project would have no hazard or hazardous material impacts associated with being located on a site that is included on a List of Hazardous Materials Sites Compiled Pursuant to Government Code Section§ 65962.5, being located within an Airport Land Use Plan or within Two Miles of a Public Airport or Public Use Airport, and exposing People or Structures to a Significant Risk of Loss, Injury or Death Involving Wildland Fires. No consideration of cumulative impacts for these topics is warranted.

The geographic scope for hazards and hazardous material includes sites within 0.25 mile of the project.

The Project would involve routine transport, use, and disposal of hazardous materials in quantities typical of construction activities and upset and accident conditions involving the release of hazardous materials into the environment could occur. These potential impacts would be limited to the duration of construction and would be minimized through implementation of a stormwater pollution prevention plan (SWPPP) and BMPs during construction activities. Implementation of the SWPPP requirements would result in these potential impacts during construction of the Project not being cumulatively considerable. During operations, transportation, use, and disposal of hazardous materials would remain similar to current conditions. In addition, the District would obtain an amendment to the industrial general permit SWPPP to address changes in site conditions that would further reduce the potential for hazardous materials releases during Project operations. Because there would be no significant change to existing conditions, there would not be a cumulatively considerable significant impact on the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The Project could involve transport of small quantities of hazardous materials typical of construction activities and could have the potential for accidental spills or releases of hazardous substances during construction within 1/4 mile of the Children's Cottage Cooperative Preschool. These potential impacts would be limited to the duration of construction and would be minimized through implementing a SWPPP and BMPs during construction activities. Implementation of the SWPPP requirements would result in these potential impacts during construction of the Project not being cumulatively considerable. During operations, the generation, use, and disposal of hazardous materials would remain similar to current conditions. Because there would be no significant change to existing conditions, there would not be a cumulatively considerable significant impact from hazardous emissions or handing of hazardous material to existing or proposed schools within 1/4 mile of the Project.

During Project construction, temporary and intermittent traffic delays, typical with construction projects, could occur within the Project vicinity and could affect emergency response and evacuation plans. This potential impact would be reduced through traffic control plans (TCPs) and traffic management plans (TMPs) that would maintain access during construction. The TCPs and TMPs would address construction-related traffic, along with any other construction project occurring at the same time, that could affect emergency access. The plans would ensure emergency vehicles have priority access during construction. Project operations would not substantially alter site operations or circulation patterns and would not alter the surrounding road network in a way that would impair or interfere with emergency response or evacuation plans. Final design would be reviewed for compliance with applicable emergency access requirements. Other projects would undergo a similar review. Impacts on emergency response plans and emergency evacuation plans from Project operations would not be cumulatively significant.

Cumulative impacts from hazards and hazardous materials would be less than significant.

4.2.1.9 Hydrology and Water Quality

A significant cumulative impact on hydrology and water quality would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would do the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin
- 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 that would:
  - Result in substantial erosion or siltation on- or offsite
  - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite
  - Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
  - Impede or redirect flood flows
  - Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding because of the failure of a levee or dam
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation

As discussed in Section 3.9, the Project would have no hydrology or water quality impacts associated with implementation of a water quality control plan or sustainable groundwater management plan, and placing housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or FIRM or other flood hazard delineation map. No consideration of cumulative impacts for these topics is warranted.

The geographic scope for hydrology and water quality cumulative study area is the Project footprint and adjacent areas.

Project construction activities could affect surface and ground water quality, groundwater supplies, and alter site drainage patterns. Impacts would be temporary and occur only during construction. Implementation of site-specific BMPs that will be identified in the Project SWPPP (MM-HYD-CNST-1) during construction would minimize potential impacts on water quality and temporarily altered site drainage patterns. The District is replacing the legacy fleet with the Liwa class vessels. The Liwa class vessels, even with increased ferry service, would not exceed Bay Plan turbidity threshold. Other construction projects would also be required to implement site-specific BMPs. Application of BMPs during all construction projects would result in cumulative impacts on these topics not being significant.

Groundwater supplies would not be used for construction activities because municipal water supplies do not use groundwater as a water source. For the same reason, water required to support other projects would also not use groundwater supplies, so there would be no cumulative impacts on groundwater resources. Impacts on groundwater supplies would be limited to dewatering, which may be required in Project excavation areas. This would be a temporary and minimal use of groundwater that would not result in a cumulatively considerable impact.

No substantial change in the amount of impervious surface would be created, and stormwater drainage conditions after construction would remain the same as existing conditions. The District's existing

industrial general permit would be amended to include the new parking s into the facility's BMPs (MM-HYD-OP-1). Project operations would not use groundwater supplies. Therefore, Project operations would not result in cumulatively considerable impacts on surface or groundwater quality or groundwater recharge or from altered drainage patterns.

As described in Section 3.9, the Project site is within a flood hazard and tsunami inundation zone. Construction activities would include BMPs to reduce the release of pollutants because of construction site inundation. Other construction projects occurring in the same flood hazard and tsunami inundation area would also be required to implement BMPs so that cumulative impacts would not be significant. The Main Parking would be constructed above the flood hazard zone, which would reduce the risk of pollutant release from inundation from Project operations, and the impact from flood hazard would not be cumulative considerable. While the Project is in a tsunami inundation zone, the potential for significant damage at this location is considered very low. This same tsunami condition would apply to other projects occurring adjacent to the Project site, and cumulative impacts would not be significant.

Cumulative impacts on hydrology and water quality would be less than significant.

4.2.1.10 Land Use and Planning

A significant cumulative impact on land use and planning would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would physically divide an established community or cause a significant environmental impact because of a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The geographic scope for land use and planning consists of the area within and around the Project area.

The Project would not physically divide an established community. During construction, temporary disruptions to circulation and access may occur because of phased construction activities, including closure of the North Lot during Phase 1 (up to 18 months) and potential closure of the Main Lot during Phase 2 (up to 36 months). However, these effects would be temporary and managed through implementation of a TMP and TCPs that would maintain access for vehicles, pedestrians, bicyclists, and transit users, as well as require coordination of construction traffic or detours with other adjacent projects. Any other construction projects occurring in the same area that could also result in similar disruptions to circulation and access would also be required to coordinate with the Project and implement a TMP and TCPs to maintain access and minimize construction-related traffic delays. Construction-phase impacts on circulation and access would be temporary. Because all construction projects would develop and implement TCPs and coordinate with each other, the impacts from construction projects occurring simultaneously would be avoided or minimized and would not be cumulatively considerable.

During operation, the Project would improve overall connectivity by enhancing access to the ferry terminal and regional transit services by including improvements such as a new pedestrian crossing, enhanced bicycle parking, and improved circulation. The Project would also strengthen connections between the ferry terminal and surrounding communities. Because the Project would improve existing access and circulation, it would not contribute to cumulative impacts related to physically dividing an established community.

As discussed in Section 3.10, the Project is consistent with Bay Conservation and Development Commission, *Plan Bay Area 2050+* (MTC and ABAG 2026), *The City of Larkspur General Plan 2040* (City of Larkspur 2024), *City of Larkspur Bicycle and Pedestrian Master Plan* (City of Larkspur 2017), and *City of Larkspur Climate Action Plan 2030* (City of Larkspur 2021). Therefore, the Project would not result in a

cumulatively considerable environmental impact because of a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

Cumulative impacts to land use and planning would be less than significant.

4.2.1.11 Noise

A significant cumulative impact to noise would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would result in the following:

- Generation of 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?
- Generation of excessive groundborne vibration or groundborne noise levels?

As discussed in Section 3.11.3.2, there would be no Project impacts from placement of project-related activities in the vicinity of a private airstrip or an airport land use plan, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels. No consideration of cumulative impacts on this topic is warranted.

The geographic scope for noise consists of the area within a 1/2-mile radius of the Project area.

Noise levels from construction activities at both the North Lot and Main Lot sites would not exceed applicable Federal Transit Administration (FTA) noise impact criteria and would be reduced further through noise control practices. Because no other construction projects that could result in noise impacts would occur adjacent to the Project site and at the same time as Project construction noise, impacts would not be cumulatively considerable. Noise from ferry terminal operations would not result in changes to the existing day-night sound level at sensitive receptors and would not exceed the threshold for moderate to severe impacts at sensitive receptors as defined by the FTA. Noise generated by increased vehicle traffic to and from the ferry terminal would increase noise traffic level by 1 A-weighted decibel, which would not be perceptible over existing ambient noise levels and would exceed the threshold for moderate to severe impacts under FTA noise impact criteria. Because a similar increase in traffic noise levels would occur because of anticipated regional growth even without the Project, Project traffic noise impacts would not be cumulatively considerable.

Groundborne vibration levels during Project construction would not exceed annoyance thresholds at any sensitive receptors and would not exceed California Department of Transportation (Caltrans) building damage thresholds. Because no other construction projects that could result in vibration impacts would occur adjacent to the Project site and at the same time as Project construction, vibration impacts during Project construction would not be cumulatively considerable. Vibration impacts during operations would be similar to existing conditions and as such would not be cumulatively considerable.

Cumulative impacts to noise would be less than significant.

4.2.1.12 Public Services and Recreation

A significant cumulative impact on public services and recreation would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would result in substantial adverse physical impacts associated with the

provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for fire protection or police protection.

As discussed in Section 3.13.3.2, there would be no Project impacts on schools, parks, and other public facilities, including libraries, nor to use of recreation facilities or from construction or expansion of recreation facilities. No consideration of cumulative impacts for these topics is warranted.

The study area for public services and recreation is the City of Larkspur.

Regarding impacts on fire protection and police protection, the Project would not cause unplanned population growth or vehicle trips on the surrounding roadways associated with construction worker and employee commutes, and deliveries. Increased ferry ridership during operation would not contribute to substantial congestion on the surrounding roadways when compared to existing traffic. Construction and operation of the Project is not anticipated to substantially affect performance objectives or response times for fire or police protection services. The Project would not include or require the provision of new or physically altered fire or police protection facilities. Because there would be no construction of new or physically altered fire or police facilities, the construction of which could result in environmental impacts, Project impacts associated with fire and police protection would not be cumulatively considerable.

Cumulative impacts on public services and recreation would be less than significant.

4.2.1.13 Transportation

A significant cumulative impact to transportation would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would do the following:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities,
- Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b),
- Substantially increase hazards because of a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment),
- Result in inadequate emergency access.

The geographic scope for transportation consists of the area within and around the Project area and includes the roadway network, transit service, and pedestrian and bicycle facilities that provide access to and from the terminal.

Project operations would not conflict with applicable local transportation plans and policies, addressing transit, roadway, bicycle, or pedestrian circulation, and would not affect emergency vehicle access or emergency response times and impacts related to emergency access. During Project construction, the City of Larkspur would require a TMP and TCPs to maintain safe and efficient circulation for vehicles, pedestrians, and bicyclists and minimize construction-related delays and manage circulation. The TMP would require coordination with emergency service providers, and the TCPs would maintain emergency access during construction. Impacts from the Project on these topics would not be cumulatively considerable.

Project construction activities would result in temporary increases in vehicle miles traveled (VMT). This effect would be temporary and cease upon completion of construction; therefore, it would not be

cumulatively considerable. Project operations would not increase VMT and thus would not contribute to cumulative impacts associated with VMT.

The TMP and TCPs would avoid temporary hazards resulting from conflicts with Project construction activities.

Under Alternatives 1 and 2 in 2050, projected queue lengths would exceed the available storage length and could extend onto the US 101 mainline at the US 101 southbound off ramp to Sir Francis Drake Boulevard. This queuing could result in a speed differential between the off ramps and the mainline that exceeds the Caltrans safe speed differential threshold resulting in a significant impact. Potential improvements to address this hazard would be subject to Caltrans approval, and the District cannot undertake a project to mitigate the safety impact. This impact is significant and unavoidable, and therefore, it is cumulatively considerable.

Because an increase in hazards on US 101 would be a significant and unavoidable impact, Project impacts would be cumulatively considerable, and cumulative impacts on transportation would be significant and unavoidable.

4.2.1.14 Tribal Cultural Resources

A significant cumulative impact to tribal cultural resources would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would cause a substantial adverse change in the significance of a tribal cultural resource, defined in California Public Resources Code (PRC) § 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 listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k)or 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 PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Ground-disturbing construction across the region carries the potential to disturb previously undiscovered tribal cultural resources, and the incremental loss of such resources is cumulative in character. The Project's potential contribution is limited by the extent of ground disturbance, which would occur on previously developed and previously disturbed land within the existing terminal footprint, and by the mitigation measures requiring monitoring, work stoppage, and tribal consultation upon discovery. PRC section 21080.3.1 requires consultation with California Native American tribes for any project subject to an EIR, so comparable protections would apply to other projects in the area. The Project's incremental contribution to cumulative impacts on tribal cultural resources would not be cumulatively considerable.

Cumulative impacts on tribal cultural resources would be less than significant.

4.2.1.15 Utilities and Service Systems

A significant cumulative impact on utilities and service systems would occur if the Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that would do the following:

- 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

- Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years
- 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
- 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
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste

The geographic scope for utilities and service systems consists of service areas of the water, wastewater, solid waste disposal, natural gas, and electricity suppliers that provide service to the Project site. For stormwater, it is the storm drain system on the Project site and adjacent areas.

Increased demand for water, wastewater treatment, and solid waste disposal capacity from the Project would combine with demand from other projects in the same service areas, including the Oak Hill Workforce Housing project and the 2000 Larkspur Landing Circle development. The Project would not introduce a new residential or employment population and would not require new or expanded utility facilities. Its incremental demand would consist of increased solid waste and wastewater disposal proportional to ferry ridership growth, phased over the period through 2050. Service providers plan for demand growth through their own capacity planning processes, and the Project's increment falls within the growth already anticipated for the service areas. The Project's contribution to cumulative demand would therefore not be cumulatively considerable.

Cumulative impacts on utilities and service systems would be less than significant.

4.2.1.16 Wildfire

A significant cumulative impact from wildfire would occur if the proposed Project, when considered together with past, present, and probable future projects, would contribute to cumulatively considerable impacts that, if located on or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, would do the following:

- Substantially impair an adopted emergency response plan or emergency evacuation plan
- Because of 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
- 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 on the environment; or expose people or structures to significant risks, including downslope or downstream flooding or landslides, because of runoff, post-fire slope instability, or drainage changes.

The geographic scope for wildfire cumulative study area is the Project site and surrounding area within approximately 1/2 mile.

The Project site and surrounding area are within a developed urban area and not within or near a Very High Fire Hazard Severity Zone.

Because the Project would not occur on or near State Responsibility Areas or lands classified as Very High Fire Hazard Severity Zones, cumulative impacts on wildfire would be less than significant.

5. Alternatives to the Project

5.1 Overview

Section 15126.6 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) describe a range of reasonable alternatives to the project, or to the location of the project, that would feasibly attain most of the basic objectives of the project but avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR is not required to consider alternatives that are infeasible.

5.2 Introduction

This chapter presents the alternatives analysis for the Larkspur Ferry Service Expansion and Parking Project (Project) as required by CEQA. This chapter includes a discussion of the CEQA requirements for an alternatives analysis and describes the process used to identify alternatives for evaluation.

Project design concepts were developed to meet the Project objectives: accommodating forecast ferry ridership demand to 2050 and beyond; providing a reliable, competitive travel alternative into San Francisco on United States Highway 101 (US 101) from Larkspur that reduces vehicle miles traveled (VMT) and greenhouse gases (GHG); enhancing onsite components to encourage multimodal travel, transit and non-motorized access; and developing parking solutions that accommodate ferry ridership to 2050 and beyond. The concepts are contained in two Build Alternatives that were evaluated based on their ability to meet the Project objectives. Alternative 3 – Transportation Demand Management Only was specifically considered in response to comments received during public outreach and the scoping process.

This chapter compares the impacts of the Build Alternatives, analyzed in Chapter 3, Environmental Analysis, and the No-Project Alternative. The Build Alternatives are compared with respect to their environmental effects and their ability to achieve the Project objectives. The chapter evaluates the alternatives' impacts compared to existing environmental conditions. Finally, it describes alternatives considered during project development but eliminated from detailed consideration in this EIR and Alternative 3, including the reasons for elimination.

5.3 CEQA Requirements for Alternatives Analysis

The State CEQA Guidelines require the analysis of a reasonable range of alternatives to a proposed project or to the location of a project that would feasibly attain most of the basic objectives of the project and avoid or substantially lessen the significant effects of the project (State CEQA Guidelines Section 15126.6[a]). The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those potentially feasible alternatives necessary to foster informed public participation and an informed and reasoned choice by the decision-making body (State CEQA Guidelines Section 15126.6[f]). CEQA generally defines "feasible" to mean the ability to be accomplished in a successful manner within a reasonable timeframe, considering economic, environmental, social, technological, and legal factors. The following factors may also be taken into consideration when assessing the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (State CEQA Guidelines Section 15126.6[f][1]). An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative.

Furthermore, an EIR need not consider every conceivable alternative but must consider a reasonable range of alternatives that will foster informed decision-making and public participation.

CEQA also requires the evaluation of a no-project alternative (State CEQA Guidelines Section 15126.6[e]). The analysis of a no-project alternative is based on the assumption that the proposed project would not be approved. In certain instances, the no-project alternative means "no build," wherein the existing environmental setting is maintained. However, where failure to proceed with the project would not result in the preservation of existing environmental conditions, the no-project alternative should identify the practical result of the project's non-approval rather than create and analyze a set of artificial assumptions to preserve the existing physical environment.

An environmentally superior alternative must also be identified among the alternatives considered. The environmentally superior alternative is generally defined as the alternative that would result in the least adverse environmental impact on the project site and affected environment. If a no-project alternative is found to be the environmentally superior alternative, the EIR must identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines Section 15126.6[e][2]).

State CEQA Guidelines Section 15126.6(c) also requires an EIR to identify and briefly discuss any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process. In identifying alternatives, primary consideration was given to alternatives that would reduce significant impacts while still meeting most of the basic project objectives. Those alternatives that would have impacts identical to or more severe than those of the proposed project or would not meet most of the basic project objectives were rejected from further consideration.

5.4 Alternatives Selection

The goal of developing a set of possible alternatives is to identify other means for attaining the Project objectives while substantially lessening or avoiding one or more of the significant environmental impacts potentially caused by the proposed Project. The proposed Project's objectives and significant impacts were considered in developing a reasonable range of alternatives for analysis so that the alternatives analyzed meet most of the objectives and avoid or minimize at least one of the proposed Project's significant impacts.

5.4.1 Project Objectives

As described in Section 2.2, the Project is intended to increase ferry service and landside access to accommodate forecast future ridership demand and ensure that ferry service remains a reliable and competitive travel option that reduces VMT and GHGs along the US 101 corridor in Marin and Sonoma Counties and for the greater Bay Area through 2050 and beyond.

The Project objectives include the following:

- Meet Growing Demand: Meet increasing demand for ferry service between the Larkspur Ferry Terminal (LFT) and San Francisco in 2050 and beyond
- Expand Capacity: Accommodate higher levels of ferry service beyond the historic cap of 42 average daily trips
- Relieve Congestion: Reduce traffic congestion within the US 101 highway corridor by providing an alternative and time competitive mode of travel to San Francisco that will reduce VMT and air emissions

- Improve Multimodal Access: Develop facilities at the LFT to accommodate future ferry riders arriving by car, carpool, bus, train, bicycle/scooter, foot and other modes, including building parking garages on the Main Lot and North Lot

The Golden Gate Bridge, Highway and Transportation District (District) considered various options to meet the Project objectives and in response to public comments received during the scoping process. The District identified two feasible Build Alternatives, which are described in Chapter 2, Project Description. Both Build Alternatives would generally occupy the same project footprint and include increased ferry service, improve the pickup/drop-off area to provide designated areas for fixed-route transit loading and unloading, transportation network companies, kiss and ride; upgrade bicycle storage facilities; and improve pedestrian connections; and construct new parking garages with EV charging spaces. The primary distinctions between Alternative 1 and Alternative 2 are that Alternative 1 would include a five-level Main Lot parking garage, whereas Alternative 2 would include a four-level Main Lot parking garage and enhanced transportation demand management (TDM) measures, as described in Section 2.3.2.3.

5.4.2 Summary of Significant Impacts of Build Alternatives

This Draft EIR (DEIR) identified significant and unavoidable impacts associated with aesthetics and transportation for the Build Alternatives. Mitigation measures were included for aesthetics; however, the mitigation was unable to reduce the impact to less than significant. For transportation, the Project would contribute to a significant operational impact associated with queuing at the southbound US 101 off-ramp, backing up onto the US 101 mainline within California Department of Transportation right-of-way. No feasible mitigation within the control of the District was identified to reduce the impact to less than significant.

This DEIR also identified the following resource areas, which would result in significant impacts from the Build Alternatives but could be reduced to less than significant through proposed mitigation:

- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Tribal Cultural Resources

5.5 Alternatives Analysis

Both Build Alternatives were evaluated in equal detail. The No-Project Alternative is required under State CEQA Guidelines Section 15126.6(e). The selected alternatives, which were developed by the District with input from the local communities, were identified based on their ability to accommodate forecast ferry ridership demand through 2050 and beyond and achieve the Project objectives. The alternatives evaluated include the following:

- No-Project Alternative
- Alternative 1: Increased Ferry Service and New Parking Garages
- Alternative 2: Increased Ferry Service, New Parking Garages, and Enhanced Transportation Demand Management

The impacts of Alternative 1 and Alternative 2 (Build Alternatives) are analyzed in Chapter 3, Environmental Analysis. Table 5-1 provides a comparison between the impacts of the two Build Alternatives and the No-Project Alternative.

5.5.1 No-Project Alternative: Maintain Existing Levels of Ferry Service, with No Change to Bicycle, Pedestrian, Transit or Parking Access

The State CEQA Guidelines require a lead agency to evaluate a No-Project Alternative in an EIR to allow decision-makers to compare the impacts of approving the proposed Project with the impacts of not approving the proposed Project (State CEQA Guidelines Section 15126.6[e]). Under the No-Project Alternative, an agency must consider what would be reasonably expected to occur in the foreseeable future if the proposed Project were not approved, based on current plans and consistent with available infrastructure and community services.

Under the No-Project Alternative, the District would not change the number of daily revenue trips. The District would not build additional parking garages or make any other improvements to improve landside access to accommodate forecast ferry ridership to 2050 and beyond. The No-Project Alternative would not include additional parking spaces, bicycle parking, or storage and would not provide any enhanced TDM improvements. Parking at the LFT would remain the same as the existing conditions, with surface parking available at the North Lot and Main Lot. The legacy fleet would still be retired and replaced with the Liwa-class vessels by 2033, and the LFT would continue to operate as it does currently.

5.5.1.1 Characteristics of the No-Project Alternative

Ferry Service Levels

The number of ferry revenue trips is capped at 42 weekday revenue crossings, consistent with approved service levels.

Up to four special event crossings are estimated, including crossings to serve Oracle Park and large concert or other events. Up to six additional deadhead trips are estimated, including the runs returning to Larkspur in the morning and heading to San Francisco in the afternoon to support additional peak revenue services. The maximum numbers of large event special service trips and maintenance trips are anticipated to be the same as existing.

Actual service would depend on demand and subject to the District's standard operating practices.

Drive and Park

In the No-Project Alternative, the number of parking stalls in the North Lot and Main Lot would remain the same as under existing conditions, for a total of 2,023 spaces.

Drop Off/Transportation Network Companies

Curb space is provided in front of the ferry terminal for pick up/drop off by private vehicles or transportation network companies. This area will remain as-is in the No-Project Alternative.

Transit

The ferry terminal will continue to be served by existing transit, and one feeder shuttle route is expected to be restored by 2035.

Non-Motorized Access Modes

The No-Project Alternative maintains existing onsite facilities for pedestrians and bicyclists.

Transportation Demand Management

The No-Project Alternative would not include any TDMs. There would be no increase in parking fee outside of increases in alignment with inflation to remain commensurate to the current $2 per weekday.

5.5.1.2 No-Project Alternative Impacts

Aesthetics

Under the No-Project Alternative, there would be no change to the current views, visual character, daytime glare, or nighttime lighting. The Build Alternatives would reduce glare associated with upgrading the exterior lighting at both the Main and North Lots; overall, aesthetic impacts of the No-Project Alternative would be less than those of the Build Alternatives.

Air Quality

No construction would occur with the No-Project Alternative. As a result, none of the short-term construction-related emissions resulting from the Build Alternatives would occur. Daily operational emissions from vehicle trips would be greater for both 2035 and 2050 compared to the Build Alternatives. Daily operational emissions associated with daily ferry operations would be the same in 2035 and less than 2050 because of the increased ferry trips. The No-Project Alternative results in smaller reductions in VMT and GHG emissions associated with more vehicle trips to San Francisco compared with Alternatives 1 and 2 providing additional parking and TDM measures to address ferry ridership demand in 2050 and beyond.

Biological Resources

The No-Project Alternative would avoid impacts from construction noise impacts on special-status species and migratory birds. There would also be no change in impacts related to aquatic resources. Therefore, impacts on biological resources under this alternative would be less than those of the Build Alternatives.

Cultural Resources

Potential disruption to unknown historic, archaeological, and paleontological resources would not occur with this alternative because there would be no ground disturbance. Therefore, the impacts on cultural resources under this alternative would be less than those of the Build Alternatives.

Energy

The No-Project Alternative would not require any temporary increases in energy associated with energy use during construction. The existing terminal lighting is less energy efficient than lighting proposed under the Build Alternatives. Although the No-Project Alternative would have no construction energy use, it does not include any increase in generation of renewable energy and would therefore result in a greater net operational energy use than under the Build Alternatives.

Geology and Soils

No construction would occur under the No-Project Alternative. Therefore, none of the geologic/soils impacts associated with construction and operation would occur. Therefore, the impacts on geology and soils would be less than those of the Build Alternatives.

Greenhouse Gas Emissions

No new construction would occur with the No-Project Alternative. As a result, none of the short-term construction-related emissions resulting from the anticipated development would occur under this alternative. Therefore, construction-related GHG emissions under this alternative would be less than those of the Build Alternatives. Operation of the No-Project Alternatives would result in fewer reductions in VMT and GHGs because it does not accommodate removal of as many vehicles and trips from the transportation system compared with the Build Alternatives.

Hazards and Hazardous Materials

Because there would be no construction, under the No-Project Alternative, there would be no risk of exposure to potentially hazardous materials because construction materials and ground disturbance. Operational risks related to hazards and hazardous materials under the No-Project Alternative would be similar because there are no anticipated changes in vessel operations or maintenance activities other than additional need for fuel at the LFT to accommodate increased ferry service and forecast ridership to 2050 and beyond. Therefore, impacts related to hazards and hazardous materials under the No-Project Alternative would be less than those of the Build Alternatives during construction and operation.

Hydrology and Water Quality

Under the No-Project Alternative, the existing drainage patterns in the Project area would be maintained. The No-Project Alternative would not result in temporary impacts on water quality related to construction. The District would continue to comply with the LFT industrial general permit for the site; however, runoff would continue to flow into the Bay with no treatment. In addition, the parking lot would experience increased flood events that could impact use of the Main Lot. The Build Alternatives would provide additional treatment before discharge and be constructed above the near-term sea-level rise elevation. Therefore, impacts on hydrology and water quality under this alternative would be greater than those of the Build Alternatives.

Land Use and Planning

The No-Project Alternative and the Build Alternatives would result in a continuation of the existing uses in the Project area. The No-Project Alternative would also be consistent with *The City of Larkspur General Plan 2040* (City of Larkspur 2024) and City of Larkspur zoning regulations. However, the No-Project Alternative would not be compatible with the need for the District to increase ferry service to accommodate forecast ferry ridership to 2050 and beyond.

Noise and Vibration

With the No-Project Alternative, there would be no short-term construction noise impacts. Therefore, impacts related to noise and vibration under this alternative would be less than those of the Build Alternatives. The No-Project Alternative would not provide for the increased ferry service or forecast ferry ridership associated with the Build Alternatives. The vessel fleet would be the same under both the No-Project Alternative and the Build Alternatives. With an increase in the number of daily trips, overall, it is anticipated that there could be some additional noise associated with more departures; however, the noise

associated with departure is anticipated to be the same as the noise levels at departure under the No-Project Alternative.

Population and Housing

The No-Project Alternative would result in the continuation of existing uses in the Project area. There would be no effect on population growth or demand for housing. Therefore, the impacts on population and housing under this alternative would be equal to those of the Build Alternatives.

Public Services and Recreation

Under the No-Project Alternative, there would be no temporary impacts on public service providers related to compromised access for emergency vehicles during construction. Therefore, impacts on public services and recreation under this alternative would be less than those of the Build Alternatives.

Transportation

The No-Project Alternative would constrain ferry ridership below forecast demand, resulting in some potential ferry riders driving directly to San Francisco. Consequently, the No-Project Alternative would generate higher VMT than the Build Alternatives. Additionally, the No-Project Alternative would be inconsistent with the goals and vision presented in *Plan Bay Area 2050+* (MTC and ABAG 2025), Transportation Authority of Marin's *Getting Around Marin Strategic Vision Plan and Countywide Transportation Plan* (TAM 2024), or *The City of Larkspur General Plan 2040* (City of Larkspur 2024) because it would not provide the infrastructure needed to accommodate forecast ferry demand between Larkspur and San Francisco, thereby limiting opportunities to strengthen regional multimodal connectivity.

Tribal Cultural Resources

Under the No-Project Alternative, there would be no potential impacts from disturbance to identified resources of tribal cultural significance or unanticipated discovery of tribal cultural resources. Therefore, the impact of the No-Project Alternative on tribal cultural resources would be less than those of the Build Alternatives.

Utilities and Service Systems

The No-Project Alternative would result in the continuation of existing uses in the Project area and would not require modification to any of the existing utilities and service systems at the ferry terminal. Therefore, impacts on utilities and service systems under the No-Project Alternative would be less than those of the Build Alternatives.

Wildfire

Given the location of the No-Project Alternative in relation to the location of the Build Alternatives, the existing terminal and parking lots would have a comparable level of wildfire risk to that of the Build Alternatives. Therefore, impacts from this alternative related to wildfires would be comparable to the Build Alternatives.

5.5.1.3 Characteristics of the Alternative 1

Ferry Service Levels

The number of weekday revenue ferry crossings are projected to increase from 42 up to 76 by 2050 and beyond to accommodate projected ridership demand. Additional special event and maintenance/deadhead trips would continue as necessary to support operations. Actual service levels would depend on demand and the District's standard operating practices.

Drive and Park

Alternative 1 would increase parking capacity through construction of a new 3,998-space parking garages in the Main Lot and an 850-space parking garages in the North Lot. The Main Lot garages would consist of five levels and provide sufficient parking capacity to accommodate projected ferry ridership through 2050 and beyond.

Drop Off/Transportation Network Companies

The existing curbside passenger pickup and drop-off area would be reconfigured to improve circulation, operational efficiency, and access to the ferry terminal.

Transit

The ferry terminal would continue to be served by existing transit providers, including Sonoma–Marin Area Rail Transit (SMART), Golden Gate Transit, and Marin Transit. Transit connectivity would be maintained and enhanced through improved access and circulation features.

Non-Motorized Access Modes

Alternative 1 would improve pedestrian and bicycle access through enhanced pedestrian connections, a new pedestrian crossing, and expanded bicycle parking facilities, including a dedicated bike room with approximately 350 bicycle parking spaces.

Transportation Demand Management

Alternative 1 would provide additional carpool parking spaces on the ground floor of the Main Lot parking garages and increase parking fees beyond inflation to help recover a portion of the capital costs associated with construction of the parking garages. However, the alternative primarily accommodates future ridership growth through expanded parking capacity.

5.5.1.4 Characteristics of the Alternative 2

Ferry Service Levels

The number of weekday revenue ferry crossings are projected to increase from 42 up to 76 by 2050 and beyond to accommodate projected ridership demand. Additional special event and maintenance/deadhead trips would continue as necessary to support operations. Actual service levels would depend on demand and the District's standard operating practices.

Drive and Park

Alternative 2 would increase parking capacity through construction of a new 3,258-space parking garage in the Main Lot and an 850-space parking garage in the North Lot. The Main Lot garage would consist of four levels, one level fewer than Alternative 1.

Drop Off/Transportation Network Companies

The existing curbside passenger pickup and drop-off area would be reconfigured to improve circulation, operational efficiency, and access to the ferry terminal.

Transit

The ferry terminal would continue to be served by existing transit providers, including SMART, Golden Gate Transit, and Marin Transit. Transit connectivity would be enhanced through improved access and circulation features and the addition of two new, all-day feeder shuttle services providing connections to the ferry terminal and expanding transit access for ferry passengers.

Non-Motorized Access Modes

Alternative 2 would improve pedestrian and bicycle access through enhanced pedestrian connections, a new pedestrian crossing, and expanded bicycle parking facilities, including a bike hub with approximately 350 bicycle parking spaces and bicycle repair services.

Transportation Demand Management

Alternative 2 would rely more heavily on TDM measures to accommodate projected ridership demand than Alternative 1. The alternative would provide additional carpool parking spaces on the ground floor of the Main Lot parking garage, with more carpool spaces than under Alternative 1. Parking fees would also be increased beyond inflation to help recover a portion of the capital costs associated with parking garages and contribute to the operating costs of the feeder shuttle services.

Table 5-1. Comparison of Environmental Impact Significance by Alternative

Resource Area	No-Project Alternative	Alternative 1	Alternative 2
Aesthetics	No Impact	Significant and Unavoidable	Significant and Unavoidable
Air Quality	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation
Biological Resources	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation
Cultural Resources	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation
Energy	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation
Geology and Soils	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation

Resource Area	No-Project Alternative	Alternative 1	Alternative 2
Greenhouse Gas Emissions	No Impact	Less Than Significant	Less Than Significant
Hazards and Hazardous Materials	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation
Hydrology and Water Quality	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation
Land Use and Planning	No Impact	Less Than Significant	Less Than Significant
Noise and Vibration	No Impact	Less Than Significant	Less Than Significant
Population and Housing	No Impact	No Impact	No Impact
Public Services and Recreation	No Impact	Less Than Significant	Less Than Significant
Transportation	No Impact	Significant and Unavoidable	Significant and Unavoidable
Tribal Cultural Resources	No Impact	Less Than Significant with Mitigation	Less Than Significant with Mitigation
Utilities and Service Systems	No Impact	Less Than Significant	Less Than Significant
Wildfire	No Impact	Less Than Significant	Less Than Significant

The No-Project Alternative avoids the Project's transportation and aesthetic impacts; however, it does not meet the Project objectives related to the following:

- Accommodating future ferry ridership
- Increasing parking capacity
- Improving multimodal access
- Supporting regional transit demand through 2050 and beyond

Significance determinations for the Build Alternatives are the same for all environmental resource areas. The primary difference between them is the capacity of the Main Lot parking garage and the extent to which TDM measures offset the difference in parking capacity to accommodate projected ferry ridership demand to 2050 and beyond. Alternative 1 would include a five-level Main Lot parking garage to accommodate projected ferry ridership demand. Alternative 2 would include a four-level Main Lot parking garage and rely more heavily on enhanced TDM strategies, including feeder shuttle services, additional carpooling parking spaces, and other multimodal access improvements to accommodate future demand.

5.5.2 Environmentally Superior Alternative

The State CEQA Guidelines require that an environmentally superior alternative be identified. The environmentally superior alternative is the alternative that would avoid or substantially lessen, to the greatest extent feasible, the environmental impacts associated with the Project while feasibly attaining

most of the basic Project objectives. If the alternative with the least environmental impact is determined to be the No-Project Alternative, the EIR must also identify an environmentally superior alternative from among the Build Alternatives.

The identification of the environmentally superior alternative results from a comparison of the impacts associated with each alternative, as summarized in Table 5-1. The No-Project Alternative would avoid the construction-related impacts associated with the Build Alternatives, including impacts related to aesthetics, air quality, biological resources, cultural resources, GHG emissions, noise, tribal cultural resources, and transportation. Therefore, the No-Project Alternative is considered the environmentally superior alternative. However, the No-Project Alternative would not meet most of the Project objectives because it would not do the following:

- Accommodate forecast ferry ridership demand through 2050 and beyond
- Reduce VMT and GHGs emissions anticipated under the Build Alternatives
- Provide TDM measures or additional parking capacity to support increased ferry service

Pursuant to State CEQA Guidelines Section 15126.6(e)(2), because the No-Project Alternative is identified as the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the Build Alternatives.

Alternative 1 (Increased Ferry Service and New Parking Garages) would accommodate forecast ferry ridership demand through 2050 and beyond and achieve the Project objectives. Alternative 1 relies primarily on expanded parking supply to accommodate forecast ridership demand and includes more parking spaces and a taller five-level Main Lot parking garage. Alternative 1 also includes a projected increase up to 76 daily revenue crossings in 2050 to accommodate forecast increase in ferry riders.

Alternative 2 (Increased Ferry Service, New Parking Garages, and Enhanced Transportation Demand Management) would also accommodate forecast ferry ridership demand through 2050 and beyond and achieve the Project objectives. Similar to Alternative 1, Alternative 2 would include new smaller four-level parking garage within the same footprint in the Main Lot and enhanced TDM measures to offset fewer parking spaces while still accommodating forecast ferry ridership. Enhanced TDM measures would include additional multimodal access improvements designed to encourage transit use, ridesharing, bicycling, and walking. Alternative 2 also includes a projected increase up to 76 daily revenue crossings in 2050 to accommodate forecast increase in ferry riders.

Compared to Alternative 1, Alternative 2 would require less construction material, fewer hauling trips, and slightly less construction energy consumption because of the reduced size of the Main Lot parking garage. The shorter Main Lot garage would result in a reduced visual impact. Alternative 2 also consists of a reduced number of onsite parking stalls and enhanced TDM measures, resulting in fewer vehicle trips. The reduced vehicle trips results in a smaller contribution to the queuing issue at the US 101 southbound off-ramp and reductions in VMT and GHGs while accommodating the same forecast ridership demand. In 2050, Alternative 2 would reduce regional VMT by approximately 125,960 miles, displacing more fossil fuel use per day when compared to 86,056 miles per day for Alternative 1.

Although both Build Alternatives would result in similar impact conclusions for most environmental resource areas, Alternative 2 would achieve the Project objectives with greater multimodal access opportunities, greater reductions in VMT and GHGs, a shorter Main Lot parking garage, and reduced construction intensity. Unavoidable significant impacts associated with Alternative 2 would be considered less when compared to magnitude of the same unavoidable significant impacts for Alternative 1. Therefore, Alternative 2 is identified as the environmentally superior Build Alternative.

5.5.3 Alternatives Considered but Eliminated from Further Analysis

Alternative 3 – Transportation Demand Management Only, was originally considered for evaluation because of comments received during the Project scoping period. For Alternative 3, the ability of ferry service to accommodate increased ridership demand is constrained by landside facilities at the LFT. TDM measures for Alternative 3 landside facility improvements considered development of onsite facilities for seamless transfers between transit and ferry service, first/last-mile connection improvements, incentives for transit use, disincentives for parking, additional bicycle parking, and no expansion of existing parking capacity.

Although Alternative 3 would allow for increase ferry service up to 66 revenue trips in 2050 and promote multimodal access and landside facility improvements, based on Traffic Impact Analysis Report (Appendix G), it was determined that it would not meet the primary objective of the project to accommodate forecast ridership demand between the City of Larkspur and San Francisco in 2050 and beyond. In trying to meet forecast ferry ridership demand with TDM measures only, Alternative 3 was able to accommodate 14,000 daily riders, including 7,000 southbound riders in 2050 compared to the unconstrained 2050 forecast demand of 17,600 daily riders, including 8,800 southbound riders. In addition to not meeting full ferry ridership demand, the associated unmet ferry ridership demand also would generate 97,560 in daily VMT and result in a net daily increase of 5,242 VMT and associated air emissions when compared to the environmentally superior alternative. Accordingly, Alternative 3 would not achieve the Project objectives of supporting forecast ferry ridership and reducing VMT on the US 101 corridor through 2050 and beyond. Therefore, Alternative 3 was eliminated from further consideration because it would not meet most of the Project objectives.

5.5.3.1 Characteristics of the Alternative 3 – Transportation Demand Management Only

Ferry Service Levels

Under Alternative 3, ferry service would be expanded to accommodate projected ridership demand through 2050. Unconstrained ferry ridership is forecast to reach approximately 3,800 southbound riders during the weekday AM peak period in 2035 (approximately 7,500 daily trips). To serve this demand, ferry service would operate at up to 42 revenue trips per weekday, which is consistent with currently approved service levels.

By 2050, unconstrained ferry ridership is forecast to increase to approximately 8,800 southbound riders during the weekday AM peak period (approximately 17,600 daily trips). However, because parking capacity would remain unchanged, access constraints at the terminal would limit ridership growth. Ferry service would therefore increase to up to 66 weekday revenue trips using Liwa-class vessels to accommodate constrained ridership demand.

Up to four special event crossings are assumed to serve events such as those at Oracle Park or Center. Up to six deadhead trips would also occur to support ferry operations. The number of special event and maintenance trips would be similar to existing conditions.

Drive and Park

Under Alternative 3, parking capacity at the LFT would remain unchanged from existing conditions, with a total of 2,023 parking spaces between the Main Lot and North Lot.

To improve use of existing parking supply and support mode shift objectives, some parking spaces would be converted to preferred carpool/vanpool parking and bicycle-related facilities. Final changes in parking inventory would be determined during preliminary design.

Drop Off/Transportation Network Companies

The existing ferry terminal curbside area would be reconfigured to increase capacity for passenger pickup and drop-off activities and support a broader range of transportation services.

The proposed reconfiguration would include the following:

- 200 feet of bus layover space
- 32 passenger pickup/drop-off spaces
- 100 feet of curb space for reserved parking
- 100 feet of curb space for motorcycle parking
- 250 feet of curb space for microtransit pickup and drop-off activities

These improvements would support transit access and reduce reliance on single-occupancy vehicle travel.

Transit

Alternative 3 would place substantial emphasis on expanded transit connections to the ferry terminal, as follows:

- By 2035:
  - One Golden Gate Transit feeder shuttle route would operate throughout the day to match ferry schedules.
  - New microtransit service would operate during peak periods and connect nearby communities, including Larkspur, Greenbrae, and San Rafael, to the LFT.
- By 2050:
  - Up to two additional all-day feeder shuttle routes would be implemented.
  - Expanded microtransit service would serve a larger geographic area, including communities such as Fairfax and San Anselmo.

Non-Motorized Access Modes

Alternative 3 would include substantial bicycle and pedestrian improvements intended to encourage mode shift away from driving.

Improvements would include the following:

- Bicycle parking for approximately 180 bicycles and a bicycle repair facility ("bike hub") by 2035
- Expansion of bicycle parking capacity to approximately 400 spaces by 2050, subject to demand
- Improved pedestrian crossings and pedestrian connectivity between the North Lot area and the ferry terminal

Transportation Demand Management

Alternative 3 would rely heavily on TDM measures to accommodate future ferry ridership demand without constructing additional parking capacity.

Potential TDM measures would include the following:

- In 2035, parking fees would increase to account for inflation and help offset costs associated with transit-supportive improvements and feeder shuttle operations.
- In 2050, parking fees would be adjusted based on demand to encourage shifts from drive-and-park travel to transit, ridesharing, and other travel modes while remaining competitive with automobile commuting costs to San Francisco.
- Parking revenue could be used to support feeder shuttle and microtransit operations.
- Active participation in regional carpool matching programs, including Marin Commutes.
- Expanded transit, bicycle, and pedestrian access infrastructure to reduce reliance on private vehicles.

6. Other CEQA-Required Analysis

This section discusses other California Environmental Quality Act (CEQA)-required analysis, including impacts from growth, significant and unavoidable environmental impacts, and significant irreversible environmental changes.

6.1 Growth-Inducing Impacts

The CEQA requires a consideration of a project's capacity to induce growth. Growth inducement would occur if the amount of population or employment growth projected to occur because of the Larkspur Ferry Service Expansion and Parking Project (Project) would exceed planned levels. As discussed in Section 2.2 and evaluated in detail in the Larkspur Ferry Service and Parking Expansion Project Transportation Impact Assessment (Appendix G), the proposed Project is designed to accommodate Transportation Authority of Marin forecasts based on the travel demand model. The model incorporates regional population and employment forecasts, travel patterns, and transportation network conditions. Increased development and growth in an area are dependent on a variety of factors, including employment and other opportunities, availability of developable land, and availability of infrastructure, water, and power resources. The Project does not include the development of housing or businesses, improved access to undeveloped land, or increased capacity of any utilities, and it would therefore not directly induce population. The Project Build Alternatives are consistent with the City of Larkspur planning documents, including *City of Larkspur 2040 General Plan, City of Larkspur Climate Change Action Plan 2030*, and *City of Larkspur Bicycle and Pedestrian Master Plan* (City of Larkspur 2017, 2021, 2024).

Approximately 108 individuals are currently employed at the existing Larkspur Ferry Terminal (LFT). Although ferry service would increase incrementally from 42 up to a maximum of 76 in 2050 and beyond, neither the number employees at the LFT nor the number of vessels is expected to change. Additionally, it is anticipated that maintenance needs for the new Liwa-class vessels would not require additional administration, operations, or maintenance work staff compared to the existing work force. If new positions are approved in 2050 and beyond, any potential increase in employment opportunities at the LFT would be considered minor and would not result in a substantial increase in the number of jobs available nor any exceedance planned growth levels either in the city or county. The Project is in an area that is already heavily developed with a mix of uses, including commercial and residential uses. The Project would not require the construction of any new roads. Overall, the proposed Project would not induce growth in the region surrounding the Project area and would have no impact on planned growth levels.

6.2 Significant and Unavoidable Environmental Consequences

Section 21067 of CEQA and Sections 15126(b) and 15126.2(b) of the State CEQA Guidelines require that an environmental impact report describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Furthermore, where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the Project is being proposed, notwithstanding their effect, should also be described.

6.2.1 Alternative 1: Increased Ferry Service and New Parking Garages

Implementation of Alternative 1 would result in the following significant and unavoidable impacts:

- **Aesthetics.** Construction and operation of the proposed parking garages would result in significant and unavoidable impacts related to changes in visual character and public views of the Project area.
- **Transportation.** Alternative 1 would result in a significant and unavoidable transportation impact associated with freeway off-ramp queue spillback during future year 2050 conditions.

Aesthetics

Construction

Alternative 1 would construct a six-level parking garage in the North Lot and a five-level parking garage in the Main Lot. The visual analysis concluded that, given the anticipated 54-month total construction schedule, construction activities would not be considered temporary and could alter the visible landscape at the sites with heavy equipment, bright colors, material staging, and other construction elements over an extended period. Construction activities could also result in an invaded sense of privacy and disruptive views. Mitigation measure **MM-AES-CNST-1** would reduce visual impacts from construction by requiring visual screening of disruptive construction activities near sensitive viewers, which would also help maintain privacy but would not reduce to a less-than-significant level. Thus, because of the prolonged time the construction activity impacts would be visible, they were determined to substantially alter the existing visual character and quality of public views by changing the existing visual character and quality of public views of the site and its surroundings during construction. There is no feasible mitigation to reduce the anticipated length of the construction schedule, and therefore, impacts are *significant and unavoidable* .

Cumulative Impacts

Additionally, the unavoidable significant impacts would also be considered cumulatively considerable. If other cumulative projects are constructed within the Area of Visual Effect for the Project during the construction period for Alternative 1, the proposed Project would also result in significant and unavoidable cumulative visual impacts that, when considered with other projects, would substantially alter the existing visual character and quality of public views of the site and its surroundings during construction the construction period for Alternative 1. Mitigation measure **MM-AES-CNST-1** would reduce visual impacts from construction but not reduce them to a less-than-significant level, and therefore, the visual cumulative impacts are considered *significant and unavoidable after mitigation*.

Operation

After the completion of construction, the visual analysis concluded that the new parking garages would substantially alter the existing visual character and quality of public views surrounding the LFT. During final design, the design team would incorporate aesthetic treatments intended to visually soften the appearance of the parking garages; however, there is no feasible mitigation to reduce the mass of the new garages, and Alternative 1 would result in substantial adverse changes to public views and visual character surrounding the LFT. Therefore, impacts are *significant and unavoidable*.

Cumulative Impacts

The unavoidable significant aesthetic impacts associated with the unmitigable mass of the new garages would also be considered cumulatively considerable. There is no feasible mitigation to reduce the mass of

the new garages, and their presence under Alternative 1 would contribute to a permanent substantial adverse alteration of the existing visual character and quality of public views surrounding the LFT from other cumulative project locations within Area of Visual Effect. Aesthetic impacts result in *significant and unavoidable* cumulative impacts on visual character and quality within the Area of Visual Effect.

Transportation

Operation

Alternative 1 would incrementally increase ferry service from 42 up to a maximum of 76 revenue trips per day to accommodate ferry ridership and associated vehicle trips to the LFT in 2050. The transportation analysis concluded that under Alternative 1 in 2050, projected queue lengths would exceed the available storage length (refer to Table 3.14-7) and could extend onto the United States Highway 101 (US 101) mainline during the AM peak period. Although this queuing would generally coincide with periods of freeway mainline congestion, it is likely that at times the speed differential between the off-ramp and the mainline will exceed 30 miles per hour, thus exceeding the California Department of Transportation (Caltrans) safe speed differential threshold. Potential improvements to address queue spillback would be subject to Caltrans approval. The Golden Gate Bridge, Highway and Transportation District (District) itself cannot undertake a project to mitigate the safety impact, and there are no feasible mitigation measures within the District's jurisdiction. Therefore, this impact is considered to be *significant and unavoidable*.

Cumulative Impacts

Traffic impact analysis is a cumulative analysis by nature because it uses the regional land use models and traffic forecasts that would include the cumulative projects considered for this Project. Thus, significant and unavoidable Project traffic impacts are cumulatively considerable and represent a significant unavoidable cumulative traffic impacts at the US 101 southbound off-ramp and Sir Francis Drake Boulevard. There are no feasible mitigation measures within the District's jurisdiction, and the cumulative impact is *significant and unavoidable*.

6.2.2 Alternative 2: Increased Ferry Services, New Parking Garages, and Enhanced Transportation Demand Management

Implementation of Alternative 2 would result in the following significant and unavoidable impacts:

- **Aesthetics.** Construction and operation of the proposed parking garages would result in significant and unavoidable impacts related to changes in visual character and quality public views of the Project area.
- **Transportation.** Alternative 2 would result in a significant and unavoidable transportation impact associated with freeway off-ramp queue spillback during future Year 2050 conditions.

Aesthetics

Construction and Operation

Alternative 2 would construct a six-level parking garage in the North Lot and a four-level parking garage in the Main Lot. One less parking level for the Main Lot garage would result in a shorter construction schedule and reduced garage height compared to Alternative 1. However, the aesthetic impacts would be substantially the same as discussed for Alternative 1. Similarly, given the overall impacts related to prolonged visual disturbance associated with the construction schedule and that there is no feasible mitigation measures to reduce the length of the construction schedule or reduce the mass of the new

garages, Alternative 2 would result in substantial and adverse alterations of visual character and quality of public views of the site and its surroundings during construction and operation. These aesthetic impacts would remain *significant and unavoidable*.

Cumulative Impacts

As discussed previously for Alternative 1, for Alternative 2, the significant and unavoidable impacts would be cumulatively considerable. Neither the length of the construction schedule nor the mass of the new garages can be mitigated and would contribute substantial alteration of the existing visual character and quality of public views surrounding the LFT and from other cumulative Project locations within the Area of Visual Effect. The Alternative 2 aesthetic impacts on areas surrounding the LFT and from other areas within the Area of Visual Effect where the LFT is visible would result in *significant and unavoidable* cumulative impacts.

Transportation

Operation

Alternative 2 would also incrementally increase ferry service from 42 up to a maximum of 76 revenue trips per day to accommodate forecast ferry ridership and associated vehicle trips to the LFT in 2050. Similarly to Alternative 1, the transportation analysis concluded that under Alternative 2 in 2050, projected queue lengths would also exceed the available storage length and could extend onto the US 101 mainline during the AM peak period. It should be noted that Alternative 2 has one less parking level in the Main Lot and introduces enhanced transportation demand management to accommodate the same forecast ferry ridership with less onsite parking. Alternative 2 results in less Project-related trips in 2050, resulting in a shorter queue compared to Alternative 1. However, the associated queue still exceeds the Caltrans safe speed differential threshold. There are no feasible mitigation measures within the District's jurisdiction, and Alternative 2 transportation impacts are also considered to be *significant and unavoidable*.

Cumulative Impacts

Similarly, as discussed for Alternative 1, the significant and unavoidable traffic impacts for Alternative 2 are cumulatively considerable and represent a *significant and unavoidable* cumulative traffic impact at the US 101 southbound off-ramp and Sir Francis Drake Boulevard.

6.2.3 No-Project Alternative

There would be no significant and unavoidable impacts under the No-Project Alternative.

6.3 Significant Irreversible Environmental Changes

CEQA requires evaluation of irretrievable resources to ensure that their use is justified. State CEQA Guidelines Section 15126.2(d) describes potential significant irreversible changes, including "use of nonrenewable resources during the initial and continued phases of a project."

Neither Build Alternative would commit future generations to specific uses that are incompatible with existing and reasonably foreseeable conditions. The Project would provide an increased opportunity for both those choosing to drive and park and those choosing other modes that avoid driving and reduce greenhouse gases and vehicle miles traveled compared to the No-Project Alternative.

Under the No-Project Alternative, ferry service would continue to be provided under the existing conditions. The consumption of nonrenewable resources that can be attributed to the District's ferry operation would continue. Implementation of the Build Alternatives would increase ferry service and provide additional capacity through parking or enhanced transportation demand management for arrivals and departures for forecast ridership to 2050 and beyond.

Construction of the Build Alternatives would entail the one-time, irreversible, and irretrievable commitment of nonrenewable resources, such as labor required for planning, design, construction, and operations; energy (fossil fuels used for construction equipment and transportation of workers and materials); and construction materials (such as concrete, steel, lumber, sand, gravel, metals, and water).

Although these expenditures would be irrecoverable, there is adequate supply of these resources to complete the proposed Project without causing a significant environmental impact on the continued availability or supply of these resources. As described in Section 3.5, Energy, **MM-AQ-CNST-1** will require the contractor to use Tier 4 equipment. Tier 4 engines maximize thermal efficiency and optimize fuel burn rates compared to older, legacy equipment tiers. Tier 4 equipment requirements fleets combined with standard California Air Resources Board anti-idling regulations would ensure energy efficiency and minimize petroleum use during construction. The Project would also incorporate renewable energy through solar generation, along with other energy efficiency and sustainability features. Annual clean energy output is anticipated to be up to 5,700,000 kilowatt-hours per year. Overall, there is expected to be a net surplus of over 4.5 million kilowatt-hours per year to power electric vehicle charging stations and elevators, and excess energy would be exported back into Pacific Gas & Electric Company's regional grid. The analysis in Section 3.5 shows that the construction and operation of either Build Alternative would not result in unnecessary, inefficient, or wasteful use of energy resources.

Overall, neither construction nor the operation of the Build Alternatives would result in significant irreversible environmental changes, including the availability and supply of resources as compared to the No-Project Alternative.

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8.1 Chapter 1: Introduction

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8.2 Chapter 2: Project Description

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8.3 Chapter 3: Environmental Analysis

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8.3.1 Section 3.1: Aesthetics

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