

DRAFT
Environmental Impact Report
Oak Hill Apartments Project
Unincorporated Marin County, California
State Clearinghouse Number 2022030718

Prepared for:
California Department of General Services
707 Third Street, 4th Floor
West Sacramento, CA 95605
888.826.5814

Contact: Joshua Palmer, Senior Real Estate Officer

Prepared by:
FirstCarbon Solutions
2999 Oak Road , Suite 250
Walnut Creek, CA 94597
630.357.2562

Contact: Mary Bean, Project Director
Jason Brandman, Project Director
Rachel Krusenoski, Project Manager

Date: February 22, 2023

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m ³	micrograms per cubic meter
A2-B2	Agriculture Limited
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ACP	Alternative Compliance Plan
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AFY	acre-feet/year
AIA	Airport Influence Area
AIC	Archaeological Information Center
AICUZ	Air Installation Compatibility Use Zone
ALUC	Airport Land Use Commission
amsl	above mean sea level
APCD	Air Pollution Control District
APE	Area of Potential Effect
APN	Assessor's Parcel Number
APS	Alternative Planning Strategy
AQI	Air Quality Index
AQMD	Air Quality Management District
AQP	Air Quality Plan
ARB	California Air Resources Board
AST	aboveground storage tank
ASTM	American Society of Testing and Materials
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BAU	Business as Usual
BCDC	San Francisco Bay Conservation and Development Commission
BCF	billion cubic feet
BCF/year	billion cubic feet per year

Acronyms and Abbreviations

BGS	below ground surface
BMP	Best Management Practice
BTU	British Thermal Unit
BVOC	biogenic volatile organic compound
C ² ES	Center for Climate and Energy Solution
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Health and Safety Administration
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CA-MUTCD	California Manual on Uniform Traffic Control Devices
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Standards Code
CBSC	California Building Standards Commission
CCCC	California Climate Change Center
CCR	California Code of Regulations
CDCR	California Department of Corrections and Rehabilitation
CDF	California Department of Finance
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
Central Marin Fire	Central Marin Fire Authority
Central Marin Police	Central Marin Police Authority
Central Marin Sanitation	Central Marin Sanitation Agency
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHL	California Historical Landmarks
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CMA	Congestion Management Agency

CMFD	Central Marin Fire Department
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
CPHI	California Points of Historical Interest
CPI	Consumer Price Index
CPUC	California Public Utilities Code
CRA	Cultural Resources Assessment
CRHR	California Register of Historical Resources
CTC	California Transportation Commission
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
DBH	diameter at breast height
DGS	California Department of General Services
DMA	Drainage Management Area
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
du	dwelling unit
du/acre	dwelling unit per acre
EIA	Energy Information Administration
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act of 2007
EMFAC	Emission Factors mobile source emissions model
EPA	United States Environmental Protection Agency
ESL	Environmental Screening Level
EV	electric vehicle
EVSE	electric vehicle supply equipment
FAA	Federal Aviation Administration
FAR	floor area ratio
FCS	FirstCarbon Solutions
FEMA	Federal Emergency Management Agency

Acronyms and Abbreviations

FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	Geographic Information System
gpm	gallons per minute
GPS	Global Positioning System
GSP	Groundwater Sustainability Plan
GWh	gigawatt-hours
GWh/y	gigawatt-hours per year
GWP	global warming potential
HAP	Hazardous Air Pollutants
HAWK	High-intensity Activated Crosswalk
HCD	California Department of Housing and Community Development
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbon
HI	hazard index
HOV/HOT	High Occupancy Vehicle/High Occupancy Toll
HRA	Health Risk Assessment
HRI	California Historic Resources Inventory
HVAC	heating, ventilation, and air conditioning
IJA	Infrastructure Investment and Jobs Act
IMP	Integrated Management Practices
IPCC	United Nations Intergovernmental Panel on Climate Change
ISO	Independent System Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
JPA	Joint Powers Agreement
kBTU	kilo-British Thermal Unit
kW	kilowatts
kWh	kilowatt-hours
LCFS	Low Carbon Fuel Standard
L _{dn}	day/night average sound level
LED	light-emitting diode
LEHD	Longitudinal Employer-Household Dynamics
L _{eq}	equivalent sound level
LEV	Low Emission Vehicle

LFC	Larkspur Fire Code
LID	Low Impact Development
LOS	Level of Service
LSE	load-serving entities
Marin Sanitary	Marin Sanitary Service
Marin Water	Marin Municipal Water District
MAZ	Micro Analysis Zone
MBTA	Migratory Bird Treaty Act
MCE	Marin Clean Energy
MCSTOPPP	Marin Countywide Stormwater Pollution Prevention Program
mgd	million gallons per day
MHHW	mean higher high water
MIR	Maximally Impacted Sensitive Receptor
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MT	metric tons
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
MW	megawatt
MWD	Metropolitan Water District of Southern California
MXD	mixed-use development
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCHRP	National Cooperative Highway Research Program
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHM	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NOAA Fisheries	National Marine Fisheries Service

Acronyms and Abbreviations

NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTHMP	National Tsunami Hazard Mitigation Program
NTR	National Toxics Rule
NWIC	Northwest Information Center
O ₃	ozone
OAL	Office of Administrative Law
OEHHA	California Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark
ONAC	Federal Office of Noise Abatement and Control
OPR	Governor’s Office of Planning and Research
OSHA	Occupational Safety and Health Administration
P/OS	Parks/Open Space
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
PD	Planned Development
PDP	Precise Development Plan
PERP	Portable Equipment Registration Program
PF	Public Facility
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
PM ₁₀	particulate matter, including dust, 10 micrometers or less in diameter
PM _{2.5}	particulate matter, including dust, 2.5 micrometers or less in diameter
PM _x	particulate matter
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
Recology	Integrated Resource Recovery Company
RecycleSmart	Central Contra Costa County Solid Waste Authority

REL	Reference Exposure Level
RMP	Risk Management Plan
rms	root mean square
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RSP	Residential Single-Family Planned
RTP	Regional Transportation Plan
RVSD	Ross Valley Sanitary District
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMART	Sonoma-Marin Area Rail Transit
SO ₂	sulfur dioxide
Sonoma Water	Sonoma County Water Agency
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
State Water Board	California State Water Resources Control Board
SWIS	Solid Waste Information System
SWPPP	Storm Water Pollution Prevention Plan
TAC	toxic air contaminants
TAM	Transportation Authority of Marin
TAMDM	Transportation Authority of Marin Demand Model
TAZ	Traffic Analysis Zone
TCM	transportation control measures
TDM	Transportation Demand Management
TDR	Transfer of Development Rights
TDS	total dissolved solids
TDV	Time Dependent Valuation
TEA-21	Transportation Equity Act for the 21 st Century
Tg	teragram
therms/y	therms per year

Acronyms and Abbreviations

TIA	Traffic Impact Analysis
TIS	Traffic Impact Study
TISG	Transportation Impact Study Guide
TMA	Transportation Management Association
TMDL	Total Maximum Daily Load
TOD	Transit Oriented Development
TPA	Transit Priority Area
UBC	Uniform Building Code
US-101	U.S. Highway 101
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
V/C	volume to capacity ratio
Valley Air District	San Joaquin Valley Air Pollution Control District
VDECS	Verified Diesel Emission Control Strategies
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
WDR	Waste Discharge Requirement
WGCEP	Working Group on California Earthquake Probabilities
WQMP	Water Quality Management Plan
WSA	Water Supply Assessment
WWTP	Wastewater Treatment Plant
ZEV	Zero-Emission Vehicle

EXECUTIVE SUMMARY

Purpose

This Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the implementation of the Oak Hill Apartments Project (State Clearinghouse No. 2022030718). This document is prepared in conformance with CEQA (Public Resources Code [PRC] § 21000, *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, § 15000, *et seq.*).

The purpose of this Draft EIR is to inform decision makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from implementation of the proposed project. This Draft EIR describes potential impacts relating to a wide variety of environmental issues and methods by which these impacts can be mitigated or avoided.

Project Summary

Project Location

The project site is located north and west of East Sir Francis Drake Boulevard, east of Drakes Cove Road, and south of Anderson Drive in an unincorporated area of Marin County (County) (Exhibit 2-1 and Exhibit 2-2a). The approximately 8.3-acre site is located on a portion of Assessor's Parcel Number (APN) 018-152-12 on the *San Rafael and San Quentin*, California United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Maps in the southeastern portion of Marin County (Exhibit 2-2a). The County is bound to the north by Sonoma County, to the east by the San Francisco Bay, to the south by the City and County of San Francisco, and to the west by the Pacific Ocean. Regional access is provided by Interstate 580 (I-580) and by U.S. Route 101 (US-101).

The project site is located on land owned by the State of California, which has the authority to invoke State sovereignty and, therefore, facilities and activities planned for the project site are not subject to local land use regulations. As such, the California Department of General Services (DGS) is the Lead Agency for the proposed project.

Project Description

Eden Housing Inc. (Eden) and Education Housing Partners, Inc. (EHP, and together with Eden, the applicant) are proposing to develop the Oak Hill Apartments project (proposed project) on approximately 6.7 acres of the 8.3-acre project site. The 100 percent affordable housing project would include the construction of two buildings containing up to 250 new apartments. One building would provide 135 dwelling units available to low- to moderate-income educators working in and employees of the County of Marin, and the other building would include 115 dwelling units available to extremely low- to low-income residents, as shown in Table ES-1 below. (The unit affordability mix may change depending on financial conditions.)

Table ES-1: Housing Unit Mix

Income Level	Unit Type	Unit Area Range (square feet)	Quantity	Mix (%)
Low- to Moderate-Income Affordable Units	Junior 1-bedroom	600-650	14	11
	1-bedroom	700-800	72	53
	2-bedroom	1,000-1,100	37	27
	3-bedroom	1,250-1,350	12	9
Total Low- to Moderate-Income Affordable Units: 135				
Extremely Low- to Low-Income Affordable Units	Studio	420-500	28	24
	1-bedroom	600-650	26	23
	2-bedroom	900-950	30	26
	3-bedroom	1050-1100	31	27
Total Extremely Low- to Low-Income Affordable Units: 115				
Total Housing Units: 250				
Source: Eden Housing and Education Housing Partners, Inc., 2022.				

As shown in Table ES-1 above, the low- to moderate-income portion of the project will likely include a greater number of 1- and 2-bedroom units and fewer 3-bedroom units, while the extremely low- to low-income units would represent a virtually equal number of studio, 1-bedroom, 2-bedroom, and 3-bedroom units.

Refer to Section 2.0, Project Description, for a complete description of the proposed project.

Project Objectives

The objectives of the proposed project are to:

- Implement Executive Order N-06-19 through the development of affordable housing in a High Housing Needs zone on a site deemed suitable for affordable housing by DGS and the Department of Housing and Community Development (HCD).
- Address the regional housing and employment imbalance in the County by maximizing affordable housing units for moderate-, low-, and extremely low-income households as well as much-needed workforce housing for Marin County educators and County employees, which includes homes in a range of unit sizes and with high-quality architecture, sustainable design elements, and amenities for low-income residents that are commonly incorporated into market-rate housing, such as fitness centers, community rooms, business/computer labs, outdoor terraces, a community courtyard, a fenced dog run, and a children’s play area.
- Cluster residential development on the project site with a thoughtful site design that takes into consideration the natural site topography and preserves significant amounts of open space.

Significant Unavoidable Adverse Impacts

The proposed project was analyzed for potentially significant impacts related to each of the environmental topic areas discussed in Sections 3.1, Aesthetics, Light, and Glare, through 3.12, Transportation. The results of the analysis demonstrate that the proposed project would not result in any significant and unavoidable impacts.

Summary of Project Alternatives

As identified above, all impacts of the proposed project are less than significant or can be mitigated to below a level of significance; therefore, the proposed project does not have any significant unavoidable impacts. Findings rejecting alternatives are required only if one or more significant environmental effects will not be avoided or substantially lessened by project design features or mitigation measures. A lead agency need make only one or more of the findings listed in Public Resource Code Section 21081(a) for each significant impact; no further findings are required if impacts are less than significant or reduced to below a level of significance. (See Public Resources Code §21081(a)(1)-(2); CEQA Guidelines §15091(a)(1)-(2).) In *Laurel Hills Homeowners Ass'n v. City Council* (1978) 83 Cal.App.3d 515, the court held that, if mitigation measures substantially lessen a project's significant environmental effects, the lead agency may approve the project without making findings on the feasibility of the EIR's project alternatives. Additionally, the court concluded that CEQA does not mandate the choice of the environmentally most desirable project if, through mitigation measures alone, the agency has reduced the project's environmental effects to an acceptable level. (*Laurel Hills, supra*, 83 Cal.App.3rd at 521; see also *Stevens v. City of Glendale* (1981) 125 Cal.3rd 986, 996; *No Slo Transit, Inc. v. City of Long Beach* (1987) 197 Cal.App.3rd 241.)

Therefore, for discussion purposes, this Draft EIR presents a reasonable range of potentially feasible alternatives to the proposed project for analysis and evaluation of their comparative merits, pursuant to CEQA Guidelines Section 15126.6. Below is a summary of the alternatives to the proposed project considered in Chapter 7, Alternatives to the Proposed Project.

Alternative 1—No Project, No Build Alternative

Under the No Project, No Build Alternative (Alternative 1), the proposed project would not be constructed. The project site would remain closed, vacant, and no development of any kind would occur. No land use activities would occur.

Alternative 2—Stop Sign at Project Driveway Alternative

Under the Stop Sign at Project Driveway Alternative (Alternative 2), all characteristics and components of the proposed project would remain unchanged except that the proposed project would connect to East Sir Francis Drake Boulevard with a stop sign. The existing stop sign at Drakes Cove Road would remain, although the eastbound acceleration lane on East Sir Francis Drake Boulevard from Drakes Cove Road would be converted to a left-turn lane into the project site. Pedestrians would be able to cross East Sir Francis Drake Boulevard to the Class I multi-use path on the south side of the roadway via a High-intensity Activated Crosswalk (HAWK) beacon. This alternative was evaluated as "Access Alternative 1" in the Transportation Impact Study (TIS) prepared

by W-Trans, dated December 8, 2022 (included in Appendix I). See Exhibit 7-1 for an illustration of this alternative.

Alternative 3—Traffic Signal at Project Driveway with Internal Connection to/from Drakes Cove Road Alternative

Under the Traffic Signal at Project Driveway with Internal Connection to/from Drakes Cove Road Alternative (Alternative 3), all characteristics and components of the proposed project would remain unchanged, including the installation of a traffic signal at the proposed project driveway. The existing stop sign at Drakes Cove Road would remain. Drivers traveling to and from Drakes Cove Road would be able to route to East Sir Francis Drake Boulevard via the existing stop sign or could access the traffic signal via an internal roadway through the project site. As anticipated under the proposed project, the eastbound acceleration lane from Drakes Cove Road would be converted to a left-turn lane into the project site. Similar to the proposed project, this alternative would include the installation of a pedestrian crosswalk at its driveway, allowing for its residents to access the multiuse path along the south side of Sir Francis Drake Boulevard. However, unlike the proposed project, the advantage of this alternative would be that drivers at Drakes Cove Road wishing to turn left onto East Sir Francis Drake Boulevard or wishing to turn left from East Sir Francis Drake Boulevard onto Drakes Cove Road would be able to complete these movements with the aid of the traffic signal instead of waiting for gaps in traffic to complete the movement. This alternative was evaluated as “Access Alternative 3” in the TIS prepared by W-Trans, dated December 8, 2022 (included in Appendix I). See Exhibit 7-2 in Chapter 7, Alternatives, for an illustration of this alternative.

Alternative 4—Traffic Signal at Drakes Cove Road Alternative

Under the Traffic Signal at Drakes Cove Road Alternative (Alternative 4), all characteristics and components of the proposed project would remain unchanged, except for the project’s vehicular access. A traffic signal would be installed at the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road. The proposed project would connect to Drakes Cove Road via a private driveway with a stop sign. The acceleration lane from Drakes Cove Road would be converted to a painted median. Additionally, Drakes Cove Road would be widened at its intersection with East Sir Francis Drake Road in order to accommodate both a right-turn lane and left-turn pocket onto East Sir Francis Drake Road. This alternative was evaluated as “Access Alternative 4” in the TIS prepared by W-Trans, dated December 8, 2022 (included in Appendix I).^{1, 2} See Exhibit 7-3 in Chapter 7, Alternatives, for an illustration of this alternative.

Alternative 5—Proposed Project Access with Left-turn Access to Drakes Cove Road Prohibited Alternative

Under the Proposed Project Access with Left-turn Access to Drakes Cove Road Prohibited Alternative (Alternative 5), all characteristics and components of the proposed project would remain unchanged, including the project’s vehicle access configuration, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. Therefore, under Alternative 5, vehicles traveling eastbound on East Sir Francis Drake

¹ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: email. December 20, 2022.

² Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: meeting. January 19, 2023.

Boulevard will no longer be able to turn left onto Drake Cove Road, resulting in a right-in/right-out intersection at Drakes Cove Road. The existing left-turn pocket would be restriped as through lane for eastbound traffic. The proposed project access was evaluated as “Access Alternative 2” in the TIS prepared for W-Trans, dated December 8, 2022 (included in Appendix I) and the removal of left turn access to Drake Cove Road was analyzed by the same qualified traffic engineer.³ See Exhibit 7-4 in Chapter 7, Alternatives, for an illustration of this alternative.

Alternative 6—All-Electric Building Design Alternative

Under the All-Electric Building Design Alternative (Alternative 6), all characteristics and components of the proposed project would remain unchanged, including proposed project access, except that the proposed project would be 100 percent powered by electricity. This alternative differs from the proposed project in that it would not utilize natural gas.

Alternative 7—Annexation Alternative

Under the Annexation Alternative (Alternative 7), all characteristics and components of the proposed project would remain unchanged, including the proposed project access, except that the project site would be annexed to the City of Larkspur.

Areas of Controversy

Pursuant to CEQA Guidelines Section 15123(b), a summary section must address areas of controversy known to the lead agency, including issues raised by agencies and the public, and it must also address issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects.

A Notice of Preparation (NOP) for the proposed project was issued on March 25, 2022. The NOP describing the original concept for the project and issues to be addressed in the EIR was distributed to the State Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period extending from March 25, 2022 through April 25, 2022. The NOP identified the potential for significant impacts on the environment related to the following topical areas:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Land Use and Planning
- Noise
- Transportation

Disagreement Among Experts

This Draft EIR contains substantial evidence to support all the conclusions presented herein. It is possible that there will be disagreement among various parties regarding these conclusions, although the California Department of General Services is not aware of any disputed conclusions at the time of this writing. Both the CEQA Guidelines and case law clearly provide the standards for

³ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: email. December 20, 2022.

treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the EIR must acknowledge the controversies, summarize the conflicting opinions of the experts, and include sufficient information to allow the public and decision makers to make an informed judgment about the environmental consequences of the proposed project.

Potentially Controversial Issues

Below is a list of potentially controversial issues that may be raised during the public review and hearing process of this Draft EIR:

- Increased traffic and pedestrian safety on East Sir Francis Drake Boulevard
- Natural gas energy usage
- Project height and density
- Consistency with the aesthetics of the adjacent neighborhood
- Impacts to the biological resources and wildlife on-site
- Increased demand on utilities and public services
- Construction impacts related to air quality, hazardous materials, and noise

It is also possible that evidence will be presented during the 45-day, statutory Draft EIR public review period that may create disagreement. Decision makers would consider this evidence during the public hearing process.

In rendering a decision on a project where there is disagreement among experts, decision makers have the discretion to adjudicate disputes so long as they are supported by substantial evidence. In their proceedings, decision makers must consider comments received concerning the adequacy of the Draft EIR and address any objections raised in these comments. However, decision makers are not obligated to follow any directives, recommendations, or suggestions presented in comments on the Draft EIR.

Public Review of the Draft EIR

Upon completion of the Draft EIR, DGS filed a NOC with the State Office of Planning and Research to begin the public review period (PRC § 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code Section 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, is available for review at the following website: <https://edenhousing.org/oak-hill-apartments-ceqa-review/>

To ensure inclusion in the final EIR and full consideration by the lead agency, comments on this Draft EIR from agencies, organizations, and interested parties must be received in writing during the 45-day public review period, at the following address:

Terry Ash, Senior Environmental Planner
c/o FirstCarbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, CA 94597
Email: rkrusenoski@fcs-intl.com

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to all significant environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to the public hearing before DGS on the proposed project, at which time the certification of the Final EIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the proposed project.

Executive Summary Matrix

Table ES-2 below summarizes the impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated for the proposed project. The table is intended to provide an overview; narrative discussions for the issue areas are included in the corresponding section of this EIR. Table ES-2 is included in the EIR as required by CEQA Guidelines Section 15123(b)(1).

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Table ES-2: Executive Summary Matrix

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.1—Aesthetics, Light, and Glare		
Impact AES-1: The proposed project would not have a substantial adverse effect on a scenic vista.	None required.	N/A
Impact AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway.	None required.	N/A
Impact AES-3: The proposed project would not, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, the project would not conflict with applicable zoning and other regulations governing scenic quality.	None required.	N/A
Impact AES-4: The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	None required.	N/A
Cumulative Impact: The proposed project would have a less than significant cumulative impact on aesthetics, light, and glare.	None required.	N/A
Section 3.2—Air Quality		
Impact AIR-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	None required.	N/A
Impact AIR-2: The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment	MM AIR-2: Implement Basic Construction Measures During Construction Prior to issuance of a grading permit or building permit, whichever is sooner, the project applicant shall require all construction contractors to implement the basic construction mitigation measures recommended by	Less than significant impact.

Impacts	Mitigation Measures	Level of Significance After Mitigation
under an applicable federal or State ambient air quality standard.	the Bay Area Air Quality Management District (BAAQMD). Emission reduction measures shall include, at a minimum, the following measures: <ul style="list-style-type: none"> ● All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. ● All haul trucks transporting soil, sand, or other loose material off-site shall be covered. ● All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. ● All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph). ● All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. ● Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. ● All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 	
Impact AIR-3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations.	None required.	N/A
Impact AIR-4: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	None required.	N/A
Cumulative Impact: The proposed project would have a less than significant cumulative impact on air quality with incorporation of mitigation.	Implement MM AIR-2 .	N/A

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.3—Biological Resources		
<p>Impact BIO-1: The proposed project would not 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 United States Fish and Wildlife Service.</p>	<p>MM BIO-1a: A qualified botanist shall conduct protocol-level rare plant surveys of previously un-surveyed areas at the next spring blooming season to confirm absence of rare plants within the portion of the project site that was not surveyed in 2022. Rare plant surveys shall be conducted following the California Department of Fish and Wildlife (CDFW) Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities. The results of the rare plant surveys shall be summarized in a rare plant report following the CDFW requirements defined in the protocol and shall be submitted to CDFW within 60 days after completion of the field work.</p> <p>MM BIO-1b: If a special-status or rare plant species is found, the project proponent shall hire a qualified Biologist to prepare and implement a compensatory mitigation plan (including monitoring and reporting requirements) submitted and approved by the California Department of Fish and Wildlife (CDFW) to offset any losses at a minimum of 1:1 ratio.</p> <p>MM BIO-1c: Protection of Active Bird Nests (includes pre-construction survey and implementation of avoidance buffer, if found).</p> <ol style="list-style-type: none"> 1. Removal of trees shall be limited to only those necessary to construct the proposed project as reflected in the relevant project approval documents. 2. If the proposed project requires vegetation to be removed during the nesting season (February 1 to August 31), pre-construction surveys shall be conducted no more than 7 days prior to the start of ground or vegetation disturbance (including tree removal) to determine whether or not active nests are present. 3. If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. (The California Department of Fish and Wildlife [CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist will delineate the avoidance 	<p>Less than significant impact.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>buffer using Environmentally Sensitive Area fencing, pin flags, and/or yellow caution tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s).</p> <p>4. The qualified Biologist shall monitor the active nest during construction activities and modify the protection zone accordingly to prevent project-related nest disturbance until the young have fledged.</p> <p>MM BIO-1d: A qualified Biologist with relevant roosting bat experience shall conduct a survey for special-status bats during the appropriate time of day to maximize detectability to determine whether bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.)</p> <p>If the Biologist determines or presumes bats are present, the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Site disturbance, including grading or vegetation removal shall only commence after the Biologist verifies 7 to 10 days later that the exclusion methods have successfully prevented bats from returning. To avoid impacts on non-volant (i.e., nonflying) bats, the Biologist shall only conduct bat exclusion and eviction from May 1 through October 1. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).</p>	
<p>Impact BIO-2: The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.</p>	<p>MM BIO-2a: The applicant shall compensate for the loss of 0.27 acres of riparian Arroyo willow thickets by restoring and conserving native riparian vegetation at a ratio of at least 1:1, or by purchasing adequate mitigation credits as determined by the California Department of Fish and Wildlife (CDFW) through a Streambed Alteration Agreement. Restoration may include removal of invasive species from riparian areas and planting and</p>	<p>Less than significant impact.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>maintenance of native riparian species, with a preference for Arroyo willow where feasible.</p> <p>Additionally, the Applicant shall compensate for the loss of 0.47 acre of coast live oak woodland by either purchasing mitigation credits from a mitigation bank or restoring and conserving oak woodland at a ratio of at least 1:1 on-site or off-site within Marin County. Restoration of oak woodland includes planting and maintaining of suitable oak species and co-occurring native woody vegetation, maintenance of mitigation plantings to guarantee establishment of a self-sustaining oak woodland.</p> <p>In case of Applicant-responsible establishment of riparian Arroyo willow and coast live oak woodland, the Applicant shall submit a Mitigation and Monitoring Plan (MMP) to CDFW. The MMP shall be prepared by a qualified restoration ecologist, and shall include planting and maintenance protocols, performance criteria, and a monitoring and reporting program. At a minimum, the planting and maintenance protocols shall define planting locations, density and spacing, a native species palette, browse protection, irrigation regime, replacement of dead plants, annually escalating performance criteria until the mitigation goal is achieved, long-term funding commitments, monitoring and reporting based on the trajectory for achieving the 1:1 minimum replacement.</p> <p>Additionally, MM BIO-3 (below), which requires implementation of measures identified by CDFW through the Streambed Alteration Agreement, will further reduce potential significant impacts on riparian vegetation and habitat to a less than significant level.</p>	
<p>Impact BIO-3: The proposed project would not 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.</p>	<p>MM BIO-3: The fill of jurisdictional waters in the form of ephemeral to intermittent streams will be avoided and minimized to the extent feasible. Authorization for the fill of waters of the U.S. and State shall be obtained by the project proponent prior to the start of construction. Mitigation for the fill of jurisdictional waters shall be accomplished through creation or restoration of other waters at a minimum 1:1 ratio within the project site, at an approved mitigation bank, or at another location within a San Francisco Bay Basin watershed approved of by the USACE, RWQCB, and CDFW. The mitigation goal shall be to create and/or enhance aquatic</p>	<p>Less than significant impact.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>habitats with habitat functions and values greater than or equal to those that will be impacted by the proposed project. Compensatory mitigation within the project site or at another location within the San Francisco Bay Basin watershed would be described in a stream mitigation plan that would:</p> <ul style="list-style-type: none"> ● Be prepared consistent with the Final Regional Compensatory Mitigation and Monitoring Guidelines (USACE 2015) and the Compensatory Mitigation for Losses of Aquatic Resources: Final Rule (USACE 2008); ● Define the location of all restoration and creation activities; ● Describe measures that would ensure that adjacent land uses would not adversely affect the ecological functions and values of the stream mitigation area, so as to ensure consistency with the foregoing federal guidelines and rules. Such measures may include the use of appropriately sized buffers between the stream mitigation area and any adjacent development, the use of fencing or walls to prevent unauthorized access, lighting in adjacent development designed to avoid light spillage into the stream mitigation area, landscape-based Best Management Practices for adjacent development prior to discharge into the stream mitigation area, and signage describing the sensitive nature of the wetland mitigation area. ● Provide evidence of a suitable water budget to support restored and created streams; ● Identify the species, quantity, and location of plants to be installed in the stream habitats; ● Identify the time of year for planting and method for supplemental watering during the establishment period; ● Identify the monitoring so as to ensure consistency with the foregoing federal guidelines and rules, which shall be not less than five years for stream restoration; ● Define success criteria that will be required for restoration efforts to be deemed a success; ● Identify adaptive management procedures that may be employed as needed to ensure the success of the mitigation project and its consistency with the foregoing federal guidelines and rules. These include, but are not limited to, remedial measures to address exotic invasive species, 	

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>insufficient hydrology to support the attainment of performance standards, and wildlife harm;</p> <ul style="list-style-type: none"> Define management and maintenance activities, including weeding, supplemental irrigation, and site protection; and Define responsibility for maintaining, monitoring and ensuring the preservation of the mitigation site in perpetuity. The project applicant shall comply with all terms of the permits issued by these agencies, including mitigation requirements, and shall provide proof of compliance to the applicable State agency prior to issuance of a grading permit. 	
<p>Impact BIO-4: The proposed project 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 wildlife nursery sites.</p>	<p>Implement MM BIO-1, MM BIO-2, and MM BIO-3.</p> <p>MM BIO-4: Construction noise shall be limited to daylight hours. All project lighting associated with construction staging areas, access routes and construction sites in natural lands shall not spill into adjacent natural areas. Temporary project lighting shall not be directed into natural areas to prevent additional light pollution and disruption of nocturnal wildlife activity. Baffles and shielding devices will be required on all lighting systems to limit significant light pollution into natural areas. The Applicant shall ensure that newly installed lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent illuminating adjacent natural areas at a level greater than 2 foot-candle above ambient conditions.</p>	<p>Less than significant impact.</p>
<p>Impact BIO-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	<p>None required.</p>	<p>N/A</p>
<p>Impact BIO-6: The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.</p>	<p>None required.</p>	<p>N/A</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>Cumulative Impact: The proposed project would have a less than significant cumulative impact on biological resources with incorporation of mitigation.</p>	<p>Implement MM BIO-1a and MM BIO-2a.</p>	<p>N/A</p>
<p>Section 3.4—Cultural Resources and Tribal Cultural Resources</p>		
<p>Impact CUL-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.</p>	<p>MM CUL-1: Environmentally Sensitive Area Fencing to Identify and Protect Adjacent Historic Era Resources In order to protect the historic era prisoner cemetery adjacent to the site from inadvertent project related ground disturbance, environmentally sensitive area fencing shall be erected around the cemetery boundaries by a qualified Archaeologist prior to the initiation of construction activities. No construction activity or ground disturbance shall take place within 20 feet of the environmentally sensitive area fencing. The environmentally sensitive area fencing shall remain in place until all project-related ground disturbance is complete.</p> <p>MM CUL-2: Worker Cultural Resources Sensitivity Training Prior to the initiation of construction activities an Archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards for archaeology shall provide Worker Environmental Awareness Program (WEAP) “tailgate” training for construction personnel conducting ground disturbance at the site or off-site improvements. The training shall include a handout, visual aids, and an overview of applicable laws, project mitigation measures, and procedures to be followed with regards to historical and/or archaeological resources that may be encountered over the course of the project. Any Native American Monitors or representatives consulting on the proposed project shall be invited to attend and participate in the training session.</p>	<p>Less than significant impact with mitigation incorporated.</p>
<p>Impact CUL-2: The proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.</p>	<p>Implement MM CUL-2.</p> <p>MM CUL-3: Archaeological Monitoring, and the Halting of Construction Upon Encountering Archaeological Materials An Archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards for archaeology shall be present to monitor all ground-disturbance activities. In the event a potentially significant historical</p>	<p>Less than significant impact with mitigation incorporated.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>and/or archaeological resource is encountered during subsurface earthwork activities, all construction activities within a 50-foot radius of the find shall cease and workers shall avoid altering the materials until an Archaeologist has evaluated the situation. The applicant for the proposed project shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Potentially significant cultural resources consist of, but are not limited to, stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the Archaeologist identifies a resource, the resource shall be treated with the appropriate dignity, taking into account the resource’s historical or cultural value, meaning, and traditional use, as determined by the Archaeologist. Work may proceed on other parts of the project site while mitigation for cultural resources is carried out. All significant cultural materials recovered shall, at the discretion of the consulting professional, be subject to scientific analysis, professional museum curation, and documentation according to current professional standards. The Archaeologist must prepare a data recovery plan before any excavation of resources begins. Any previously undiscovered resources found during construction within the project site shall further be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and shall be submitted to Contra Costa County Department of Conservation and Development, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.</p>	
<p>Impact CUL-3: The proposed project would not disturb human remains, including those interred outside of formal cemeteries.</p>	<p>Implement MM CUL-1, MM CUL-2, and MM CUL-3.</p> <p>MM CUL-4: Stop Construction Upon Encountering Human Remains If during the course of project construction, there is accidental discovery or recognition of any human remains, the following steps shall be taken:</p> <ol style="list-style-type: none"> 1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. If the Coroner determines the remains to be Native American, the Coroner shall contact the NAHC within 24 hours, and the Native American Heritage Commission (NAHC) shall identify the 	<p>Less than significant impact with mitigation incorporated.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
	<p>person or persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resource Code Section 5097.98.</p> <p>2. Where the following conditions occur, the landowner or his or her authorized representative shall reburial the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project site in a location not subject to further subsurface disturbance:</p> <ul style="list-style-type: none"> • The NAHC is unable to identify a most likely descendant, or the most likely descendant failed to make a recommendation within 48 hours after being notified by the commission. • The MLD identified fails to make a recommendation. • The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner. 	
<p>Impact CUL-4: The proposed project would not cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).</p>	<p>Implement MM CUL-2, MM CUL-3, and MM CUL-4.</p> <p>MM CUL-5: Native American Construction Monitoring (TBD based on final results of tribal consultation)</p>	<p>Less than significant impact with mitigation incorporated.</p>
<p>Impact CUL-5: The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural</p>	<p>Implement MM CUL-2, MM CUL-3, MM CUL-4, and MM CUL-5.</p>	<p>Less than significant impact with mitigation incorporated.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.</p>		
<p>Cumulative Impact: The proposed project would have a less than significant cumulative impact on cultural resources and tribal cultural resources with incorporation of mitigation.</p>	<p>Implement MM CUL-1, MM CUL-2, MM CUL-3, MM CUL-4, and MM CUL-5.</p>	<p>N/A</p>
<p>Section 3.5—Energy</p>		
<p>Impact ENER-1: The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.</p>	<p>None required.</p>	<p>N/A</p>
<p>Impact ENER-2: The proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.</p>	<p>None required.</p>	<p>N/A</p>
<p>Cumulative Impact: The proposed project would have a less than significant cumulative impact on energy.</p>	<p>None required.</p>	<p>N/A</p>
<p>Section 3.6—Geology and Soils</p>		
<p>Impact GEO-1: The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a</p>	<p>MM GEO-1: Geotechnical Feasibility Evaluation Recommendations. The proposed project shall implement all applicable recommendations provided in the Geotechnical Feasibility Evaluation prepared for the proposed project by Miller Pacific Engineering Group, dated August 19, 2022. An outline of the applicable recommendations is listed below, and a detailed explanation of each item is provided in Section 5, Preliminary Conclusions and Recommendations, of the Geotechnical Feasibility Evaluation (Appendix E).</p>	<p>Less than significant impact with mitigation incorporated.</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>known fault? Refer to Division of Mines and Geology Special Publication 42.</p> <p>ii.) Strong seismic ground shaking.</p> <p>iii.) Seismic-related ground failure, including liquefaction.</p> <p>iv.) Landslides.</p>	<ul style="list-style-type: none"> ● Preliminary seismic design, including the provision of seismic design criteria to be used during the final design; ● Foundation types, including guidance for the implementation of either shallow foundations or deep foundations and their associated ground improvements; ● Site grading considerations, including guidance for hard rock excavation and excavation in areas underlain by undocumented fill soils as well as a limitation on new fill slopes of no steeper than 2:1 (horizontal and vertical); ● Retaining walls, including recommendations on the material uses, the location, and height for new retaining walls on the project site; and ● Site and foundation drainage, including, but not limited to developing a site drainage system to collect surface water and discharge it into an established storm drainage system. 	
<p>Impact GEO-2: The proposed project could result in substantial soil erosion or the loss of topsoil.</p>	<p>Implement MM GEO-1.</p>	<p>Less than significant impact with mitigation incorporated.</p>
<p>Impact GEO-3: The proposed project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.</p>	<p>Implement MM GEO-1.</p>	<p>Less than significant impact with mitigation incorporated.</p>
<p>Impact GEO-4: The proposed project could 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.</p>	<p>Implement MM GEO-1.</p>	<p>Less than significant with mitigation incorporated.</p>
<p>Impact GEO-5: The proposed project would not 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.</p>	<p>None required.</p>	<p>N/A</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>Impact GEO-6: The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<p>MM GEO-2: In the event that earth-disturbing construction-related activities uncover any paleontological resources (i.e., bones or teeth), those activities shall be diverted at least 15 feet away from the discovery until a qualified paleontologist is brought on-site to assess the find for possible salvage. Construction workers shall not attempt to remove such finds as they could be quite fragile. The paleontologist shall document the discovery as needed and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the Paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the Department of Conservation and Development, Community Development Division for review and approval prior to implementation. The applicant shall adhere to the recommendations in the approved plan.</p>	<p>Less than significant impact.</p>
<p>Cumulative Impact: The proposed project would have a less than significant cumulative impact on geology and soils.</p>	<p>None required.</p>	<p>N/A</p>
<p>Section 3.7—Greenhouse Gas Emissions</p>		
<p>Impact GHG-1: The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</p>	<p>None required.</p>	<p>N/A</p>
<p>Impact GHG-2: The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.</p>	<p>None required.</p>	<p>N/A</p>
<p>Cumulative Impact: The proposed project would have a less than significant cumulative impact on greenhouse gas emissions.</p>	<p>None required.</p>	<p>N/A</p>

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.8—Hazards and Hazardous Materials		
Impact HAZ-1: The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	None required.	N/A
Impact HAZ-2: The proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.	MM HAZ-2: Prior to issuance of grading and construction permits, the project applicant shall prepare a soil management plan and submit to the Bay Area Regional Water Quality Control Board (Bay Area RWQCB) for confirmation. The soil management plan shall be developed to properly segregate, test, and dispose of soil potentially contaminated with lead at the project site. The soil management plan shall also describe procedures for dust control during construction activities and procedures to follow if previously unidentified areas of contamination are uncovered during site development. Additionally, the plan shall describe excavation procedures for soil within the outlined contamination area in Figure 4 of the Phase II Environmental Site Assessment (Phase II ESA) (Exhibit 3.8-1 of this report). Soil within the outlined area shall be excavated to a depth of 2 feet below ground surface (BGS). Once the soil has been excavated, confirmation sampling shall be conducted in and around the excavation to confirm that soil with lead concentrations exceeding background levels and the residential Environmental Screening Level (ESL) for direct exposure has been removed. Further excavation and confirmation sampling may be necessary based on the initial confirmation results. Procedures for this additional excavation and confirmation sampling shall be provided in the soil management plan. Once the contaminated soil has been removed, it shall be stockpiled, sampled, profiled, and sent to an appropriate waste facility.	Less than significant impact.
Impact HAZ-3: The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	None required.	N/A
Impact HAZ-4: The proposed project would not be located on a site which is included on a list of hazardous	None required.	N/A

Impacts	Mitigation Measures	Level of Significance After Mitigation
materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.		
Impact HAZ-5: 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, the proposed project would not result in a safety hazard or excessive noise for people residing or working the project area.	None required.	N/A
Impact HAZ-6: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	None required.	N/A
Impact HAZ-7: The proposed project would not expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.	None required.	N/A
Cumulative Impact: The proposed project would have a less than significant cumulative impact on hazards and hazardous materials.	None required.	N/A
Section 3.9—Hydrology and Water Quality		
Impact HYD-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	None required.	N/A
Impact HYD-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	None required.	N/A

Impacts	Mitigation Measures	Level of Significance After Mitigation
<p>Impact HYD-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:</p> <ul style="list-style-type: none"> i) Result in substantial erosion or siltation on- or off-site; ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) Impede or redirect flood flows? 	None required.	N/A
<p>Impact HYD-4: The proposed project would not be located in a flood hazard zone, tsunami, or seiche zone, or risk release of pollutants due to project inundation.</p>	None required.	N/A
<p>Impact HYD-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.</p>	None required.	N/A
<p>Cumulative Impact: The proposed project would have a less than significant cumulative impact on hydrology and water quality.</p>	None required.	N/A
<p>Section 3.10—Land Use and Planning</p>		
<p>Impact LAND-1: The proposed project would not physically divide an established community.</p>	None.	N/A
<p>Impact LAND-2: The proposed project would not cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation</p>	None.	N/A

Impacts	Mitigation Measures	Level of Significance After Mitigation
adopted for the purpose of avoiding or mitigating an environmental effect.		
Cumulative Impact: The proposed project would have a less than significant cumulative impact with respect to land use and planning.	None required.	N/A
Section 3.11—Noise		
Impact NOI-1: The proposed project would 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	None required.	N/A
Impact NOI-2: The proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	None required.	N/A
Impact NOI-3: The proposed project would not result in generation of excessive groundborne vibration or groundborne noise levels.	None required.	N/A
Impact NOI-4: The proposed project would not expose people residing or working in the project area to excessive noise levels for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.	None required.	N/A
Cumulative Impact: The proposed project would have a less than significant cumulative impact with respect to noise.	None required.	N/A

Impacts	Mitigation Measures	Level of Significance After Mitigation
Section 3.12—Transportation		
Impact TRANS-1: The proposed project would conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities.	None required.	N/A
Impact TRANS-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	None required.	N/A
Impact TRANS-3: The proposed project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	None required.	N/A
Impact TRANS-4: The proposed project would result in inadequate emergency access.	None required.	N/A
Cumulative Impact: The proposed project would have a less than significant impact on transportation.	None required.	N/A

CHAPTER 1: INTRODUCTION

1.1 - Overview of the CEQA Process

This Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the direct, indirect, and cumulative potential environmental impacts associated with the implementation of the Oak Hill Apartments Project (hereafter referred to as the “project,” State Clearinghouse No. 2022030718). This document is prepared in conformance with CEQA (California Public Resources Code [PRC], § 21000, *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, § 15000, *et seq.*) and is based on information submitted by the project applicant, Eden Housing and Education Housing Partners, Inc.; the March 25, 2022, Notice of Preparation; and the technical analysis prepared for the proposed project as detailed in Section 1.5, Documents Prepared for the Proposed Project, below. This Draft EIR is intended to serve as an informational document for the public agency decision makers and the public regarding the proposed project.

1.1.1 - Overview

The Oak Hill Apartments Project (proposed project) consists of the construction of a 100 percent affordable housing project consisting of 250 new apartments. A total of 135 units would be available to low- to moderate-income educators working in Marin County and employees of the County of Marin (County), while 115 units would be available to extremely low- to low-income residents. Chapter 2, Project Description provides a complete description of the proposed project.

1.1.2 - Purpose and Authority

The purpose of an EIR is “to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided.” (Public Resources Code, § 21002.1, subd.(a).) CEQA requires that all State and local government agencies consider the consequences to the natural environment before carrying out or approving any project.

This Draft EIR provides a project-level analysis of the environmental effects of the proposed project. The environmental impacts of the proposed project are analyzed in the EIR to the degree of specificity in the underlying activity described in the EIR, in accordance with CEQA Guidelines Section 15146. This document addresses the potentially significant adverse environmental impacts that may be associated with the planning, construction, or operation of the proposed project. It also identifies appropriate and feasible mitigation measures and alternatives that may be adopted to significantly reduce or avoid these impacts.

The level of analysis contained in this EIR will be sufficient to proceed with project implementation without further environmental review.

CEQA requires that an EIR contain, at a minimum, certain specific elements. These elements are contained in this Draft EIR and include:

- Table of Contents
- Introduction
- Executive Summary
- Project Description
- Environmental Setting, Significant Environmental Impacts, and Mitigation Measures to Reduce Significant Impacts
- Cumulative Effects of the Project in Combination with Past, Present, and Reasonably Foreseeable Future Projects
- Significant Unavoidable Adverse Impacts
- Alternatives to the Proposed Project
- Growth-Inducing Impacts
- Effects Found not to be Significant
- Areas of Known Controversy

1.1.3 - Lead Agency Determination

The California Department of General Services (DGS) is designated as the lead agency for the project. CEQA Guidelines Section 15367 defines the lead agency as “. . . the public agency which has the principal responsibility for carrying out or approving a project.” Other public agencies may use this Draft EIR in the decision-making or permit process and consider the information in this Draft EIR along with other information that may be presented during the CEQA process.

This Draft EIR was prepared by FirstCarbon Solutions (FCS), an environmental consultant. Prior to public review, it was extensively reviewed and evaluated by DGS. This Draft EIR reflects the independent judgment and analysis of DGS as required by CEQA. Lists of organizations and persons consulted, and the report preparation personnel are provided in Section 8 of this Draft EIR.

1.2 - Scope of the Draft EIR

Prior to the preparation of a Draft EIR, the lead agency prepares and circulates a Notice of Preparation (NOP) for public comment. The purpose of the NOP is to determine the scope of the EIR through consultation with responsible agencies and other interested parties.

DGS issued an NOP for the proposed project on March 25, 2022, which was circulated between March 25, 2022, and April 25, 2022, for the statutory 30-day public review period. The scope of this Draft EIR includes the potential environmental impacts identified in the NOP and issues raised by agencies and the public in response to the NOP. The NOP is contained in Appendix A of this Draft EIR.

Seventeen comment letters were received in response to the NOP. They are listed in Table 1-1 and provided in Appendix A of this Draft EIR.

Table 1-1: NOP Comment Letters

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
Public Agencies				
City of Larkspur	Elise Semonian, Community Development Director	April 14, 2022	Request to be included on notification list.	N/A
			Request for scoping meeting recording	N/A
County of Sonoma	Katrina Braehmer, Planner III	April 14, 2022	Discussion of the importance of balancing job opportunities and residential growth and greenhouse gas (GHG) emissions from trip generation.	Section 3.7, GHG Emissions
			Discussion of the project’s consistency with Sonoma County General Plan.	Various sections
Native American Heritage Commission	Cody Campagne, Cultural Resources Analyst	April 14, 2022	Description of significant impacts within Section 3.4, Cultural and Tribal Cultural Resources.	Section 3.4, Cultural and Tribal Cultural Resources
			Description of Assembly Bill (AB) 52 and CEQA requirements related to AB 52.	Section 3.4, Cultural and Tribal Cultural Resources
			Recommendation of consultation with applicable California Native American tribes.	Section 3.4, Cultural and Tribal Cultural Resources
			CEQA requirements related to Senate Bill (SB) 18.	Section 3.4, Cultural and Tribal Cultural Resources
			Recommendations for Cultural Resources Assessments.	Section 3.4, Cultural and Tribal Cultural Resources
California Department of Fish and Wildlife (CDFW)	Amanda Culpepper, Senior Environmental Scientist	April 15, 2022	Request for Extension of Comment Period.	N/A
California Department of	Erin Chappell, Regional Manager	April 22, 2022	Acknowledgement of CDFW as a Trustee and Responsible Agency.	N/A

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
Fish and Wildlife			Project description and location.	Chapter 2, Project Description
			Review of the CEQA Guidelines applicable to the Project Description.	Chapter 2, Project Description
			Review of the regulatory requirements applicable to the proposed project.	Section 3.3, Biological Resources
			Review of the CEQA Guidelines required for the environmental setting of Section 3.3, Biological Resources.	Section 3.3, Biological Resources
			Review of the CEQA Guidelines required for the impact analysis and mitigation measures for Section 3.3, Biological Resources.	Section 3.3, Biological Resources
			Review of CEQA requirements for environmental data.	Section 3.3, Biological Resources
			Description of CDFW filing fees.	N/A
California Department of Corrections and Rehabilitation (CDCR)	Dean L. Borg, Director of Facility Planning, Construction and Management	April 25, 2022	Request to evaluate the project’s temporary and construction impacts on CDCR staff, the Department’s contract providers, and vendors that use Sir Francis Drake Boulevard to San Quentin Prison.	Section 3.12, Transportation
			Support of the traffic light at the intersection of Sir Francis Drake Boulevard and entrance/exit for the project site.	Section 3.12, Transportation
			Request to evaluate the impacts of road widening of the Sir Francis Drake Boulevard or implementation of an exclusive left turn lane	Section 3.12, Transportation

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
			from the southeast-bound lane and a right turn lane from the opposite direction.	
County of Marin	Tom Lai, Community Development Director	April 25, 2022	Recommendation to eliminate the use of gas by making the proposed project fully electric.	Section 3.5, Energy; Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Recommendation to include electric vehicle (EV) charging infrastructure in the proposed project’s parking structure.	Section 3.5, Energy; Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
Organizations				
Marin Promise Partnership	Robin Pendoley	April 12, 2022	Importance of affordable housing for educators in Marin County.	N/A
			The Project’s reduction of GHG emissions due to reduced commute times.	Section 3.2, Air Quality; Section 3.7, GHG Emissions
			Survey information regarding tenant interest in the project.	N/A
Cool the Earth	Carleen Cullen, Founder and CEO	April 25, 2022	Organization’s description and interests.	N/A
			Recommendation to provide electric charging for EV and electric bicycles.	Section 3.5, Energy; Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Recommendation to include bicycle storage/parking.	Section 3.12, Transportation
Marin/Sonoma Building Squad; Marin/Sonoma Electric Vehicle Squad	David Moller, PE	April 25, 2022	Project description and location.	Chapter 2, Project Description
			Review of language used in the NOP and Project Description regarding Air Quality, Transportation, GHG Emissions, and Hazardous Materials.	N/A

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
			Recommendation to include EV charging for project residents.	Section 3.5, Energy; Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Recommendation that the proposed project should be all-electric with no gas infrastructure	Section 3.5, Energy; Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Recommendation to include electric bicycle charging	Section 3.5, Energy; Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
Individuals				
N/A	Jason Walthall	March 29, 2022	Discussion regarding project building height and density.	Section 3.1, Aesthetics; Section 3.10, Land Use and Planning
			Concern regarding increased traffic on Sir Francis Drake Boulevard.	Section 3.12, Transportation section
			Concern regarding project improvements to surrounding roadways and intersections, including a crosswalk.	Section 3.12, Transportation section
N/A	Bill Dixon	April 11, 2022	Question regarding concentration of educational tenancies.	N/A
N/A	Bill Dixon	April 11, 2022	Question regarding tenant average income.	N/A
N/A	Bill Dixon	April 21, 2022	Question regarding concentration of educational tenancies	N/A
			Question regarding tenant average income.	N/A
N/A	Patricia and George H. Olsen	April 14, 2022	Request to be included on the distribution list.	N/A
			Concern regarding project density.	Section 3.10, Land Use and Planning
			Concern regarding the project's inconsistency	Section 3.1, Aesthetics, Light, and Glare

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
			with the surrounding aesthetic characteristics.	
			Concern regarding the project’s location as it relates to surrounding traffic congestion and concern regarding pedestrian, bicycle, and vehicular safety.	Section 3.12, Transportation
			Concern regarding the project’s distance from accessible public transit.	Section 3.12, Transportation
			Concern regarding project impact on existing wildlife on the project site.	Section 3.3, Biological Resources
			Concern regarding noise impacts from the San Quentin’s Shooting Range on the proposed project.	Section 3.11, Noise
			Concern regarding the project’s proximity to a Sewage Treatment Plant, specifically related to odor.	N/A
			Concern regarding cumulative impacts related to other planned development.	Chapter 5, Effects Found not to be Significant (Population and Housing)
			Concern regarding project impacts to water supplies.	Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Request to evaluate cumulative impacts related to traffic, pollution, and water resources.	Various sections
			Concern related to traffic congestion as a result of the proposed project and concern regarding legitimacy of traffic	Section 3.12, Transportation

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
			studies as it relates to COVID-19.	
			Concern regarding vehicle access to the project site and recommendations of alternative access points.	Section 3.12, Transportation
			Request to evaluate utilities and services systems as a section in the EIR.	Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Request for further elaboration on why natural gas is included in the proposed project and whether solar panels are being considered.	Section 3.5, Energy
			Request to evaluate public services further to determine impact since no real estate taxes will be collected.	Chapter 5, Effects Found not to be Significant (Public Services)
			Recommendation to build out the Ross Valley Sanitary District (RVSD) Larkspur Landing Circle and absorb units from Oak Hill Apartments.	Chapter 7, Alternatives to the Proposed Project
			Recommendation to delay construction until after “Connector to 580” is completed or allow market rate development at the site.	N/A
N/A	David C. Herr, Esq.	April 22, 2022	Request for all future meetings to be held at public, in-person venues so as not to violate CEQA requirements.	N/A
			Request for clarification on exact project boundaries and proximity to nearby property lines.	Chapter 2, Project Description and associated exhibits

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
			Concern regarding project density and location and request to allow public to have input.	Section 3.10, Land Use and Planning
			Concern regarding aesthetic impacts of the Podium Plan design for the proposed project.	Section 3.1, Aesthetics, Light, and Glare
			Concern regarding the toxicity of the dust that would be generated during construction.	Section 3.2, Air Quality; Section 3.8, Hazards and Hazardous Materials
			Request to evaluate operational air quality impacts.	Section 3.2, Air Quality
			Concern regarding construction impacts on biological resources.	Section 3.3, Biological Resources
			Request for the project to conduct tribal consultation with the Miwok Tribal Authorities.	Section 3.4, Cultural and Tribal Cultural Resources
			Recommendation for the project to be all-electric.	Section 3.2, Air Quality; Section 3.5, Energy; Section 3.7, GHG
			Request for comprehensive soils and geological survey to be completed for the proposed project, specifically for hazardous materials and to determine whether there are historical artifacts as there have already been artifacts at the site.	Section 3.4, Cultural and Tribal Cultural Resources; Section 3.6, Geology and Soils; Section 3.8, Hazards and Hazardous Materials
			Discussion of GHG reductions related to the project.	Section 3.7, GHG Emissions
			Concern regarding runoff during construction.	Section 3.9, Hydrology
			Concern regarding cumulative impacts	Section 3.10, Land Use and Planning

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
			related to other projects and development in the area.	
			Concern regarding noise generated by the project, including traffic noise.	Section 3.11, Noise
			Concern regarding traffic impacts and walkability; recommendation to provide separate entry/exit to the project from Sir Francis Drake Boulevard with signals, congestion generated by internal roads, and consideration for public shuttles for residents.	Section 3.12, Transportation
			Concern that property taxes will not be collected, and impacts related to public services.	Chapter 5, Effects Found not to be Significant (Public Services)
			Concern regarding the project’s impacts on existing recreational facilities.	Chapter 5, Effects Found not to be Significant (Recreation)
			Concern regarding project impacts on utilities.	Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Support for and request that the Alternatives section evaluate the Garden Plan presented in the RFP.	Chapter 7, Alternatives to the Proposed Project
			Request that the Alternatives section evaluate the possibility of market rate townhome development at the project site.	Chapter 7, Alternatives to the Proposed Project
N/A	Bernard L. Martin	April 25, 2022	Concern regarding project density and	Section 3.10, Land Use and Planning

Agency/ Organization	Author	Date	Topics Discussed in Comment Letter	Location Comment is Addressed/Discussed in DEIR
			consistency with land use designation/zoning.	
			Request to evaluate public services, specifically fire and police response times, and incremental impact of the costs of providing public services.	Chapter 5, Effects Found not to be Significant (Public Services)
			Request to evaluate project impacts on internal access roads and circulation, pedestrian and bicycle safety, and regional traffic via the Richmond Bridge and Highway 101.	Section 3.12, Transportation
			Request to evaluate project impacts to water supplies.	Chapter 5, Effects Found not to be Significant (Utilities and Service Systems)
			Request to evaluate wildfire and fire risks.	Chapter 5, Effects Found not to be Significant (Wildfire)
			Request to evaluate noise and GHG emissions during construction and the impacts on nearby single-family homes.	Section 3.7, GHG Emissions; Section 3.11, Noise
			Request to evaluate recognized toxic environmental hazards on the project site, including lead dust that may be airborne during construction.	Section 3.7, GHG Emissions; Section 3.8, Hazards and Hazardous Materials
			Request to evaluate the project impact on local endangered species and wildfire.	Section 3.3, Biological Resources; Chapter 5, Effects Found not to be Significant (Wildfire)
Source: Compiled by FirstCarbon Solutions (FCS). 2022.				

1.2.1 - Environmental Issues Determined not to be Significant

The NOP identified topical areas that were determined not to be significant. An explanation of why each area is determined not to be significant is provided in Chapter 5, Effects Found not to be Significant. These topical areas are as follows:

- Agricultural and Forestry Resources
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Wildfire

1.2.2 - Potentially Significant Environmental Issues

The NOP found that the following topical areas may contain potentially significant environmental issues that will require further analysis in the EIR. These sections are as follows:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Transportation

Based on the NOP comment letters (provided in Appendix A of this Draft EIR), issues known to be of concern in the community include, but are not limited to, the proposed project's density and height; increased traffic on East Sir Francis Drake Boulevard as well as concern regarding pedestrian, bicycle, and vehicular safety, and concerns regarding increased impacts to air quality and increased greenhouse gas emissions.

1.3 - Organization of the Draft EIR

This Draft EIR is organized into the following main sections:

- **Chapter ES: Executive Summary.** This chapter includes a summary of the proposed project and alternatives to be addressed in the Draft EIR. A brief description of the areas of controversy and issues to be resolved, and overview of the Mitigation Monitoring and

Reporting Program (MMRP), in addition to a table that summarizes the impacts, mitigation measures, and level of significance after mitigation, are also included in this section.

- **Chapter 1: Introduction.** This chapter provides an introduction and overview describing the purpose of this Draft EIR, its scope and components, and its review and certification process.
- **Chapter 2: Project Description.** This chapter includes a detailed description of the proposed project, including its location, site, and project characteristics. A discussion of the project objectives, intended uses of the Draft EIR, responsible agencies, and approvals that are needed for the proposed project are also provided.
- **Chapter 3: Environmental Impact Analysis.** This chapter analyzes the environmental impacts of the proposed project. Impacts are organized into major topic areas. Each topic area includes a description of the environmental setting, methodology, significance criteria, impacts, mitigation measures, and significance after mitigation. The specific environmental topics that are addressed within Chapter 3 are as follows:
 - **Section 3.1—Aesthetics, Light, and Glare:** Addresses the potential visual impacts of development intensification and the overall increase in illumination produced by the proposed project.
 - **Section 3.2—Air Quality:** Addresses potential air quality impacts associated with project implementation and emissions of criteria pollutants. In addition, the section also evaluates project emissions of toxic air contaminants.
 - **Section 3.3—Biological Resources:** Addresses potential impacts on habitat, vegetation, and wildlife; the potential degradation or elimination of important habitat; and impacts on listed, proposed, and candidate threatened and endangered species.
 - **Section 3.4—Cultural Resources and Tribal Cultural Resources:** Addresses potential impacts on historical resources, archaeological resources, paleontological resources, and burial sites.
 - **Section 3.5—Energy:** Addresses potential project impacts related to energy usage.
 - **Section 3.6—Geology and Soils:** Addresses the potential impacts the proposed project may have on soils and assesses the effects of project development in relation to geologic and seismic conditions.
 - **Section 3.7—Greenhouse Gas Emissions:** Addresses potential project emissions of greenhouse gases.
 - **Section 3.8—Hazards and Hazardous Materials:** Addresses potential for presence of hazardous materials or conditions on the project site and in the project area that may have the potential to impact human health.
 - **Section 3.9—Hydrology and Water Quality:** Addresses the potential impacts of the project on local hydrological conditions, including drainage areas and stormwater treatment.
 - **Section 3.10—Land Use and Planning:** Addresses potential land use impacts.
 - **Section 3.11—Noise:** Addresses potential noise impacts during construction and at project buildout from mobile and stationary sources. The section also addresses the impact of noise generation on neighboring uses.
 - **Section 3.12—Transportation:** Addresses potential impacts related to the local and regional roadway system and public transportation, bicycle, and pedestrian access.

- **Chapter 4: Cumulative Effects.** This chapter contains an analysis of the cumulative effects associated with the proposed project for each of the topical sections included in Chapter 3, including past, present, and probable future projects.
- **Chapter 5: Effects Found not to be Significant.** This chapter contains analysis of the topical sections not addressed in Chapter 3.
- **Chapter 6: Other CEQA Considerations.** This chapter provides a summary of significant environmental impacts, including unavoidable and growth-inducing impacts. This section also discusses the mandatory findings of significance for the proposed project.
- **Chapter 7: Alternatives to the Proposed Project.** This chapter compares the impacts of the proposed project with three land use project alternatives, including a No Project Alternative. An environmentally superior alternative is identified. In addition, alternatives initially considered but rejected from further consideration are discussed.
- **Chapter 8: Persons and Organizations Consulted/List of Preparers.** This chapter also contains a full list of persons and organizations that were consulted during the preparation of this Draft EIR. This chapter also contains a full list of the authors who assisted in the preparation of the Draft EIR, by name and affiliation.
- **Appendices.** The Draft EIR appendices includes all notices and other procedural documents pertinent to the Draft EIR, as well as all technical material prepared to support the analysis.

1.4 - Documents Prepared for the Proposed Project

The following technical studies and analyses were prepared for the proposed project:

- Air Quality, Greenhouse Gas Emissions modeling (Appendix B)
- Biological Resources Assessment (Appendix C)
- Jurisdictional Delineation (Appendix C)
- Arborist Report (Appendix C)
- Phase I Cultural Resources Assessment (Appendix D)
- Preliminary Geotechnical Report (Appendix E)
- Phase I Environmental Site Assessment (Appendix F)
- Phase II Environmental Site Assessment (Appendix F)
- Noise Impact modeling (Appendix H)
- Traffic Impact Study (Appendix I)

1.5 - Review of the Draft EIR

Upon completion of the Draft EIR, DGS filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (PRC § 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code Section 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, is available for review at the following website:

<https://edenhousing.org/oak-hill-apartments-ceqa-review/>. Hard copies are available at the following address:

Eden Housing
22645 Grand Street
Hayward, CA 94541
510.582.1460

To ensure inclusion in the Final EIR and full consideration by the lead agency, comments on this Draft EIR from agencies, organizations, and interested parties must be received in writing during the 45-day public review period, at the following address:

Josh Palmer, Section Real Estate Officer, DGS
c/o FirstCarbon Solutions
2999 Oak Road, Suite 250
Walnut Creek, CA 94597
Email: rkrusenoski@fcs-intl.com

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. In accordance with Public Resources Code Section 21092.5, written responses to all significant environmental issues raised by commenting agencies during the public review period will be prepared and made available for review by the commenting agencies 10 days prior to the certification of the Final EIR will be considered by DGS. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the proposed project.

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CHAPTER 2: PROJECT DESCRIPTION

This Draft Environmental Impact Report (Draft EIR) analyzes the potential environmental effects of the Oak Hill Apartments Project (proposed project) in Marin County (County).

2.1 - Project Location and Setting

2.1.1 - Location

The project site is located north and west of East Sir Francis Drake Boulevard, east of Drakes Cove Road, and south of Anderson Drive in an unincorporated area of Marin County (Exhibit 2-1 and Exhibit 2-2a). The approximately 8.3-acre site is located on a portion of Assessor's Parcel Number (APN) 018-152-12 on the *San Rafael and San Quentin*, California United States Geological Survey (USGS) 7.5-minute Topographic Quadrangle Maps in the southeastern portion of Marin County (Exhibit 2-2a). The County is bound to the north by Sonoma County, to the east by the San Francisco Bay, to the south by the City and County of San Francisco, and to the west by the Pacific Ocean. Regional access is provided by Interstate 580 (I-580) and by U.S. Route 101 (US-101).

The project site is located on land owned by the State of California, which has the authority to invoke State sovereignty and, therefore, facilities and activities planned for the project site are not subject to local land use regulations. As such, the California Department of General Services (DGS) is the Lead Agency for the proposed project.

2.1.2 - Surrounding Land Uses

West

Directly west of the project site is a residential neighborhood located in the City of Larkspur, along Drakes Cove Road. A corporate office and warehouse associated with an automobile dealership (the Price Simms Family Dealership) is located approximately 0.1 mile from the project site. The Larkspur Landing commercial center, which includes Marin County Mart, is located approximately 0.3 mile from the project site. The Larkspur Ferry Terminal is located approximately 0.5 mile from the project site. The Larkspur Sonoma-Marin Area Rail Transit (SMART) Train Station is located approximately 0.8 mile from the project site.

North

North of the project site is undeveloped land located within both the County and the City of San Rafael. The Central Marin Sanitation Agency is located farther north along I-580. The project site is located approximately 0.8 mile from an I-580 on-ramp.

East

East of the project site is undeveloped land located in the County and San Quentin State Prison (San Quentin). The San Quentin west gate is located approximately 750 feet from the project site. The San Quentin facility contains the prison as well as approximately 86 homes occupied by prison staff and their families.

South

Immediately south of the project site is East Sir Francis Drake Boulevard. On the far side of the roadway sits Remillard Park, located in the City of Larkspur, as well as the Corte Madera Channel, the Corte Madera Marsh Ecological Reserve, and the San Francisco Bay. The San Francisco Bay is located more than 300 feet away from the project site.

2.1.3 - Existing Conditions

The project site is characterized by inward sloping topography from the west, north, and east; however, the center and southwestern portions of the site are relatively flat (Exhibit 2-2b). A junction box, hydrogen peroxide dosing odor control facility, and an approximately 11,500-square-foot asphalt pad are located in the southwestern corner of the project site, adjacent to East Sir Francis Drake Boulevard. These structures are associated with an easement agreement between the Central Marin Sanitation Agency (CMSA) and the State of California allowing a wastewater pipeline on the State property.

The project site drains direct precipitation from the surrounding slopes through a network of first and second order ephemeral drainage channels. The collected runoff is conveyed through two channels and culverts under East Sir Francis Drake Boulevard to the lagoon at Remillard Park, an artificial impoundment of San Francisco Bay.

Previously, the project site was used as a gun range, which has resulted in lead concentrations in site soils. However, contamination at the project site would be remediated prior to construction of the proposed project as further discussed in Section 3.8, Hazards and Hazardous Materials, of this Draft EIR.

The natural habitat on the project site consists primarily of Coyote Brush Scrub, Non-Native Annual Grassland, Purple Needlegrass, Pampas Grass Patches, Coast Live Oak Woodland, French broom, and Arroyo Will Thickets as well as various wildlife species. A full description of the site's vegetation and wildfire species is further discussed in Section 3.3, Biological Resources, of this Draft EIR. There are remnant structures beneath some of the brush covering the project site which is further discussed in Section 3.4, Cultural Resources and Tribal Cultural Resources, of this Draft EIR.

Because of soil and slope conditions, the project site is subject to some slope instability and soil expansion risks, particularly during a seismic event. A portion of the project site is located within a 500-year flood zone, or an area that would be inundated by a 0.2 percent annual change of flood. These conditions are further discussed in Section 3.6, Geology and Soils, and Section 3.9, Hydrology and Water Quality, of the Draft EIR. Additionally, as further discussed in Section 3.8, Hazards and Hazardous Materials, the project site is located in a Moderate Fire Hazard Severity Zone (FHSZ) within a State Responsibility Area (SRA).

2.2 - Project Characteristics

2.2.1 - Proposed Project

Eden Housing Inc. (Eden) and Education Housing Partners, Inc. (EHP, and together with Eden, the Applicant) are proposing to develop the Oak Hill Apartments project (proposed project) on approximately 6.7 acres of the 8.3-acre project site. The 100 percent affordable housing project would include the construction of two buildings containing up to 250 new apartments. One building would provide 135 dwelling units available to low- to moderate-income educators working in and employees of the County of Marin, and the other building would include 115 dwelling units available to extremely low to low-income residents, as shown in Table 2-1 below. (The unit affordability mix may change depending on financial conditions.)

Table 2-1: Housing Unit Mix

Income Level	Unit Type	Unit Area Range (square feet)	Quantity	Mix (%)
Low to Moderate Income Affordable Units	Junior 1-bedroom	600-650	14	11
	1-bedroom	700-800	72	53
	2-bedroom	1,000-1,100	37	27
	3-bedroom	1,250-1,350	12	9
Total Low to Moderate Income Affordable Units: 135				
Extremely Low to Low Income Affordable Units	Studio	420-500	28	24
	1-bedroom	600-650	26	23
	2-bedroom	900-950	30	26
	3-bedroom	1050-1100	31	27
Total Extremely Low to Low Income Affordable Units: 115				
Total Housing Units: 250				
Source: Eden Housing and Education Housing Partners, Inc., 2022.				

As shown in Table 1 above, the low- to moderate-income portion of the project will likely include a greater number of 1- and 2-bedroom units and fewer 3-bedroom units, while the extremely low to low-income units would represent a virtually equal number of studio, 1-bedroom, 2-bedroom, and 3-bedroom units.

Building Design

As previously discussed, the apartments would be clustered into two buildings, which would be terraced up the hillside with exterior elevations ranging from 30 feet to 60 feet in height (Exhibit 2-3). As shown in Exhibit 2-4, the lower building would be rectangular in shape and would include units on all four sides with a large courtyard in the center and four levels of structured parking, built into the hillside, providing approximately 350 parking spaces. The upper building would be

constructed with two adjacent open space amenities on each end of the building. Together the buildings would provide a total of approximately 420,000 square feet including 137,000 square feet of parking. The parapet of each building will be approximately 4 feet high and will generally shield heating, ventilation, air conditioning equipment, solar panels, and other mechanical equipment located on the roofs of the buildings. The buildings’ roofs also have a limited number of projections for emergency stairway access to the roof, elevator overrun and equipment rooms, and miscellaneous mechanical equipment which are set back from the exterior face of the structure. Building exteriors would incorporate stucco and/or Hardi-plank lap sided exteriors in a combination of earth tones. Exhibit 2-5 depicts a preliminary building cross section and Exhibit 2-6 depicts the proposed massing for the project.

Proposed exterior lighting would be shielded and directed downwards to avoid trespass to the adjacent residential properties and to avoid obtrusive light or glare in the public right-of-way. All lighting over 40W will be equipped with automatic dimming and motion sensors. The exterior materials are designed to minimize glare and impact, without the use of any highly reflective exterior materials.

Proposed sustainable design features would include high-efficiency mechanical and hot water systems, energy-efficient appliances, high-efficiency and drought-tolerant plantings, water-saving features, dual glazed windows, and electric vehicle (EV) charging.

Project Amenities, Landscaping, and Open Space

The proposed project would incorporate approximately 35,000 square feet of landscaped open space and approximately 35,000 square feet of outdoor amenity space, which would host a variety of passive and active recreational areas for residents including a community terrace, play area, and fenced dog area. Landscaping, grasses, trees, and open greenspace would be featured throughout the project site. The proposed project would include approximately 1,500 linear feet of pedestrian walkways throughout the site.

In addition, each building would also feature private amenity areas. In total, the proposed project would include approximately 10,000 square feet of interior amenity space including a fitness center, community room, and business room/computer lab in each building. Table 2-2, below, provides the proposed project summary. (This project summary may change depending on financial and design conditions.)

Table 2-2: Project Summary

Level	Project Summary (gross square feet)					Landscaped Amenity Area
	Residential Area			Total Parking	Total Project Area	
	Low to Moderate Income	Extremely Low to Low Income	Total			
Level 1	6,000	1,000	7,000	41,000	49,000	1,000
Level 2	7,000	0	7,000	44,000	52,000	0

Level	Project Summary (gross square feet)					Landscaped Amenity Area
	Residential Area			Total Parking	Total Project Area	
	Low to Moderate Income	Extremely Low to Low Income	Total			
Level 3	10,000	1,000	11,000	39,000	50,000	0
Level 4	28,000	2,000	30,000	13,000	43,000	10,000
Level 5	32,000	11,000	43,000	0	43,000	13,000
Level 6	26,000	29,000	55,000	0	55,000	9,000
Level 7	24,000	29,000	53,000	0	53,000	1,000
Level 8	21,000	28,000	49,000	0	49,000	1,000
Level 9	0	27,000	27,000	0	27,000	0
Total	154,000	128,000	282,000	137,000	421,000	35,000
Total Units/Spaces	132135	115	250	350	N/A	N/A

Source: Eden Housing and Education Housing Partners, Inc., 2022.

Construction

The Applicant anticipates that construction of the proposed project would span approximately 27 months:

- Site Preparation, Demolition, and Grading (approximately three months). During this phase, the project site would be readied for construction, including removal of existing vegetation and paving, and grading of the entire site would occur. Approximately 5,000 cubic yards of contaminated soil is to be exported and replaced during project grading activities.
- Building Construction, Paving, and Architectural Coating (approximately 24 months). This phase includes construction of the proposed apartments and associated infrastructure and amenities, including parking areas and project access.

Vehicular Access, Circulation, and Parking

The project site would be accessed via a driveway from East Sir Francis Drake Boulevard, approximately 165 feet east of Drakes Cove Road. A traffic signal on East Sir Francis Drake Boulevard is proposed at the entry to the project site. As discussed above, the driveway would provide access to a four-level garage with approximately 350 parking spaces.

Four project access alternatives for the proposed project were evaluated in the Transportation Impact Study prepared by W-Trans for the proposed project and are further discussed in Section 3.12, Transportation, of this Draft EIR. Exhibit 2-7 depicts the various project access alternatives being considered. As a result of this analysis, Access Alternative 2 is the proposed access for the proposed project. The proposed project would include a traffic signal at the intersection of the

project's driveway and East Sir Francis Drake Boulevard and convert an eastbound acceleration lane on East Sir Francis Drake Boulevard to a left-turn lane into the project site.

Pedestrian Facilities

There is an existing but discontinuous network of sidewalks, crosswalks, pedestrian signals, and curb ramps providing access for pedestrians in the vicinity of the proposed project site. Sidewalks along East Sir Francis Drake Boulevard only exist intermittently on the north side of the road west of Drakes Cove Road, and there are no sidewalks east of Drakes Cove Road on either side of the road. In addition, there are no crosswalks at the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road. There is a Class I multiuse path on the south side of East Sir Francis Drake Boulevard, which is a completely separated right-of-way for the exclusive use of pedestrians and bicycles to the west of the project site.¹

The proposed project would create a cohesive community and provide increased connectivity by including approximately 1,500 linear feet of pedestrian walkways throughout the project site. The proposed project would also include a pedestrian crosswalk at the proposed traffic signal connecting the project site to the Class I multiuse path on the south side of East Sir Francis Drake Boulevard. This crosswalk would include right-of-way controls that would enable residents and visitors of the proposed project to access this multiuse path via the proposed traffic signal included in the proposed project.

Bicycle Facilities

In addition to the Class I multiuse path along the south side of East Sir Francis Drake Boulevard, other bicycle facilities in the project area include Class II bike lanes on Andersen Drive and a Class II bike lane on the south side of East Sir Francis Drake Boulevard that continues on to I-580 as a Class IV bikeway on the north side that connects to Francisco Boulevard East. Exhibit 2-2 depicts the location of existing bicycle and pedestrian facilities in the area.

The proposed project would provide approximately 30 short-term and approximately 180 long-term bicycle parking spaces on-site. As discussed above, the proposed project would also include a proposed pedestrian crosswalk which would also allow bicycles to connect from the project site to the Class I multiuse path on the south side of East Sir Francis Drake Boulevard either via a traffic signal or HAWK beacon.

Transit

Regional and local fixed-route bus transit service is provided by the County of Marin through Marin Transit, the Golden Gate Bridge, Highway and Transportation District through the Larkspur Ferry, and SMART. The nearest bus stop for Marin Transit Routes 17, and 28 is at East Sir Francis Drake Boulevard and Larkspur Landing Circle (0.5 mile from the project site). Ferry service is provided at the Larkspur Ferry Terminal (approximately 0.5 mile from the project site) and passenger rail service from the Larkspur SMART Station (approximately 0.8 mile from the project site).²

¹ W-Trans. 2022. Draft Traffic Impact Study for the Village at Oak Hill Project. July 6.

² W-Trans. 2021. Draft Traffic Impact Study for the Village at Oak Hill Project. July 6.

Infrastructure and Utilities

The project site is located within the service areas of the following utility service providers and would include on-site and off-site improvements to connect to these services:

Water

The proposed project would obtain water from the Marin Municipal Water District Agency (Marin Water).³ Service laterals for irrigation, fire and domestic water would be connected to the Marin Municipal Water District's 16-inch water main at the project frontage.

Wastewater

Wastewater from the proposed project would be collected through the Ross Valley Sanitary District's collection system and the Central Marin Sanitation Agency would treat the proposed project's wastewater. The on-site wastewater will connect through a lateral to a new 8-inch sewer main which will be extended approximately 100 feet in East Sir Francis Drake Boulevard to the western property frontage from an existing Ross Valley Sanitary District manhole at the intersection of Drakes Cove Road to the west.

Stormwater

The proposed project would discharge storm run-off to existing culverts under East Sir Francis Drake Boulevard. Multiple on-site bioretention facilities would also be included. No off-site improvements associated with storm drainage are contemplated.

Solid Waste

Marin Sanitary Service would provide solid waste services to the project site.

Electricity and Gas

The proposed project would use natural gas for water heaters; however, the rest of the proposed project would be electric. Marin Clean Energy (MCE) and Pacific Gas and Electric Company (PG&E) would provide electricity to the project site. MCE provides a clean energy mix while PG&E provides electric delivery services and conducts billing. All customers in Marin County are automatically enrolled with MCE. However, should the property owner choose, they could opt out of MCE and receive all electricity from PG&E. Gas would be entirely provided by PG&E. Each building would also have a backup diesel generator.

2.3 - Project Objectives

The underlying purpose of the proposed project is to improve affordable housing options by maximizing the value of currently underutilized infill parcels by transforming them into a sustainable, high-quality, multi-family community. The objectives of the proposed project are to:

³ Marin Water. 2020-2022. Website: <https://www.marinwater.org/>. Accessed October 20, 2022

- Implement Executive Order N-06-19 through the development of affordable housing in a High Housing Needs zone on a site deemed suitable for affordable housing by the Department of General Services (DGS) and the Department of Housing and Community Development (HCD).
- Address the regional housing and employment imbalance in the County by maximizing affordable housing units for moderate, low, and extremely low-income households as well as much-needed workforce housing for Marin County educators and County employees, which includes homes in a range of unit sizes and with high-quality architecture, sustainable design elements, and amenities for low-income residents that are commonly incorporated into market-rate housing, such as fitness centers, community rooms, business/computer labs, outdoor terraces, a community courtyard, a fenced dog run, and children’s play areas.
- Cluster residential development on the project site with a thoughtful site design that takes into consideration the natural site topography and preserves significant amounts of open space.

2.4 - Intended Uses of this Draft EIR

This Draft EIR is being prepared by DGS to assess the potential environmental impacts that may arise in connection with actions related to implementation of the proposed project. Pursuant to CEQA Guidelines Section 15367, DGS is the Lead Agency for the proposed project and has discretionary authority over the proposed project and project approvals. The Draft EIR is intended to address all public infrastructure improvements and all future development and any required approvals necessary to implement the proposed project.

2.4.1 - Discretionary and Ministerial Actions

Discretionary approvals and permits are required by DGS, and identified Responsible Agencies, for implementation of the proposed project. The project application would require the following discretionary approvals and actions, including:

- Approval of Ground Lease and Regulatory Agreement from the Department of General Services.
- Plan Check/Ministerial Building Approvals from the Department of General Services.
- Common Interest Development Approvals from the Department of Real Estate.
- Encroachment permits from County of Marin for driveway connection to East Sir Francis Drake Boulevard.
- EIR Certification by the Department of General Services.
- Various utility service connections and certificate of occupancy.

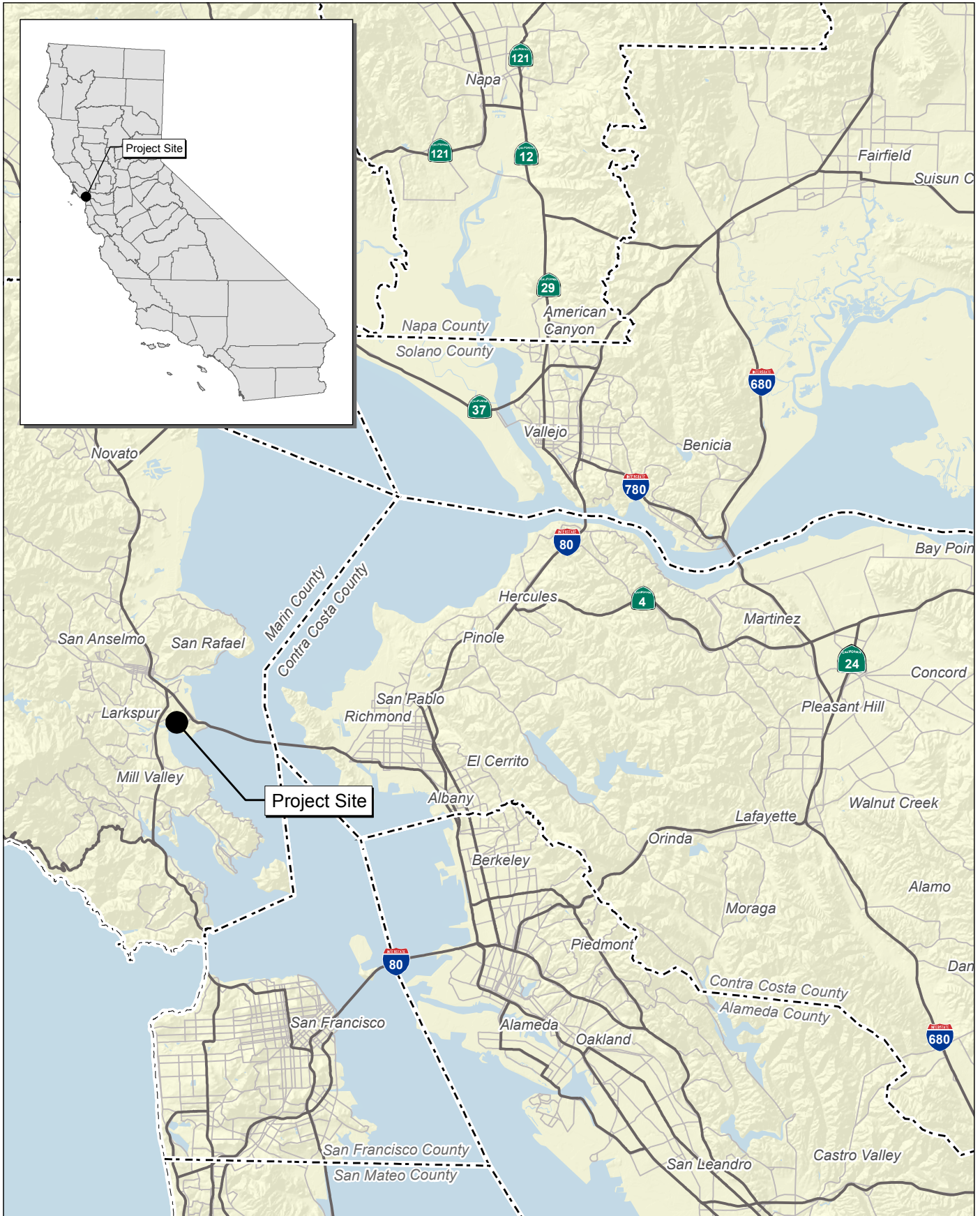
2.4.2 - Responsible and Trustee Agencies

A number of other agencies in addition to DGS may potentially serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. This Draft EIR will provide environmental information to these agencies and other public agencies, which may be

required to grant approvals or coordinate with other agencies, as part of project implementation. These agencies may include, but are not limited to, the following:

- United States Army Corps of Engineers
- United States Fish and Wildlife Service
- California Department of Fish and Wildlife
- San Francisco Bay Regional Water Quality Control Board
- Bay Area Air Quality Management District
- Marin Municipal Water District
- Central Marin Sanitation Agency
- Pacific Gas and Electric Company
- Marin County Local Agency Formation Commission
- City of Larkspur

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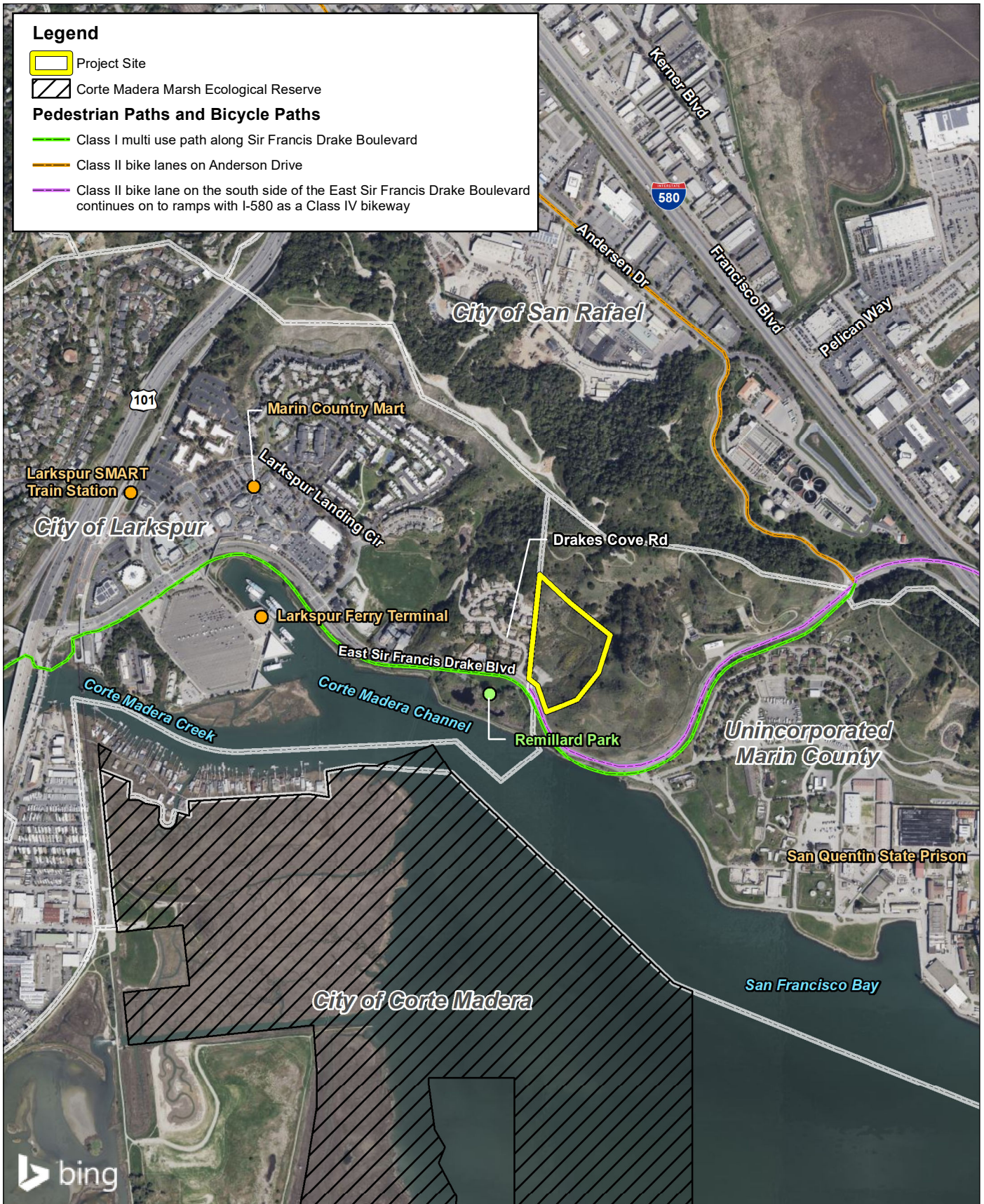


Source: Census 2000 Data, The California Spatial Information Library (CaSIL).



Exhibit 2-1 Regional Location Map

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Source: Bing Aerial Imagery. California Department of Fish and Wildlife



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Legend

- Project Site
- Sewage Junction Box
- Chemical Dosing Box

Pedestrian Paths and Bicycle Paths

- Class I multi use path along Sir Francis Drake Boulevard

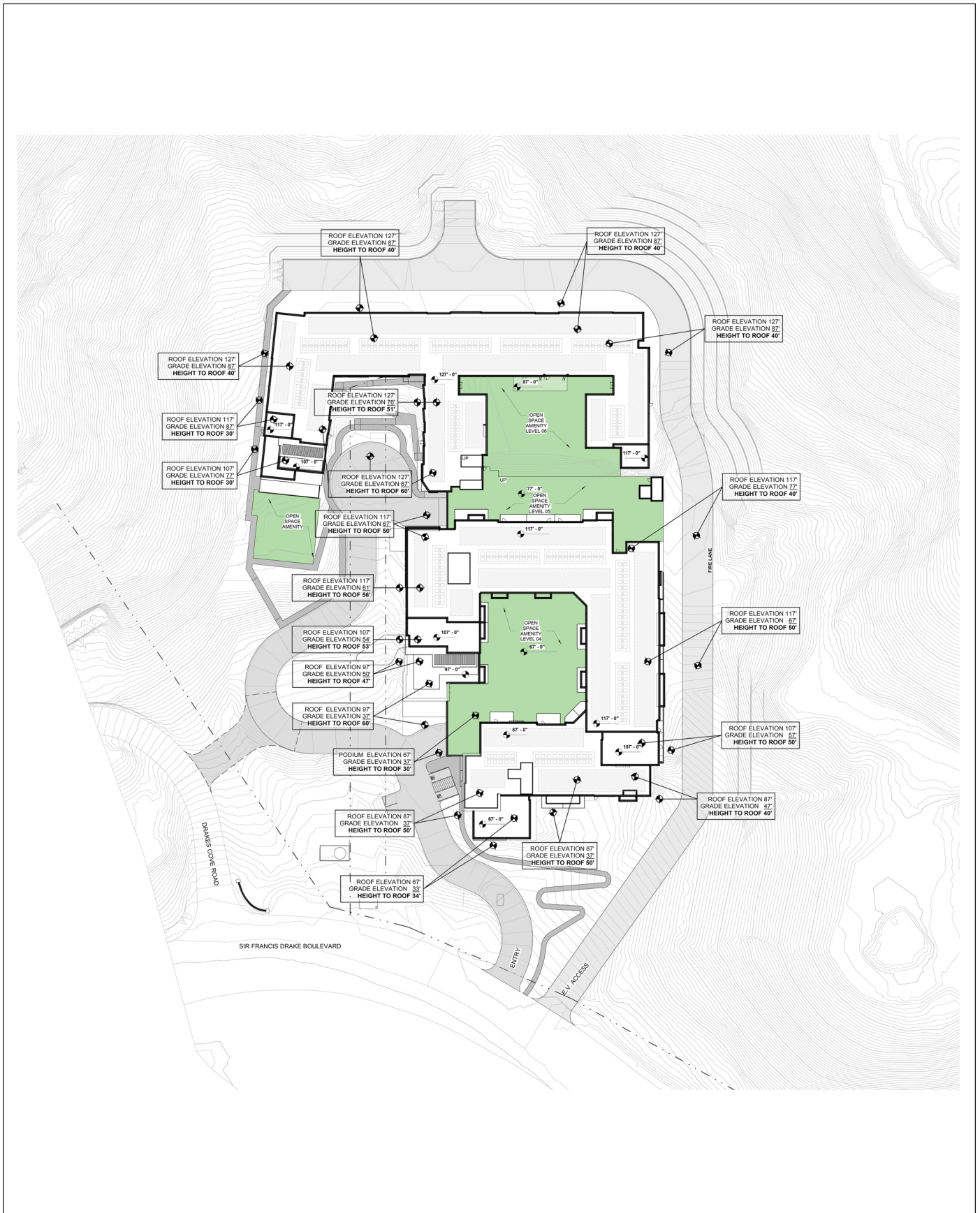
Source: Bing Aerial Imagery. County of Marin. AECOM, 2020

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Exhibit 2-2b
Proposed Project Site

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Source: SVA Architects; EHP Education Housing Partners, INC; EDEN Housing; BFK Engineers; RHA Planning, October 2022.



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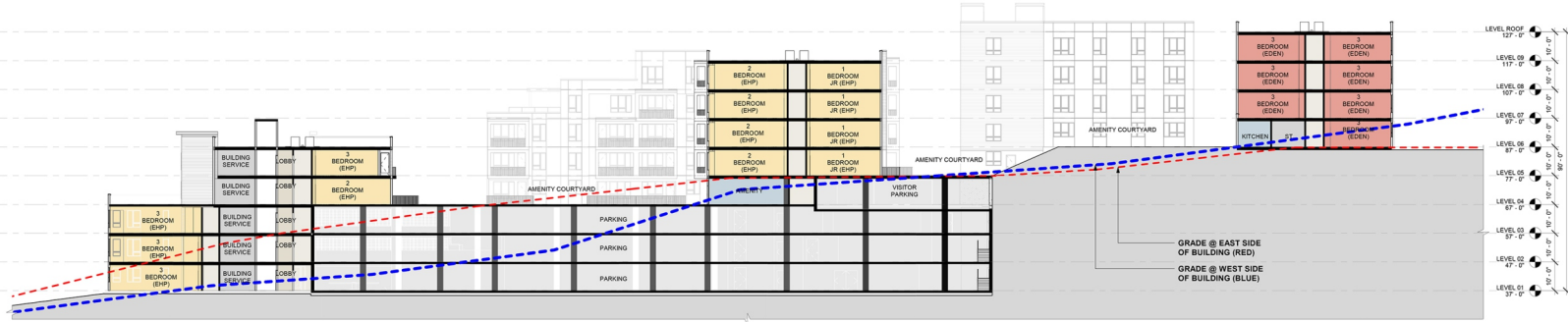
Source: SVA Architects, June 2022.



[View text description of map.](#)

Exhibit 2-4 Conceptual Site Plan

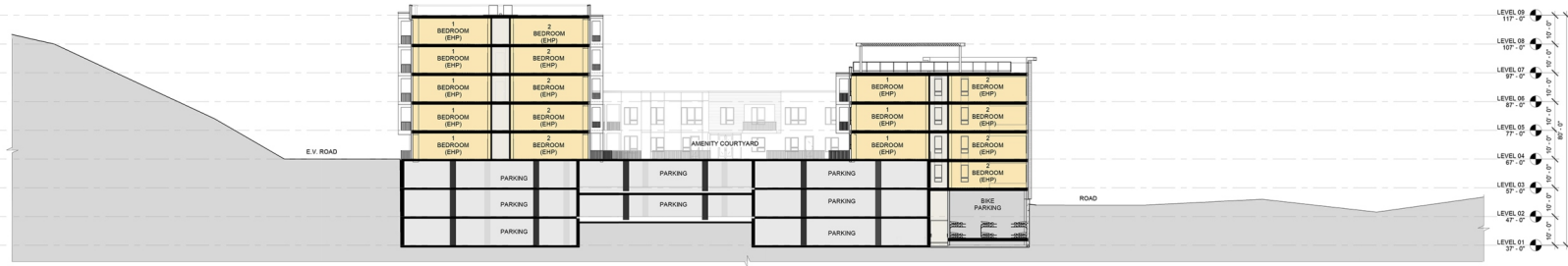
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1 OVERALL SITE SECTION - NORTH / SOUTH
1/16" = 1'-0"



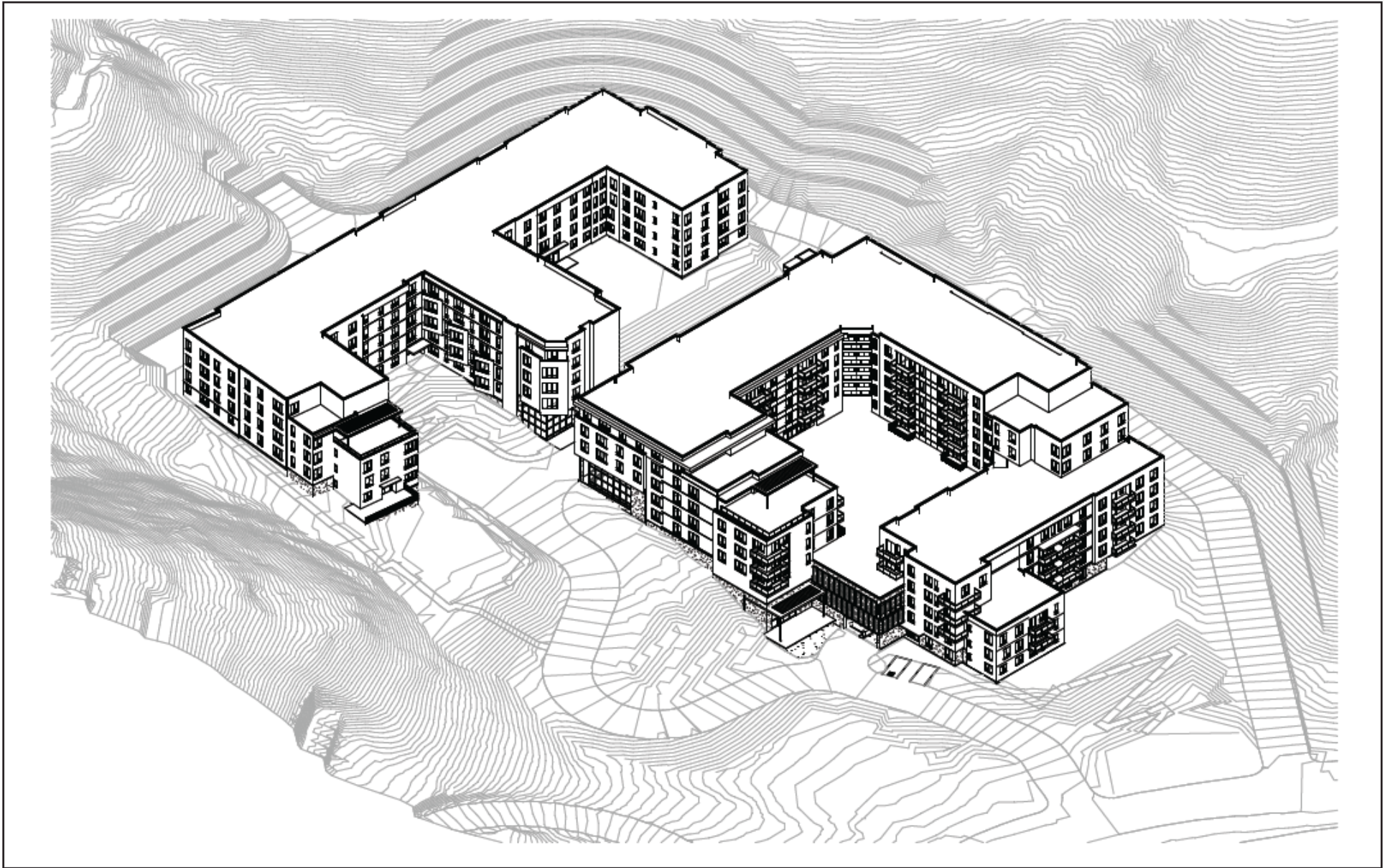
2 OVERALL SITE SECTION AT EDEN BUILDING - EAST / WEST
1/16" = 1'-0"



3 OVERALL SITE SECTION AT EHP BUILDING - EAST / WEST
1/16" = 1'-0"

Source: SVA Architects; EHP Education Housing Partners, INC; EDEN Housing; BFK Engineers; RHA Planning, October 2022.

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Source: SVA Architects, June 2022.

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[View text description of Exhibit.](#)

Exhibit 2-6
Proposed Building Massing

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Access Alternative 1: Stop Sign at Project Driveway, Acceleration Lane Changed to Left-Turn Lane on Sir Francis Drake Boulevard, and Crosswalk from Project Driveway to the Class I Multi-use Path with HAWK Beacon.



Access Alternative 2: Traffic Signal at Project Driveway, Acceleration Lane Changed to Left-Turn Lane on Sir Francis Drake Boulevard, and Crosswalk from Project Driveway to the Class I Multi-use Path.



Access Alternative 3: Traffic Signal at Project Driveway, Acceleration Lane Changed to Left-Turn Lane on Sir Francis Drake Boulevard, Crosswalk from Project Driveway to Class I Multi-use Path, and Internal Access Road to Drakes Cove Road.



Access Alternative 4: Traffic Signal at the Intersection of Sir Francis Drake Boulevard and Drakes Cove Road, Acceleration Lane Changed to Painted Median on Sir Francis Drake Boulevard, and Internal Access Road to Drakes Cove Road.

Source: W-Trans, July 6, 2022.

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CHAPTER 3: ENVIRONMENTAL IMPACT ANALYSIS

Organization of Issue Areas

This Draft Environmental Impact Report (Draft EIR) evaluates potential environmental impacts that could occur with development of the proposed project. Sections 3.1, Aesthetics, through 3.12, Transportation, discuss the environmental impacts that may result from approval and implementation of the proposed project. Each section describes the environmental setting as it relates to the specific resource, the impact that could result from implementation of the proposed project, and mitigation measures that would avoid, reduce, or compensate for significant impacts.

Issues Addressed in the Draft EIR

The following environmental topics are addressed in Chapter 3:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Transportation

Level of Significance

Determining the severity of project impacts is fundamental to achieving the objectives of the California Environmental Quality Act (CEQA). CEQA Guidelines Section 15091 requires that decision makers mitigate, as completely as is feasible, the significant impacts identified in the EIR. If the EIR identifies any significant unmitigated impacts, CEQA Guidelines Section 15093 requires decision makers in approving a project to adopt a statement of overriding considerations that explains why the benefits of the project outweigh the adverse environmental consequences identified in the EIR.

3.1.1 - Significance Criteria

The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact against the applicable threshold. Under CEQA Section 21068, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The CEQA Guidelines direct that this determination be based on scientific and factual data. Thresholds were developed using criteria from the CEQA Guidelines and checklists; State, federal, and other regulatory schemes, plans, and programs; accepted practice; consultation with recognized experts; and other professional opinions.

3.1.2 - Evaluation of Impacts

The evaluation of impacts considers the significance criteria and the level of environmental impact to determine the level of effect. Impacts are classified with three levels of intensity: (1) no impact, (2) a less than significant impact, and (3) a significant impact. A “no impact” designation is used for an issue that would not be affected by project implementation. “Less than significant” impacts are project-related effects that would not reach or exceed a significance criterion. For example, project impacts to a sensitive biological species would be significant if there was a potential to harm members of the species or reduce habitat. Conversely, impacts would usually be considered less than significant if the habitats and species affected were widespread in the region and in the State and ample habitat remained. A “significant” designation is used where the environmental impacts would meet or exceed one of the significance criteria.

Cumulative Impacts

CEQA requires an evaluation of a project’s contribution to cumulative environmental impacts. According to Section 15355 of the CEQA Guidelines, cumulative impacts are defined as “two or more individual effects which, when taken together, are considerable, or which can compound or increase other environmental impacts.” As stated in the CEQA Guidelines, an individual project may not have significant impacts; however, in combination with other related projects, these cumulative effects may be considerable. When evaluating cumulative impacts, CEQA recommends one of two methods:

1. Consider past, present, and probable future projects within the region that could result in related or cumulative environmental impacts, including projects outside the control of the lead agency; or
2. Consider projections contained in an adopted local, regional, or statewide plan, or use a prior environmental document which has been adopted or certified for such a plan.

For this Draft EIR, the first method was used to identify regional projects for use in the cumulative analyses. In accordance with CEQA Guidelines Section 15130(b), “. . . the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, the discussion need not provide as great [a level of] detail as is provided for the effects attributable to the project alone.” The discussion is guided by standards of practicality and reasonableness and focuses on the cumulative impact to which the identified other projects contribute rather than on the attributes of other projects that do not contribute to the cumulative impact.

The proposed project’s cumulative impacts were considered in conjunction with other proposed and approved projects in the vicinity of the project site, including the City of Larkspur, City of San Rafael, City of Corte Madera, and the County of Marin (County).

The spatial boundary for the study of a project’s cumulative impacts varies depending on the resource of concern. For example, impacts related to geology and archaeological resources are generally site specific, while air quality and noise impacts can encompass larger areas. Most of the proposed project’s impacts are limited in terms of geography, and would not compound impacts from past, existing, or future projects beyond the project area. In these circumstances, CEQA directs

that it is not necessary to address in detail the impacts from other projects: “[w]here a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable” (CEQA Guidelines, § 15130, subd. (a)); and “[a]n EIR should not discuss impacts which do not result in part from the project evaluated in the EIR” (CEQA Guidelines, § 15130, subd. (a)(1)).

Impact Analysis and Mitigation Measure Format

The format adopted in this Draft EIR to present the evaluation of impacts is described and illustrated below.

Summary Heading of Impact

Impact AES-1: An impact summary heading appears immediately preceding the impact description (Summary Heading of Impact in this example). The impact number identifies the section of the report (AES for Aesthetics, Light, and Glare in this example) and the sequential order of the impact (1 in this example) within that section. To the right of the impact number is the impact statement, which identifies the potential impact.

Impact Analysis

A narrative analysis follows the impact statement.

Level of Significance Before Mitigation

This section identifies the level of significance of the impact before any mitigation is proposed.

Mitigation Measures

In some cases, following the impact discussion, reference is made to State and federal regulations and agency policies that would fully or partially mitigate the impact. In addition, policies and programs from local land use plans that partially or fully mitigate the impact may be cited.

Project-specific mitigation measures, beyond those contained in other documents, are set off with a summary heading and described using the format presented below:

MM AES-1 Project-specific mitigation is identified that would reduce the impact to the lowest degree feasible. The mitigation number links the particular mitigation to the impact it is associated with (AES-1 in this example); mitigation measures are numbered sequentially.

Level of Significance After Mitigation

This section identifies the resulting level of significance of the impact following mitigation.

Abbreviations used in the mitigation measure numbering are:

Code	Environmental Issue
AES	Aesthetics, Light, and Glare
AIR	Air Quality
BIO	Biological Resources
CUL	Cultural Resources and Tribal Cultural Resources
ENER	Energy
GEO	Geology and Soils
GHG	Greenhouse Gas Emissions
HAZ	Hazards and Hazardous Materials
HYD	Hydrology and Water Quality
LAND	Land Use and Planning
NOI	Noise
TRANS	Transportation

3.1 - Aesthetics, Light, and Glare

3.1.1 - Introduction

This section describes the existing aesthetics, light, and glare conditions in the project area and evaluates the possible impacts related to aesthetics that could result from implementation of the proposed project. Descriptions and analysis in this section are based, in part, on the California Department of Transportation (Caltrans) Scenic Highways Systems List, project exhibits and renderings of the proposed project (Exhibit 3.1-1a, Exhibit 3.1-1b, and Exhibit 3.1-1c, and Exhibit 3.1-1d). During the Draft Environmental Impact Report (Draft EIR) scoping period, six comments were received related to aesthetics, which requested that:

- The Draft EIR evaluate the visual impacts of the project's proposed height (2 comments received on this topic).
- The Draft EIR evaluate the visual impacts of the project's proposed density (2 comments received on this topic).
- The Draft EIR evaluate the impacts of the proposed architectural style (2 comments received on this topic).

3.1.2 - Environmental Setting

Visual Character

Visual character in the California Environmental Quality Act (CEQA) context is an impartial description of the defining physical features, landscape patterns, and distinctive physical qualities within a landscape. Visual character is informed by the composition of land, vegetation, water, and structures and their relationship (or dominance) to one another, and by prominent elements of form, line, color, and texture that combine to define the composition of views. Visual character-defining resources and features within a landscape may derive from notable landforms, vegetation, land uses, building design and façade treatments, transportation facilities, overhead utility structures and lighting, historic structures or districts, or panoramic open space.

Marin County

Marin County (County) has a unique visual environment with an attractiveness and diversity of landscape that includes views of open space, ocean vistas and beaches, San Francisco Bay shoreline, hills and ridgelines, agriculture lands, various types of trees, and other natural features. Nearly half of the County's land base is protected by park or open space status. The County has approximately 118,669 acres of park and open space land, which make up approximately 30 percent of the County's land. Water areas and watershed lands comprise another 20 percent. Agriculture in the County, (which is mainly cattle grazing and privately-owned open space) occupies approximately 26 percent of the County's land.

The built environment in the County creates community character and also plays a significant role in defining the visual environment. Visual character varies by community and benefits from attractive building design and layouts.

Project Site

The 8.3-acre project site is located in a semi-urban area of the County and is characterized by inward sloping hills. It is currently vacant, aside from a sanitary sewer junction box, a chemical dosing station, force main, and an approximately 11,500-square-foot asphalt pad located at the southwestern corner of the project site, adjacent to East Sir Francis Drake Boulevard. The site is vegetated with a mixture of tall trees, brush, shrubs, and thicket, and is surrounded by both open space and urban areas. Plant species such as coyote brush scrub, non-native annual grasslands, purple needlegrass, pampas grass, broom patches, and arroyo willow thickets are present on the project site. Heritage oaks are scattered on the sides and around of the site, particularly on its western boundary with the Drake's Cove community. These trees are proposed to be preserved in place and would help to buffer the property from its immediate neighbors. Undeveloped hills and open space are directly north of the project site. Remillard Park and the Corte Madera Channel are southwest of the project, across East Sir Francis Drake Boulevard. Residential, commercial, and transportation-oriented uses are west of the project site. Specifically, a shopping center, both single and multi-family housing, a hotel, the Larkspur Station for the Sonoma-Marín Area Rail Transit (SMART), and the Larkspur Ferry Terminal for the Golden Gate Bridge Highway and Transportation District are all within approximately 0.8 mile of the project site. The San Quentin State Prison campus is located approximately 750 feet east of the project site. Finally, East Sir Francis Drake Boulevard, a major arterial road in the County, is directly south of the project site, and Interstate 580 (I-580) is less than a half mile east of the project site.

Scenic Resources

Scenic resources typically involve prominent, unique, and identifiable natural features in the environment (e.g., trees, rock outcroppings, islands, ridgelines, channels of water, and aesthetically appealing open space) and cultural features or resources (e.g., regional or architecturally distinctive buildings, or structures that serve as a focal point of interest).

Marin County

The Marin County Open Space District (Open Space District) is the local agency responsible for creating the County's system of public open space. The Open Space District owns and manages 15,500 acres of land. The district's mission is "to enhance quality of life in Marin through the acquisition, protection and responsible stewardship of ridge lands, bay lands, and environmentally sensitive lands targeted for preservation in the Countywide Plan." District land preservation activities have focused primarily on the City-Centered Corridor, specifically on upland greenbelts and community separators. Designated open space and parks are designated in Map 2-17 in the Countywide Plan.

Ridge and Upland Greenbelt Areas are designated throughout the County. This designation provides for development setbacks from ridgelines, clustering of residences, and other design considerations as set forth in the Development Code in order to preserve scenic resources. These are identified in Map 2-4 of the Countywide Plan.

Project Site

The Countywide Plan designates a small portion of the project site as Ridge and Upland Greenbelt; however, development of the proposed project would not result in any disturbance of this area. While the Countywide Plan is not a regulatory document to which the proposed project is subject, the Countywide Plan has pertinent informational value insofar as it identifies potentially significant visual resources.

Views

In 1963, the California Legislature established the State's Scenic Highway Program, intended to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. Although there are currently no designated State Scenic Highways within the County,¹ many of the County roadways offer views of some of the County's most scenic resources. In fact, the entire stretch of State Route (SR) 1 running through the County is eligible to be a State Scenic Highway as well as portions of U.S. Highway 101 (US-101), which provide views of the San Francisco Bay.

Project Site

There are no publicly accessible viewpoints on the project site as it is part of the San Quentin State Prison campus and access is presently controlled by the California Department of Corrections and Rehabilitation (CDCR). Public viewpoints of the project site are available from the San Francisco Bay and the immediately adjacent East Sir Francis Drake Boulevard, which directly borders the project site. The Drakes Cove community is only accessible by a private roadway, but also provides views of the project site. Three views of the project site were selected to represent public views from off-site locations. One viewpoint was taken from a cul-de-sac at the highest elevation of the Drake's Cove community (Exhibit 3.1-1a). One viewpoint was taken from the San Francisco Bay (Exhibit 3.1-1b), one viewpoint was taken from East Sir Francis Drake Boulevard, directly in front of the proposed project (Exhibit 3.1-1c), and another is taken further west on East Sir Francis Drake Boulevard looking east toward the project site (Exhibit 3.1-1d). As explained further in Impact AES-3, this report utilizes Exhibits 3.-1a through 3.1-1d to evaluate impacts to visual character for informational purposes only. The nearest publicly accessible view is from the East Sir Francis Drake Boulevard right-of-way, which provides views of the San Francisco Bay as well as Mount Tamalpais.

Light and Glare

In the context of the CEQA Guidelines, light is nighttime illumination that stimulates sight and makes things visible, and glare is difficulty seeing in the presence of bright light such as direct or reflected sunlight.

¹ California Department of Transportation (Caltrans). 2018. California State Scenic Highway System Map. Website: <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>. Accessed July 20, 2022.

Project Area

The primary sources of nighttime light in the surrounding area are from vehicle headlights traveling along East Sir Francis Drake Boulevard, as well as exterior lighting associated with surrounding homes and San Quentin State Prison. Buildings in the surrounding area contribute to daytime glare.

Project Site

The project site is mostly vacant and does not have existing sources of light and glare.

3.1.3 - Regulatory Framework

Federal

No federal plans, policies, regulations, or laws related to aesthetics are applicable to the proposed project.

State

California Scenic Highway Program

The State Legislature created the California Scenic Highway Program, maintained by Caltrans, in 1963. The purpose of the State Scenic Highway Program is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been officially designated. The status of a proposed State Scenic Highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a State Scenic Highway.

Title 24 of the California Code of Regulations Building Energy Efficiency Standards

California Building Code (California Code of Regulations [CCR], Title 24)—including Title 24, Part 6—includes Section 132 of the Building Energy Efficiency Standards, which regulates lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2000 Census. Areas can be designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass.

3.1.4 - Methodology

The project site is owned by the State of California and the proposed project would develop the property for State use. As such the project is not required to conform to existing local land use regulation under the principles of State Sovereignty. This analysis provides a discussion of the visual impacts associated with the project and its potential impacts on the project site and the vicinity. Several variables affect the degree of visibility, visual contrast, and ultimately the determination as

to project impacts: (1) scale and size of facilities, (2) viewer types and activities, (3) distance and viewing angle, and (4) influences of adjacent scenery or land uses. Viewer response and sensitivity vary depending on viewer attitudes and expectations. Viewer sensitivity is distinguished among project viewers in identified scenic corridors and from publicly accessible recreational and plaza areas. Recreational areas and scenic corridors are considered to have relatively high sensitivity.

FirstCarbon Solutions (FCS) evaluated potential project impacts on aesthetics, light, and glare through site reconnaissance and review of applicable plans and policies. FCS personnel visited the project site in on various occasions between September 2021 and September 2022 and documented site conditions through photographs, notes, aerial photographs, topographical and street maps, and project plans and elevations to identify surrounding land uses and to evaluate potential impacts from project development. FCS also evaluated renderings created for the proposed project and compared them to existing conditions in terms of visual character as further discussed in Impact AES-2, below.

Light and Glare

The analysis of light and glare impacts in this section focuses on the nature and magnitude of changes in light and glare conditions of the project site and surrounding area. If light and glare conditions of the proposed project and the existing environment are similar, then the visual compatibility would be high. If light and glare conditions of the proposed project would strongly contrast with existing light and glare or applicable policies and guidelines and/or any applicable requirements, then light and glare compatibility would be low and significant impacts may result.

3.1.5 - Thresholds of Significance

The Lead Agency utilizes the criteria in the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist to determine whether impacts to aesthetics are significant environmental effects. Would the project:

- a) Have a substantial adverse effect on a scenic vista?
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, or historic buildings within a State Scenic Highway?
- c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable regulations governing scenic quality?
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

3.1.6 - Aesthetics Analysis under Public Resources Code Section 21099

The project qualifies for streamlined CEQA review under Public Resources Code Section 21099(d), which provides that aesthetic impacts for residential projects on an infill site within a Transit Priority Area (TPA) shall not be considered significant impacts on the environment. The project site is

adjacent to residential uses to the west and property utilized in support of public/institutional facility uses to the north and to the east (i.e., San Quentin prison uses and facilities) and qualifies as an infill location. The project site is also located within a TPA as delineated and defined by the Metropolitan Transportation Commission. Accordingly, by operation of law the proposed project would not have significant aesthetic impacts. Notwithstanding the above, even if the project did not qualify for CEQA streamlining in this regard, aesthetic impacts would be less than significant as explained in the analysis of Appendix G considerations included below.

3.1.7 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the proposed project and provides mitigation measures where appropriate.

Scenic Vistas

Impact AES-1: **The proposed project would not have a substantial adverse effect on a scenic vista.**

Impact Analysis

A significant impact would occur if the proposed project would have a substantial adverse effect on a scenic vista. Neither the State nor the Countywide Plan identifies scenic vistas in the project's vicinity. Accordingly, the proposed project would not have a substantial effect on a scenic vista during construction or operation of the proposed project, and no impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Scenic Highways

Impact AES-2: **The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, or historic buildings within a State Scenic Highway.**

Impact Analysis

A significant impact would occur if project construction or operation would substantially damage scenic resources as seen from a designated scenic highway. There are no designated State Scenic Highways near the project site. The nearest officially designated State Scenic Highway is a portion of I-580 in the City of Oakland, located approximately 15 miles southeast of the project site.² The project site is not visible from this area. The closest highway that is eligible for designation as a State Scenic Highway is SR-1 in the City of Sausalito, approximately 4.5 miles south of the project site. The project site is not visible from this portion of SR-1. Therefore, neither during construction, nor during

² California Department of Transportation (Caltrans). 2019. Scenic Highway System Lists. Website: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed July 27, 2022.

operation, the proposed project would not have the potential to damage any trees, rock outcroppings, or historic buildings visible from these roadways. No impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Visual Character

Impact AES-3: **The proposed project would not in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, the project would not conflict with applicable zoning and other regulations governing scenic quality.**

Impact Analysis

Project construction would result in highly visible and large construction equipment on the project site. However, this equipment would only be on the site temporarily during the construction period, which is anticipated to last approximately 27 months. Because the construction period is temporary, impacts would be less than significant.

The project site is part of the San Quentin State Prison campus and is located in unincorporated Marin County. There is undeveloped land to the north and east of the project site, and it is bordered by residential development to the west. San Quentin State Prison is located approximately 750 feet to the east. Both I-580 and US-101 are less than 0.5-mile from the project site, the Larkspur Landing Commercial Center is located 0.3 mile west of the project site, and the Larkspur Ferry Terminal is located approximately 0.5 mile to the west.

Per CEQA Section 15191(m), an unincorporated area is considered an “urbanized area” if it meets either of the following requirements:

1. The unincorporated area must be: (i) completely surrounded by one or more incorporated cities, (ii) have a population of at least 100,000 persons either by itself or in combination with the surrounding incorporated city or cities, and (iii) have a population density that at least equals the population density of the surrounding city or cities; or
2. The unincorporated area must be located within an urban growth boundary and have an existing residential population of at least 5,000 persons per square mile. For purposes of this subparagraph, an "urban growth boundary" means a provision of a locally adopted general plan that allows urban uses on one side of the boundary and prohibits urban uses on the other side.

The unincorporated area of Marin County where the project would be located is surrounded by the City of Larkspur and the City of San Rafael. As of 2021, the two cities have a combined population of

73,697.³ The combined population of unincorporated Marin County, Larkspur, and San Rafael is over 100,000. Accordingly, based on the existing physical realities of the project site, the Lead Agency has determined that the project site is located in an urbanized area consistent with the definition in CEQA Section 15191(m)(1)(A). The project site is located nearby commercial uses and San Quentin State Prison. It is also immediately adjacent to residential uses in the City of Larkspur, including residential homes that are as much as 3-stories high (with elevations of over 40 feet). These structures are built into a hillside and are located at a variety of elevations above NAVD88 mean sea level (i.e., 25 feet to over 150 feet).⁴ As such, the proposed project is evaluated below based on its compliance with applicable regulations governing scenic quality.

With respect to scenic regulations, the proposed project would not conflict with an applicable regulation governing scenic quality. The proposed project is a State project located on State-owned land. Pursuant to Article XI, Section 7 of the California Constitution, a State agency is not subject to local regulation unless the Legislature expressly waives immunity in a statute or the California Constitution (see also Executive Order N-06-19). The California Department of General Services (DGS) has not waived immunity for the proposed project and local land use plans, policies, and regulations are, therefore, not applicable to the proposed project.

The proposed project would comply with all applicable State requirements regarding scenic quality. As noted in Impact AES-1, AES-2, and AES-4, the project site would not create conflicts with State Scenic Highway regulations and would comply with all applicable State regulations relating to light and glare. Therefore, impacts would be less than significant.

Additionally, while the Lead Agency has determined that the project site is located in an urbanized area as defined under CEQA Section 15191(m), the project site does contain some characteristics of a non-urbanized environment (i.e., adjacent undeveloped open space, proximity to Remillard Park and the San Francisco Bay). As such, an evaluation of the proposed project's impacts on visual character is provided below, for informational purposes only.

To this end, the proposed project would degrade the visual character or quality of the project area if it would substantially change the existing appearance of the project site by constructing elements that are poorly designed or that conflict with the existing surroundings. The project site is currently vacant and undeveloped, aside from a sanitary sewer junction box, a chemical dosing station, force main, and an approximately 11,500-square-foot asphalt pad located at the southwestern corner of the project site. For this analysis, the proposed project's impact to visual character was evaluated from four viewpoints in the project vicinity as shown on Exhibit 3.1-1, which provides the general location of each viewpoint. Renderings of the proposed project are illustrated in Exhibits 3.1-2a through 3.1-2d and further discussed below. There are no publicly accessible viewpoints on the project site.

³ United States Census Bureau. 2021. QuickFacts. Website: <https://www.census.gov/quickfacts/larkspurcitycalifornia>. Accessed October 12, 2022.

⁴ The North American Vertical Datum of 1988 (NAVD 88) is the official vertical datum of the United States and serves as a reference surface of zero elevation to which heights are referred to over a large geographic extent.

View 1—View from Drakes Cove Community

Exhibit 3.1-2a was taken from a private property within the Drakes Cove community that is only accessible via a private roadway in order to provide a holistic review of the aesthetics impacts on nearby residents. As CEQA only requires evaluation of viewpoints from public viewpoints (see checklist question AES-2), Exhibit 3.3-1a is evaluated below for informational purposes only.

Exhibit 3.1-2a illustrates a southeastern view of the project site from the Drakes Cove community, specifically the Drakes Cove Court cul-de-sac, located directly west and above the project site. Existing visible features from View 1 include the San Francisco Bay, the hillside, and the ridgeline east of the project site. The project site is visible from this point because the Drakes Cove community is situated on a higher portion of the hillside.

The Countywide Plan designates the area north of the project site and a small area in the northwest corner of the project site as Ridge and Upland Greenbelt Areas, which are identified in Map 2-4 of the Countywide Plan. While the Countywide Plan is not applicable as a regulatory document, DGS agrees that Ridge and Upland Greenbelt Areas could provide scenic views. However, the proposed multi-family residential buildings would be clustered at the lower portion of the project site in order to protect views of the ridgelines just north and east of the project site to the greatest extent possible and would not result in any direct or indirect disturbance of the area designated Ridge and Upland Greenbelt. The building height would be limited to 60 feet at its highest point (not including rooftop equipment, such as solar panels, elevator overruns, and stairwells for emergency roof access) and would be below the existing ridgelines. The rendering illustrates that views of the ridgelines from this point would be preserved.

The View 1 rendering of the proposed project illustrates that, because the proposed buildings would be sited into the hillside and use underground parking to reduce the height of the project as a whole, views of surrounding ridgelines as well as views of the San Francisco Bay would largely be preserved with development of the proposed project. Furthermore, trees at heights of over 50 feet would remain on the project site and be visible from this viewpoint. The height of the trees is comparable to the height of the proposed buildings, which are 30 to 60 feet. As such, it can be concluded that the proposed buildings would be in scale with their surroundings. Proposed landscaping would be visible on the upper elevations, creating a visual transition between the development and the surrounding undeveloped ridgeline and screening. Impacts would be less than significant.

View 2—View from the San Francisco Bay

Currently, views of the project site from the San Francisco Bay are of an undeveloped hillside.⁵

Exhibit 3.1-2b illustrates views of the proposed project from south of Remillard Park at the San Francisco Bay. As described above, DGS agrees that the designated Ridge and Upland Greenbelt Areas directly north of the project site could provide scenic views. As with View 1, currently visible undeveloped areas would become multi-family residential development; however, as shown in the

⁵ It is noted that View 2 is depicted from only one small area of the San Francisco Bay. The project site is not visible from a majority of the San Francisco Bay.

rendering, the existing ridgelines would remain visible from this viewpoint. Furthermore, the project frontage would contain a large, landscaped setback, providing an initial screen of trees and shrubs for travelers along East Sir Francis Drake Boulevard.

The immediately adjacent residential development, Drakes Cove, consists of homes up to three stories in height and over 40 feet tall. Because the proposed project buildings would be situated on lower elevations of the hillside, they would be at a much lower height than the existing buildings in the Drakes Cove community. As such, the proposed project buildings would be in scale with the adjacent development, despite their higher density. Surrounding both developments are a number of trees ranging in height up to 50 feet, which would further integrate the proposed project buildings into the surrounding landscape. Proposed earth tones for building exteriors as well as attractive building design would similarly create continuity in the project's visual character. Impacts would be less than significant.

View 3—View from Sir Francis Drake Boulevard Looking North

Currently, as shown in Exhibit 3.1-2c, views of the project site from East Sir Francis Drake Boulevard consist of a sewage junction box, a chemical dosing station, and an approximately 11,500-square-foot asphalt pad surrounded by wire fence and a metal gate. Telephone wires and lights are located along the edges of the asphalt pad. Behind these existing features are views of trees, brush, and the hillside.

Exhibit 3.1-2c illustrates View 3 of the proposed project from East Sir Francis Drake Boulevard, directly in front of the project site. The proposed project would enhance the frontage of the project site with trees and landscaping.

As described above, DGS agrees that the designated Ridge and Upland Greenbelt Areas directly north of the project site could provide scenic views. However, while the proposed multi-family residential buildings would be clustered at the lower portion of the project site in order to protect views of the ridgeline to the greatest extent possible and would not result in any direct or indirect disturbance of the area designated Ridge and Upland Greenbelt, the rendering at this viewpoint shows that the proposed buildings would block a majority of the ridgeline from this view. However, portions of the ridgeline would remain visible.

As described above, the proposed project would feature landscaped setbacks, and would be set into the hillside through the use of underground parking to reduce the overall height of the project and preserve views of ridgelines to the greatest extent possible. The project would also incorporate attractive, earth-toned colors to blend with the surrounding area. These features would promote continuity of visual character. While the proposed density of the project would be higher than the nearby, existing residential development, the proposed massing, siting, and design of the project would ensure that it would not degrade the existing visual character or quality of public views of the site and its surroundings, as explained in the analysis of View 2. Impacts would be less than significant.

View 4—View From East Sir Frances Drake Boulevard Looking Northeast

As shown on Exhibit 3.1-2d, the current view of the project site from View 4, approximately 0.12 miles west on the multiuse path along the southern side of East Sir Francis Drake Boulevard, consists of existing development including East Sir Francis Drake Boulevard, an automobile dealership (the Price Simms Family Dealership), a parking lot for Remillard Park, and the Drakes Cove community. Thus, while the proposed project would become a prominent feature from this viewpoint, much of the viewpoint is already largely developed and contains existing buildings and manmade features.

Similar to View 3, the proposed project would become a prominent feature against the hillside surrounding the project site. However, the ridgeline would remain visible. As stated, the proposed project would include landscaped setbacks, and would be set into the hillside through the use of underground parking to reduce the overall height of the project and preserve views of ridgelines to the greatest extent possible. Thus, impacts would be less than significant.

Per Executive Order N-06-19, the Statewide Affordable Housing Opportunities Sites Map Viewer designates the project site as a High Housing Needs zone suitable for affordable housing,⁶ and DGS, the Lead Agency for the proposed project, is required to use all existing legal authority to prioritize and expedite affordable housing developments in identified sites.⁷ DGS retains state sovereignty over the property and has authority to prioritize high density affordable housing over continuity with existing visual character. As described above, there are no publicly accessible viewpoints on the project site. Additionally, the proposed project has been designed to fit into the hillside to the greatest extent possible, thereby enhancing its compatibility with the surrounding area. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Light and Glare

Impact AES-4: **The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

Impact Analysis

Excessive or inappropriately directed lighting can adversely affect nighttime views by reducing the ability to see the night sky and stars. Glare can be derived from unshielded or misdirected lighting sources. Reflective surfaces (i.e., polished metal) can also cause glare. Impacts associated with glare range from simple nuisance to potentially dangerous situations (i.e., if glare is directed into the eyes

⁶ Department of General Services (DGS). Statewide Affordable Housing Opportunity Sites. Website: <https://cadgs.maps.arcgis.com/apps/webappviewer/index.html?id=392e5e687e9041bb8f20e3acc5b211c7>. Accessed July 13, 2022.

⁷ State of California Executive Department. January 15, 2019. Executive Order N-06-19.

of motorists). Light-sensitive land uses in the area may include the residential neighborhood to the west of the project site.

The project would have a significant impact if substantial light or glare would adversely affect nighttime or daytime views, respectively, in the area. The project site is currently undeveloped and does not contain existing sources of light and glare. The area surrounding the project site has existing sources of light and glare from headlights from vehicles traveling on East Sir Francis Drake Boulevard, as well as from existing development in the surrounding area, such as San Quentin State Prison.

Project construction equipment that has reflective surfaces or that uses lighting could create new sources of light and glare during project construction. However, project construction would primarily occur during daylight hours. Furthermore, The proposed project would comply with the City's noise ordinance, which allows construction activities only between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturdays. As such, the majority of project construction would occur during daylight hours and impacts would be less than significant.

The proposed project would create new sources of light and glare from cars entering and leaving the project site as well as from lighting featured throughout the proposed project. The proposed residential use would result in new lighting consistent with typical multi-family residential development. Proposed exterior lighting would be shielded and directed downward to avoid trespass to the adjacent residential properties and to avoid obtrusive light or glare in the public right-of-way.

The proposed project would also comply with all applicable State regulations relating light and glare, including regulations in Title 24 of the California Code of Regulations Building Energy Efficiency Standards California Building Code (CCR Title 24)—including Title 24, Part 6—includes Section 132 of the Building Energy Efficiency Standards, which regulates lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. The proposed project's exterior materials are also designed to minimize glare and impact, without the use of any highly reflective exterior materials.

Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.



Legend

Project Site 8.34 acres

Vantage Points

- 3.1-2a View from Drakes Cove Community
- 3.1-2b View from San Francisco Bay
- 3.1-2c View from E Sir Francis Drake Boulevard Looking North
- 3.1-2d View from E Sir Francis Drake Boulevard Looking Northeast

Source: Bing Aerial Imagery.



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Source: SVA Architects, Inc.

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Exhibit 3.1-2a
View from Drakes Cove Community

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Source: Source: SVA Architects, Inc.

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Exhibit 3.1-2b
View from San Francisco Bay

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Photograph 1: Before Photo.



Photograph 2: After Photo.

Source: SVA Architects, Inc.

[View description of exhibit.](#)

Exhibit 3.1-2c

View from East Sir Francis Drake Boulevard

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Photograph 1: Before Photo.



Photograph 2: After Photo.

Source: SVA Architects, Inc.

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View from East Sir Francis Drake Boulevard Looking Northeast

Exhibit 3.1-2d

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3.2 - Air Quality

3.2.1 - Introduction

This section describes existing air quality conditions regionally and locally as well as the relevant regulatory framework. This section also evaluates the possible impacts related to air quality that could result from implementation of the project. Information included in this section is based, in part, on project-specific air quality modeling results utilizing California Emissions Estimator Model (CalEEMod) Version 2022.1 and the American Meteorological Society/United States Environmental Protection Agency (EPA) AERMOD View air dispersion model (Version 11.0.1, EPA Version No. 22112). Complete modeling output is provided in Appendix B.

During the Draft Environmental Impact Report (Draft EIR) scoping period, the following X public comments were received related to air quality:

- The Draft EIR should evaluate whether air quality will be improved due to reduced commute times.
- The Draft EIR should evaluate whether toxic dust would be generated by construction of the proposed project.
- The Draft EIR should evaluate the operational impacts of the proposed project on air quality.
- The Draft EIR should consider whether the proposed project could be all-electric.

3.2.2 - Environmental Setting

Regional Geography and Climate

San Francisco Bay Area Air Basin

The project site is in an unincorporated portion of Marin County (County), which is within the San Francisco Bay Area Air Basin (SFBAAB), and under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB consists of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the western portion of Solano County, and the southern portion of Sonoma County.

Air quality in the SFBAAB is regulated by the EPA, the California Air Resources Board (ARB), and the BAAQMD. The regulatory responsibilities of these agencies are discussed below in the Regulatory Framework and Rules Section. Regional and local air quality within the SFBAAB is impacted by dominant airflows, topography, atmospheric inversions, location, season, and time of day.

Local Climate

A semi-permanent, high-pressure area centered over the northeastern Pacific Ocean dominates the summer climate of the West Coast of the United States. This high-pressure cell, called the Pacific High, is relatively persistent in influencing the regional weather, particularly during the summer months. Consequently, storms rarely affect the California coast during the summer. Thus, the conditions that persist along the coast of California during summer are winds from the northwest

direction and negligible precipitation. A thermal low-pressure area located over the Central Valley of California and the southeastern desert areas also causes air to flow onshore over the San Francisco Bay Area much of the summer. This summertime pattern can be interrupted by local rainfall events caused by the movement of warm moist air from the Gulf of Mexico into California.

The steady northwesterly flow around the eastern edge of the Pacific High exerts wind-caused stress on the ocean surface along the West Coast. This stress induces upwelling of cold water from below. Upwelling produces a band of cold water off San Francisco that is approximately 80 miles wide. During July, the surface waters off San Francisco are 3°F (degrees Fahrenheit) cooler than those off Vancouver, British Columbia, more than 900 miles to the north. Air approaching the California coast, already cool and moisture-laden from its long trajectory over the Pacific, is further cooled as it flows across this cold bank of water near the coast, thus accentuating the temperature contrast across the coastline. This cooling is often sufficient to produce condensation—a high incidence of fog and stratus clouds along the Northern California coast in summer.

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the gap in the western Coast Ranges, known as the Golden Gate, and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate produces a jet that sweeps eastward but widens downstream, producing southwest winds at Berkeley and northwest winds at San José; a branch curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Golden Gate, the Carquinez Strait, or San Bruno Gap. For example, the average wind speed at San Francisco International Airport from 3:00 a.m. to 4:00 p.m. in July is about 20 miles per hour (mph), compared with only about 8 mph at San José and less than 7 mph at the Farallon Islands, 30 miles to the west of San Francisco.

The sea breeze between the coast and the Central Valley commences near the surface along the coast in late morning or early afternoon; it may first be observed only through the Golden Gate. Later in the day, the layer deepens and intensifies while spreading inland. As the breeze intensifies and deepens, it flows over the lower hills farther south along the peninsula. This process frequently can be observed as a bank of stratus clouds “rolling over” the coastal hills on the western side of the bay. The depth of the sea breeze depends in large part upon the height and strength of the inversion. The generally low elevation of this stable layer of air prevents marine air from flowing over the coastal hills. It is unusual for the summer sea breeze to flow over terrain exceeding 2,000 feet in elevation.

In winter, the SFBAAB experiences periods of storminess, moderate-to-strong winds, and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, weak onshore flows in the afternoon, and otherwise light and variable winds.

A primary factor in air quality is the mixing depth (the vertical air column available for dilution of contaminant sources). Generally, the temperature of air decreases with height, creating a gradient

from warmer air near the ground to cooler air at elevation. This is caused by most of the sun’s energy being converted to heat at the ground, which in turn warms the air at the surface. The warm air rises in the atmosphere, where it expands and cools. Sometimes, however, the temperature of air increases with height. This condition is known as temperature inversion because the temperature profile of the atmosphere is “inverted” from its usual state. Over the SFBAAB, the frequent occurrence of temperature inversions limits mixing depth and, consequently, limits the availability of air for dilution resulting in elevated pollutant levels.

Air Pollutant Types, Sources, and Effects

Criteria Air Pollutants

Concentrations of criteria air pollutants are used as indicators of air quality conditions. Air pollutants are termed criteria air pollutants if they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. According to the EPA, criteria air pollutants are ozone, particulate matter (PM₁₀ and PM_{2.5}), nitrogen dioxide (NO₂), carbon monoxide (CO), lead, and sulfur dioxide (SO₂). Table 3.2-1 provides a summary of the types, sources, and effects of criteria air pollutants.

Table 3.2-1: Description of Criteria Pollutants of National and California Concern

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Ozone	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), nitrogen oxides (NO _x), and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO _x) are mobile sources (on-road and off-road vehicle exhaust).	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.
Particulate matter (PM ₁₀) Particulate matter (PM _{2.5})	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM ₁₀ refers to particulate matter that is between 2.5 and 10 microns in diameter, (one micron is one-millionth of a meter).	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling.	<ul style="list-style-type: none"> • Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function;

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
	PM _{2.5} refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.	chronic bronchitis; changes in lung morphology; death.
Nitrogen dioxide (NO ₂)	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO _x (NO, NO ₂ , NO ₃ , N ₂ O, N ₂ O ₃ , N ₂ O ₄ , and N ₂ O ₅). NO _x is a precursor to ozone, PM ₁₀ , and PM _{2.5} formation. NO _x can react with compounds to form nitric acid and related small particles and result in particulate matter (PM) related health effects.	NO _x is produced in motor vehicle internal combustion engines and fossil fuel fired electric utility and industrial boilers. Nitrogen dioxide forms quickly from NO _x emissions. NO ₂ concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contributions to atmospheric discoloration; increased visits to hospital for respiratory illnesses.
Carbon monoxide (CO)	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.
Sulfur dioxide (SO ₂)	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 parts per million (ppm), the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO _x) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below State and federal standards, further reductions are desirable because sulfur	Human caused sources include fossil fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethyl sulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps.	Bronchoconstriction is accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Criteria Pollutant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
	dioxide is a precursor to sulfate and PM ₁₀ .	The sulfur dioxide levels in the State are well below the maximum standards.	
Lead (Pb)	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded State or federal standards at any monitoring station since 1982.	Lead ore crushing, lead ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.

Sources:

California Air Resources Board (ARB). 2021. Vinyl Chloride and Health. Website: <https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health>. Accessed September 23, 2022.

California Office of Environmental Health Hazard Assessment (OEHHA). 2001. Health Effects of Diesel Exhaust. Website: <https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf>. Accessed September 23, 2022.

National Archives and Records Administration. 2009. Part II, Environmental Protection Agency. 40 Code of Federal Regulations Parts 50 and 58, Primary National Ambient Air Quality Standard for Nitrogen Dioxide; Proposed Rule. July 15. Website: <https://www.gpo.gov/fdsys/pkg/FR-2009-07-15/pdf/E9-15944.pdf>. Accessed September 23, 2022.

National Toxicology Program. 2016. Report on Carcinogens, 15th Edition; U.S. Department of Health and Human Services, Public Health Service. Benzene. November 3.

South Coast Air Quality Management District (SCAQMD). 2007. Final 2007 Air Quality Management Plan. June.

United States Environmental Protection Agency (EPA). 2016. Nitrogen Dioxide (NO₂) Pollution. Basic Information about NO₂. Website: <https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2>. Accessed September 23, 2022.

United States Environmental Protection Agency (EPA). 2020. Particulate Matter (PM) Pollution. Health and Environmental Effects of Particulate Matter. Website: <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>. Accessed September 23, 2022.

United States Environmental Protection Agency (EPA). 2021. Health Effects Notebook for Hazardous Air Pollutants. Website: <https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants>. Accessed September 23, 2022.

United States Environmental Protection Agency (EPA). 2021. Indoor Air Quality (IAQ). Volatile Organic Compounds’ Impact on Indoor Air Quality. Website: <https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality>. Accessed September 23, 2022.

United States Environmental Protection Agency (EPA). 2021. Health Effects of Ozone Pollution. Website: <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>. Accessed September 23, 2022.

Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs) are also used as indicators of air quality conditions. Air pollutant human exposure standards are identified for many TACs, including the following

common TACs relevant to development projects: particulate matter, fugitive dust, lead, and asbestos. These air pollutants are called TACs because they are air pollutants that may cause or contribute to an increase in mortality or in serious illness or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health impact may pose a threat to public health even at low concentrations. TACs can cause long-term health effects (such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) or short-term acute effects (such as eye watering, respiratory irritation, runny nose, throat pain, or headaches).

TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to a particular TAC. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Cancer risk is typically expressed as excess cancer cases per million exposed individuals, typically over a lifetime exposure or other prolonged duration. For noncarcinogenic substances, there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels may vary depending on the specific pollutant. Acute and chronic exposure to noncarcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to an acceptable reference exposure level (REL). Table 3.2-2 provides a summary of the types, sources, and effects of TACs.

Table 3.2-2: Description of Toxic Air Contaminants of National and California Concern

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
Diesel Particulate Matter (DPM)	DPM is a source of PM _{2.5} —diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.	Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.
Volatile Organic Compounds (VOCs)	Reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid,	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc.	Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
	<p>metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably.</p>	<p>Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM₁₀ and lower visibility.</p>	<p>interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants (TACs).</p>
Benzene	<p>Benzene is a VOC. It is a clear or colorless light-yellow, volatile, highly flammable liquid with a gasoline-like odor. The EPA has classified benzene as a “Group A” carcinogen.</p>	<p>Benzene is emitted into the air from fuel evaporation, motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is used as a solvent for paints, inks, oils, waxes, plastic, and rubber. Benzene occurs naturally in gasoline at 1 to 2 percent by volume. The primary route of human exposure is through inhalation.</p>	<p>Short-term (acute) exposure of high doses from inhalation of benzene may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation, and at higher levels, loss of consciousness can occur. Long-term (chronic) occupational exposure of high doses has caused blood disorders, leukemia, and lymphatic cancer.</p>
Asbestos	<p>Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite.</p>	<p>Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States.</p>	<p>Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can</p>

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
			occur during soil-disturbing activities in areas with deposits present.
Hydrogen Sulfide (H ₂ S)	H ₂ S is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.
Sulfates	Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.	<ul style="list-style-type: none"> (a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardiopulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.
Visibility-Reducing Particles	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM ₁₀ refers to particulate matter that is between 2.5 and 10 microns in diameter (1 micron is one-millionth of a meter). PM _{2.5} refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal; and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust.	<ul style="list-style-type: none"> • Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
		Secondary particles form from reactions in the atmosphere.	
Vinyl Chloride	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, the California Air Resources Board (ARB) identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.
Lead (Pb)	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded State or federal standards at any monitoring station since 1982.	Lead ore crushing, lead ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.
<p>Sources:</p> <p>California Air Resources Board (ARB). 2021. Vinyl Chloride and Health. Website: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed September 23, 2022.</p> <p>California Office of Environmental Health Hazard Assessment (OEHHA). 2001. Health Effects of Diesel Exhaust. Website: https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf. Accessed September 23, 2022.</p> <p>National Archives and Records Administration. 2009. Part II, Environmental Protection Agency. 40 Code of Federal Regulations Parts 50 and 58, Primary National Ambient Air Quality Standard for Nitrogen Dioxide; Proposed Rule. July 15. Website: https://www.gpo.gov/fdsys/pkg/FR-2009-07-15/pdf/E9-15944.pdf. Accessed September 23, 2022.</p> <p>National Toxicology Program. 2016. Report on Carcinogens, 15th Edition; U.S. Department of Health and Human Services, Public Health Service. Benzene. November 3.</p>			

Toxic Air Contaminant	Physical Description and Properties	Sources	Most Relevant Effects from Pollutant Exposure
			<p>National Toxicology Program. 2016. Report on Carcinogens, 15th Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. November 3.</p> <p>South Coast Air Quality Management District (SCAQMD). 2007. Final 2007 Air Quality Management Plan. June.</p> <p>United States Environmental Protection Agency (EPA). 2016. Nitrogen Dioxide (NO₂) Pollution. Basic Information about NO₂. Website: https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2. Accessed September 23, 2022.</p>

Air Quality

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature inversions interact with the physical features of the landscape to determine the movement and dispersal of air pollutant emissions and, consequently, their effect on air quality.

Regional Air Quality

The BAAQMD is the regional agency regulating air quality within the nine-county SFBAAB.

Air Pollutant Standards and Attainment Designations

Air pollutant standards have been adopted by the EPA and the ARB for the following six criteria air pollutants that affect ambient air quality: ozone, NO₂, CO, SO₂, lead, and PM, which is subdivided into two classes based on particle size: PM with aerodynamic diameters equal to or less than 10 microns (PM₁₀), and PM with aerodynamic diameters equal to or less than 2.5 microns (PM_{2.5}). These air pollutants are called “criteria air pollutants” because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. California has also established standards for TACs such as visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Table 3.2-3 presents the National Ambient Air Quality Standards (NAAQS) and California ambient air quality standards (CAAQS) for these air pollutants. Note that there are no State or federal ambient air quality standards for reactive organic gases (ROGs), benzene, or DPM.

Table 3.2-3: Federal and State Air Quality Standards in the SFBAAB

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a
Ozone	1 Hour	0.09 ppm	—
	8 Hour	0.070 ppm	0.070 ppm ^f
Nitrogen dioxide ^b (NO ₂)	1 Hour	0.18 ppm	0.100 ppm
	Annual	0.030 ppm	0.053 ppm
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9 ppm
Sulfur dioxide ^c (SO ₂)	1 Hour	0.25 ppm	0.075 ppm
	3 Hour	—	0.5 ppm

Air Pollutant	Averaging Time	California Standard	Federal Standard ^a
	24 Hour	0.04 ppm	0.14 (for certain areas)
	Annual	—	0.030 ppm (for certain areas)
Lead ^e	30-day	1.5 µg/m ³	—
	Quarter	—	1.5 µg/m ³
	Rolling 3-month average	—	0.15 µg/m ³
Particulate matter (PM ₁₀)	24 Hour	50 µg/m ³	150 µg/m ³
	Mean	20 µg/m ³	—
Particulate matter (PM _{2.5})	24 Hour	—	35 µg/m ³
	Annual	12 µg/m ³	12.0 µg/m ³
Visibility-reducing particles	8 Hour	See note below ^d	
Sulfates	24 Hour	25 µg/m ³	—
Hydrogen sulfide	1 Hour	0.03 ppm	—
Vinyl chloride ^e	24 Hour	0.01 ppm	—

Notes:

µg/m³ = micrograms per cubic meter

30-day = 30-day average

Annual = Annual Arithmetic Mean

ppm = parts per million (concentration)

Quarter = Calendar quarter

^a Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect public health. All standards listed are primary standards except for 3-hour SO₂, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^b To attain the 1-hour nitrogen dioxide national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (0.100 ppm).

^c On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 parts per billion (ppb). The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

^d Visibility-reducing particles: In 1989, the ARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

^e The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for implementing control measures at levels below the ambient concentrations specified for these pollutants.

^f The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015, and became effective on December 28, 2015.

Source: California Air Resources Board (ARB). 2016. Ambient Air Quality Standards. May 4.

Air quality monitoring stations operated by the ARB and BAAQMD measure ambient air pollutant concentrations in the SFBAAB. In general, the SFBAAB experiences low concentrations of most pollutants compared to federal or State standards.

Both the EPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. These designations identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. “Attainment” status refers to those regions that are meeting federal and/or State standards for a specified criteria pollutant. “Nonattainment” refers to regions that do not meet federal and/or State standards for a specified criteria pollutant. “Unclassified” refers to regions with insufficient data to determine the region’s attainment status for a specified criteria air pollutant. Each standard has a different definition, or “form” of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM_{2.5} standard is met if the 3-year average of the annual average PM_{2.5} concentration is less than or equal to the standard.

Table 3.2-4 shows the current attainment designations for the SFBAAB. The SFBAAB is designated as nonattainment for the State ozone, PM₁₀, and PM_{2.5} standards and the national ozone and PM_{2.5} standards.

Table 3.2-4: San Francisco Bay Area Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	N/A
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Nonattainment	Nonattainment
Sulfates	Attainment	N/A
Hydrogen Sulfates	Unclassified	N/A
Visibility-reducing Particles	Unclassified	N/A
Lead	N/A	Attainment
<p>Notes: CO = carbon monoxide N/A = information not available NO₂ = nitrogen dioxide PM₁₀ = particulate matter, including dust, 10 micrometers or less in diameter PM_{2.5} = particulate matter including dust, 2.5 micrometers or less in diameter SO₂ = sulfur dioxide Source: Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. January 5. Website: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed August 29, 2022.</p>		

Air Quality Index

The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest comparison is to the State and federal ozone standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI), as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 3.2-5 provides a general description of the health impacts of ozone at different concentrations.

Table 3.2-5: Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI—0—50—Good	Sensitive Groups: Children and people with asthma are the groups most at risk.
Concentration 0—54 ppb	Health Effects Statements: None.
	Cautionary Statements: None.
AQI—51—100—Moderate	Sensitive Groups: Children and people with asthma are the groups most at risk.
Concentration 55—70 ppb	Health Effects Statements: Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI—101—150—Unhealthy for Sensitive Groups	Sensitive Groups: Children and people with asthma are the groups most at risk.
Concentration 71—85 ppb	Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI—151—200—Unhealthy	Sensitive Groups: Children and people with asthma are the groups most at risk.
Concentration 86—105 ppb	Health Effects Statements: Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI—201—300—Very Unhealthy	Sensitive Groups: Children and people with asthma are the groups most at risk.

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
Concentration 106–200 ppb	<p>Health Effects Statements: Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.</p> <p>Cautionary Statements: Active children and adults and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.</p>
<p>Notes: AQI = Air Quality Index ppb = parts per billion Source: Air Now. No date. AQI Calculator: AQI to Concentration Calculator. Website: https://www.airnow.gov/aqi/aqi-calculator. Accessed August 29, 2022.</p>	

Local Air Quality

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features. Atmospheric conditions such as wind speed, wind direction, and air temperature inversions interact with the physical features of the landscape to determine the movement and dispersal of air pollutant emissions and, consequently, their effect on air quality.

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. The air quality monitoring station closest to the project site is the San Rafael Monitoring Station in the City of San Rafael, located approximately 2.06 miles northwest of the project site. Table 3.2-6 summarizes the recorded ambient air data at the representative monitoring stations for the years 2019 through 2021, which is the most current data available at the time of this analysis. As Table 3.2-6 shows, the recorded data show exceedances of the California standards for ozone (1-hour and 8-hour) and PM₁₀ and national standards for 8-hour ozone and PM_{2.5} on multiple occasions from 2019 to 2021. No recent monitoring data for Marin County or the SFBAAB was available for CO or SO₂. Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 3.2-6: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2019	2020	2021
Ozone	1 Hour	Max 1 Hour (ppm)	0.096	0.086	0.082
		Days > State Standard (0.09 ppm)	1	0	0
	8 Hour	Max 8 Hour (ppm)	0.081	0.064	0.066
		Days > State Standard (0.07 ppm)	1	0	0
		Days > National Standard (0.070 ppm)	1	0	0

Air Pollutant	Averaging Time	Item	2019	2020	2021
CO	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
NO ₂	Annual	Annual Average (ppm)	0.0008	0.007	0.006
	1 Hour	Max 1 Hour (ppm)	0.0499	0.0421	0.0377
		Days > State Standard (0.18 ppm)	0	0	0
SO ₂	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM ₁₀)	Annual	Annual Average (µg/m ³)	13.9	16.6	14.7
	24 Hour	Max 24 Hour (µg/m ³)	33	118	30
		Days > State Standard (50 µg/m ³)	0	1	0
		Days > National Standard (150 µg/m ³)	0	0	0
Fine particulate matter (PM _{2.5})	Annual	Annual Average (µg/m ³)	13.4	6.8	11.0
	24 Hour	Max 24 Hour (µg/m ³)	6.3	8.5	7
		Days > National Standard (35 µg/m ³)	0	9	0

Notes:

> = exceed

µg/m³ = micrograms per cubic meter

Bold = exceedance

CO = carbon monoxide

ID = insufficient data

max = maximum

National Standard = National Ambient Air Quality Standard

ND = no data

NO₂ = nitrogen dioxide

PM₁₀ = particulate matter, including dust, 10 micrometers or less in diameter

PM_{2.5} = particulate matter including dust, 2.5 micrometers or less in diameter

ppm = parts per million

SO₂ = sulfur dioxide

State Standard = California Ambient Air Quality Standard (CAAQS)

Source: California Air Resources Board (ARB). 2022. iADAM: Top 4 Summary. Website:

<https://www.arb.ca.gov/adam/select8/sc8start.php>. Accessed August 28, 2022.

Air Pollution Sensitive Receptors

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others are. Land uses such as residences, schools, day care centers, hospitals, nursing and convalescent homes, and parks are considered the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than that for other land uses. Therefore, these groups are referred to as

sensitive receptors. Exposure assessment guidance typically assumes that residences would receive exposure to air pollution 24 hours per day, 350 days per year, for 70 years. BAAQMD defines sensitive receptors as children, adults, and seniors occupying or residing in residential dwellings, schools, day care centers, hospitals, and senior-care facilities.

Project Site Vicinity

The closest off-site air pollution sensitive receptors near the project site include the following:

- Single-family residential uses located adjacent to the west of the project site.
- Residential housing associated with San Quentin State Prison located as close as approximately 795 feet southeast of the project site.
- Multi-family residential apartments located approximately 815 feet northwest of the project site.

Project Site

No sensitive receptors currently exist on the project site.

Existing Emission Sources

Project Site Vicinity

The primary sources of air pollutants (both criteria air pollutants and TACs) in the project site vicinity include sources at various surrounding properties, including building-related energy use (e.g., on-site natural gas combustion) and vehicle trips associated with local businesses and facilities. Nearby residential neighborhoods, the Larkspur Ferry Terminal, the Marin Household Hazardous Waste Facility, and Central Marin Sanitation Agency all present existing emission sources in the project vicinity. In addition, the project site is approximately 2,290 feet south of Interstate 580 (I-580) and approximately 3,350 feet east of U.S. Highway 101 (US-101). Other activities which result in emissions include space and water heating, landscape maintenance, and any other surrounding industrial uses which have the potential to store, produce, decommission, or otherwise handle hazardous materials.

Project Site

The project site is currently vacant apart from a sewage junction box, chemical dosing station, and an approximately 11,500-square-foot asphalt pad located in the southwestern corner of the project site. Therefore, no existing emission sources are present on the project site.

3.2.3 - Regulatory Framework

Federal

EPA Emission Standards for New Off-Road Equipment

Before 1994, there were no standards to limit the number of emissions from off-road equipment. In 1994, the EPA established emission standards for hydrocarbons, NO_x, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by the

EPA and by ARB. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

State

Verified Diesel Emission Control Strategies

The EPA and the ARB tiered off-road emission standards only apply to new engines and off-road equipment can last several years. The ARB has developed Verified Diesel Emission Control Strategies (VDECS), which are devices, systems, or strategies used to achieve the highest level of pollution control from existing off-road vehicles, to help reduce emissions from existing engines. VDECS are designed primarily for the reduction of DPM emissions and have been verified by ARB. There are three levels of VDECS, the most effective of which is the Level 3 VDECS. Tier 4 engines are not required to install VDECS because they already meet the emissions standards for lower tiered equipment with installed controls.

Tanner Air Toxics Act and Air Toxics Hot Spots Information and Assessment Act

TACs in California are primarily regulated through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), also known as the Hot Spots Act. To date, the ARB has identified more than 21 TACs and has adopted the EPA's list of Hazardous Air Pollutants (HAPs) as TACs.

Carl Moyer Memorial Air Quality Standards Attainment Program

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program), a partnership between the ARB and local air districts, issues grants to replace or retrofit older engines and equipment with engines and equipment that exceed current regulatory requirements to reduce air pollution. Money collected through the Carl Moyer Program complements California's regulatory program by providing incentives to effect early or extra emission reductions, especially from emission sources in environmental justice communities and areas disproportionately affected by air pollution. The program has established guidelines and criteria for the funding of emissions reduction projects. Within the SFBAAB, the BAAQMD administers the Carl Moyer Program. The program has established guidelines and criteria for the funding of emissions reduction projects. The program establishes cost-effectiveness criteria for funding emission reductions projects, which under the final 2017 Carl Moyer Program Guidelines are \$30,000 per weighted ton of NO_x, ROG, and PM.¹

Regional

BAAQMD CEQA Air Quality Guidelines

The BAAQMD is the primary agency responsible for ensuring that air quality standards (NAAQS and CAAQS) are attained and maintained in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The BAAQMD prepares plans to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans for the national ozone standard, Clean Air Plans for the California standard, and PM plans to fulfill federal air quality planning requirements. The BAAQMD

¹ California Air Resources Board (ARB). 2017. The Carl Moyer Program Guidelines. April.

also inspects stationary sources of air pollution, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the Clean Air Act, the Clean Air Act Amendments of 1990, and the California Clean Air Act.

The BAAQMD developed quantitative thresholds of significance for its California Environmental Quality Act (CEQA) Guidelines in 2010, which were also included in its updated subsequent guidelines. BAAQMD's adoption of the 2010 thresholds of significance was later challenged in court. In an opinion issued on December 17, 2015, related to the BAAQMD CEQA Guidelines, the California Supreme Court held that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the project would exacerbate existing environmental hazards. The Supreme Court also found that CEQA requires the analysis of exposing people to environmental hazards in specific circumstances, including the location of development near airports, schools near sources of toxic contamination, and certain exemptions for infill and workforce housing. The Supreme Court also held that public agencies remain free to voluntarily conduct this analysis not required by CEQA for their own public projects (*CBIA v. BAAQMD* [2016] 2 Cal. App. 5th 1067, 1083).

In view of the California Supreme Court's opinion, the BAAQMD published a new version of its CEQA Guidelines in May 2017. The BAAQMD CEQA Guidelines state that local agencies may rely on thresholds designed to reflect the impact of locating development near areas of TACs where CEQA requires such an analysis or where the agency has determined that such an analysis would assist in deciding about the proposed project. However, the thresholds are not mandatory, and agencies should apply them only after determining that they reflect an appropriate measure of a project's impacts. The BAAQMD's guidelines for implementing the thresholds are for informational purposes to assist local agencies, and applicable only insofar as a lead agency adopts them as performance thresholds.

BAAQMD Particulate Matter Plan

To fulfill federal air quality planning requirements, the BAAQMD adopted a PM_{2.5} emissions inventory for year 2010 at a public hearing on November 7, 2012. The Bay Area Clean Air Plan also included several measures for reducing PM emissions from stationary sources and wood burning. On January 9, 2013, the EPA issued a final rule determining that the Bay Area has attained the 24-hour PM_{2.5} NAAQS, suspending federal State Implementation Plan (SIP) planning requirements for the SFBAAB.² Despite this EPA action, the SFBAAB will continue to be designated as nonattainment for the national 24-hour PM_{2.5} standard until the BAAQMD submits a redesignation request and a maintenance plan to the EPA and the EPA approves the proposed redesignation.

The SFBAAB is designated nonattainment for the State PM₁₀ and PM_{2.5} standards, but it is currently unclassified for the federal PM₁₀ standard and nonattainment for federal PM_{2.5} standards. The EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ in 2006 and designated the SFBAAB as nonattainment for the new PM_{2.5} standard effective December 14, 2009.

² United States Environmental Protection Agency (EPA). 2013. Determination of Attainment for the San Francisco Bay Area Nonattainment Area for the 2006 Fine Particle Standard; California; Determination Regarding Applicability of Clean Air Act Requirements. January 9.

On December 8, 2011, the ARB submitted a “clean data finding” request to the EPA on behalf of the Bay Area. If the clean data finding request is approved, then EPA guidelines provide that the region can fulfill federal PM_{2.5} SIP requirements by preparing either a redesignation request and a PM_{2.5} maintenance plan or a “clean data” SIP submittal. Because peak PM_{2.5} levels can vary from year to year based on natural, short-term changes in weather conditions, the BAAQMD believes that it would be premature to submit a redesignation request and PM_{2.5} maintenance plan at this time. Therefore, the BAAQMD will prepare a “clean data” SIP to address the required elements, including:

- An emission inventory for primary PM_{2.5}, as well as precursors to secondary PM formation
- Amendments to the BAAQMD’s New Source Review regulation to address PM_{2.5}

BAAQMD 2017 Clean Air Plan

On May 2017, the BAAQMD adopted the final 2017 Bay Area Clean Air Plan (2017 Clean Air Plan). The BAAQMD prepared the 2017 Clean Air Plan in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). The goals of the 2017 Clean Air Plan are to reduce regional air pollutants and climate pollutants to improve the health of Bay Area residents. The 2017 Clean Air Plan aims to lead the region into a post-carbon economy, continue progress toward attaining all State and federal air quality standards, and eliminate health risk disparities from air pollution exposure in Bay Area communities. The 2017 Clean Air Plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision that forecasts what a clean air Bay Area will look like in year 2050. The 2017 Clean Air Plan envisions a future in which by the year 2050:

- Buildings will be energy efficient—heated, cooled and powered by renewable energy.
- Transportation will be a combination of electric vehicles, both shared and privately owned, and autonomous public transit fleets, with a large share of trips by bicycling, walking, and transit.
- The Bay Area will be powered by clean, renewable electricity and will be a leading incubator and producer of clean energy technologies leading the world in the carbon-efficiency of our products.
- Bay Area residents will have developed a low carbon lifestyle by driving electric vehicles, living in zero-net-energy homes, eating low carbon foods, and purchasing goods and services with low carbon content.
- Waste will be greatly reduced, waste products will be re-used or recycled, and all organic waste will be composted and put to productive use.

The focus of control measures includes aggressively targeting the largest source of greenhouse gas (GHG) emissions, ozone pollutants and PM emissions: transportation. This includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives, and off-road equipment. Additionally, the BAAQMD will continue to work with regional and local governments to reduce Vehicle Miles Traveled (VMT) through the further funding of rideshare, bike, and shuttle programs.

BAAQMD Regulations

Regulation 2, Rule 1 (Permits—General Requirements)

The BAAQMD regulates new sources of air pollution and the modification and operation of existing sources through the issuances of authorities to construct and permits to operate. Regulation 2, Rule 1 provides an orderly procedure which the proposed project would be required to comply with to receive authorities to construct or permits to operate from the BAAQMD for new sources of air pollutants, as applicable.

Regulation 2, Rule 5 (New Source Review Permitting)

The BAAQMD regulates backup emergency generators, fire pumps, and other sources of TACs through its New Source Review (Regulation 2, Rule 5) permitting process.³ Although emergency generators are intended for use only during periods of power outages, monthly testing of each generator is required; however, the BAAQMD limits testing to no more than 50 hours per year. Each emergency generator installed is assumed to meet a minimum of Tier 2 emission standards (before control measures). As part of the permitting process, the BAAQMD limits the excess cancer risk from any facility to no more than 10 per 1-million-population for any permits that are applied for within a 2-year period and would require any source that would result in an excess cancer risk greater than 1 per 1 million to install Best Available Control Technology (BACT) for Toxics.

Regulation 6, Rule 1 (Particulate Matter—General Requirements)

The BAAQMD regulates PM emissions through Regulation 6 by means of establishing limitations on emission rates, emissions concentrations, and emission visibility and opacity. Regulation 6, Rule 1 provides existing standards for PM emissions that could result during project construction or operation that the proposed project would be required to comply with, as applicable, such as the prohibition of emissions from any source for a period or aggregate periods of more than three minutes in any hour which are equal to or greater than 20 percent opacity.

Regulation 6, Rule 6, (Particulate Matter—Prohibition of Trackout)

One rule by which the BAAQMD regulates PM is Regulation 6, Rule 6, which prohibits PM trackout during project construction and operation. Regulation 6, Rule 6 requires the prevention or timely cleanup of trackout of solid materials onto paved public roads outside the boundaries of large bulk material sites, large construction sites, and large disturbed surface sides such as landfills.

Regulation 8, Rule 3 (Architectural Coatings)

This rule governs the manufacture, distribution, and sale of architectural coatings and limits the ROG content in paints and paint solvents. Although this rule does not directly apply to the proposed project, it does dictate the ROG content of paint available for use during the construction.

Regulation 8, Rule 15 (Emulsified and Liquid Asphalts)

This rule dictates the ROG content of asphalt available for use during the construction through regulating the sale and use of asphalt and limits the ROG content in asphalt.

³ Bay Area Air Quality Management District (BAAQMD). 2016. Complex Permitting Handbook for BAAQMD New Source Review Permitting.

Regulation 8, Rule 40 (Organic Compounds—Aeration of Contaminated Soil and Removal of Underground Storage Tanks)

This rule limits the emissions of organic compounds from soil that has been contaminated by organic chemical or petroleum chemical leaks or spills and provides an acceptable procedure for controlling emissions from underground storage tanks during removal and replacement.

Regulation 9, Rule 8 (Inorganic Gaseous Pollutants—Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines)

Under Regulation 9, Rule 8, the BAAQMD regulates the emissions of NO_x and CO from stationary internal combustion engines with an output rated by the manufacturer at more than 50 brake horsepower. As such, any proposed stationary source equipment (e.g., backup generators, fire pumps) which would be greater than 50 horsepower would require a BAAQMD permit to operate.

Regulation 11, Rule 2 (Hazardous Pollutants—Asbestos Demolition, Renovation, and Manufacturing)

Under Regulation 11, Rule 2, the BAAQMD regulates emissions of asbestos to the atmosphere during demolition, renovation, milling, and manufacturing and establishes appropriate waste disposal procedures. Any of these activities which pose the potential to generate emissions of airborne asbestos are required to comply with the appropriate provisions of this regulation.

Regulation 1, Rule 301 (Odorous Emissions)

The BAAQMD is responsible for investigating and controlling odor complaints in the Bay Area. The agency enforces odor control by helping the public to document a public nuisance. Upon receipt of a complaint, the BAAQMD sends an investigator to interview the complainant and to locate the odor source if possible. The BAAQMD typically brings a public nuisance court action when there are a substantial number of confirmed odor events within a 24-hour period. An odor source with five or more confirmed complaints per year, averaged over 3 years, is considered to have a substantial effect on receptors.

Several BAAQMD regulations and rules apply to odorous emissions. Regulation 1, Rule 301 is the nuisance provision that states that sources cannot emit air contaminants that cause nuisance to several people. Regulation 7 specifies limits for the discharge of odorous substances where the BAAQMD receives complaints from 10 or more complainants within a 90-day period. Among other things, Regulation 7 precludes discharge of an odorous substance that causes the ambient air at or beyond the property line to be odorous after dilution with four parts of odor-free air and specifies maximum limits on the emission of certain odorous compounds.

Lastly, the BAAQMD enforces the Portable Equipment Registration Program (PERP) Airborne Toxic Control Measures (ATCM) on behalf of the ARB. Under the PERP, owners or operators of portable engines and other types of equipment which meet the qualifications of the ATCM can register their equipment to operate throughout California. However, owners and operators of portable engines which meet the qualifications of this ATCM who do not register their equipment under the PERP must obtain individual permits from local air districts. Permits issued under the PERP must be honored by all air districts throughout California.

Plan Bay Area

The Plan Bay Area 2050 was adopted in 2021 and is the latest update to the Plan Bay Area. Plan Bay Area 2050, published by the MTC and ABAG, is the latest long-range integrated transportation and land use/housing strategy through 2050 for the Bay Area.⁴ Plan Bay Area 2050 functions as the Sustainable Communities Strategy (SCS) mandated by Senate Bill (SB) 375. As a regional land use plan, Plan Bay Area 2050 aims to reduce per capita GHG emissions by promoting more compact, mixed-use residential and commercial neighborhoods located near transit. Plan Bay Area 2050 is a limited and focused update that builds upon a growth pattern and strategies developed in the original Plan Bay Area and its first update, Plan Bay Area 2040, but with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last 4 years. While principles of State sovereignty render Plan Bay Area legally inapplicable to the project site, this regional plan provides for an important analytical framework given the project site is located within its geographical purview.

3.2.4 - Methodology

Emission factors represent the emission rate of a pollutant over a given time or activity; for example, grams of NO_x per VMT or grams of NO_x per horsepower-hour of equipment operation. The ARB has published emission factors for on-road mobile vehicles/trucks in the Emission Factors (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. Activity levels measure how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, or VMT per day. An air emissions model (or calculator) combines the emission factors and the various levels of activity and calculates the emissions for various pieces of equipment.

CalEEMod Version 2022.1 was developed in collaboration with the SCAQMD and other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with construction and operation from various land uses. The modeling follows BAAQMD guidance where applicable from its CEQA Air Quality Guidelines.

The following criteria air pollutants and ozone precursors are assessed in this analysis:

- Reactive organic gases
- Nitrogen oxides
- Carbon monoxide
- Particulate matter less than 10 microns in diameter (PM₁₀)
- Particulate matter less than 2.5 microns in diameter (PM_{2.5})

⁴ Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2022. Plan Bay Area 2050. Website: <https://www.planbayarea.org/finalplan2050>. Accessed September 23, 2022.

Note that the proposed project would emit ozone precursors ROG and NO_x. The proposed project would not directly emit ozone since it is formed in the atmosphere via photochemical reactions between and among ozone precursor pollutants.

Construction-related Criteria Pollutants

Construction emissions can vary substantially from day to day, depending on the level of activity, specific type of operation, and prevailing weather conditions. Construction emissions result from both on-site and off-site activities. On-site emissions consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM₁₀) from disturbed soil and demolition. Additionally, paving operations and the application of architectural coatings would release ROG emissions. Off-site emissions result from motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM₁₀ and PM_{2.5}).

Schedule

For the purposes of this analysis, construction of the proposed project was assumed to begin in the third quarter of 2023, taking approximately 27 months to complete. It is anticipated that demolition and site preparation (removal of existing pavement) is to take approximately 2 months, grading is to take approximately 1 month, and building construction (including building construction, paving, and architectural coating) is to take approximately 24 months. Architectural coating of the proposed project is anticipated to be concurrent with the paving timeline⁵. A conceptual construction schedule is provided in Table 3.2-7 that presents the duration for each construction activity.

Table 3.2-7: Conceptual Construction Schedule

Construction Activity	Conceptual Construction Schedule		Working Days
	Start Date	End Date	
Demolition and Site Preparation	7/1/2023	9/1/2023	45
Grading	9/2/2023	10/2/2023	21
Building Construction	10/3/2024	1/3/2025	329
Paving	1/4/2025	3/4/2025	42
Architectural Coating	1/4/2025	8/4/2025	151

Source: CalEEMod Output (Appendix B).

Equipment Tiers and Emission Factors

Equipment tiers refer to a generation of emission standards established by the EPA and ARB that apply to diesel engines in off-road equipment. The “tier” of an engine depends on the model year and horsepower rating; generally, the newer a piece of equipment is, the greater the tier it is likely to have. Excluding engines greater than 750 horsepower, Tier 1 engines were manufactured generally between 1996 and 2003. Tier 2 engines were manufactured between 2001 and 2007. Tier 3 engines

⁵ This schedule represents a conservative assumption because if construction moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment.

were manufactured between 2006 and 2011. Tier 4 engines are the newest and some incorporate hybrid electric technology; they were manufactured after 2007.

Construction emissions are generally calculated as the product of an activity factor and an emission factor. The activity factor for construction equipment is a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, or the amount of fuel consumed in a given amount of time. The emission factor relates the process activity to the amount of pollutant emitted. Examples of emission factors include grams of emissions per miles traveled and grams of emissions per horsepower-hour. The operation of a piece of equipment is tempered by its load factor which is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod default load factors for off-road equipment.

On-site Off-road Equipment

CalEEMod contains built-in inventories of construction equipment for a variety of land use construction projects that incorporate estimates of the number of equipment, their age, their horsepower, and emission control equipment tier mix from which rates of emissions are developed. These inventories were developed based on construction surveys for several land use projects. Table 3.2-8 presents the construction equipment as derived from CalEEMod. The CalEEMod default emission control equipment tier mix was used in this analysis for the estimation of emissions from on-site diesel construction equipment. Construction activities occurring on the project site would consist of site preparation, grading, building construction, paving, and architectural coating of the inside and outside of the proposed buildings. For each construction activity, the construction equipment quantity and daily operating hours represent the average daily equipment operation over the duration of that construction activity.

Table 3.2-8: Project Construction Equipment Assumptions

Construction Activity	Duration of Activity	Equipment	Equipment Amount	Average Hours per Day	Horsepower	Load Factor
Site Preparation	45 Days	Rubber Tired Bulldozers	3	8.0	367	0.40
		Tractors/Loaders/Backhoes	4	8.0	84	0.37
Grading	21 Days	Excavators	1	8.0	36	0.38
		Graders	1	8.0	148	0.41
		Rubber Tired Bulldozers	1	8.0	367	0.40
		Tractors/Loaders/Backhoes	3	8.0	84	0.37
Building Construction	329 Days	Cranes	1	7.0	367	0.29
		Forklifts	3	8.0	82	0.20
		Generator Sets	1	8.0	14	0.74

Construction Activity	Duration of Activity	Equipment	Equipment Amount	Average Hours per Day	Horsepower	Load Factor
		Tractors/Loaders/Backhoes	3	7.0	84	0.37
		Welders	1	8.0	46	0.45
Paving	42 Days	Pavers	2	8.0	81	0.42
		Paving Equipment	2	8.0	89	0.36
		Rollers	2	8.0	36	0.38
Architectural Coating	151 Days	Air Compressors	1	6.0	37	0.48

Source: CalEEMod Output (Appendix B).

Site Preparation, Grading, and Hauling Activities

An estimated 11,500-square-foot asphalt pad could be demolished and removed from the site during project construction. As such, a total of approximately 431 tons of debris is anticipated to be hauled off the project site during site preparation. Refer to the Demolition Debris Calculations sheet contained in Appendix B for more information. CalEEMod default values for trip lengths and vehicle fleets associated with demolition debris hauling trips were used for this analysis.

Approximately 5,000 cubic yards of contaminated soil is to be exported and replaced during project grading activities. The nearest facility which accepts contaminated soils is the Transfer/Process Facility (Solid Waste Information System [SWIS] Number 15-AA-0400) at 18613 Waterflood Road, Lost Hills, California 93249, approximately 260 miles from the project site. CalEEMod default values for vehicle fleets associated with soil hauling trips were used for this analysis.

CalEEMod default values include a worker trip length of 11.7 miles, a vendor trip length of 8.4 miles, and a hauling trip length of 20 miles. However, as stated above, the hauling trip length was changed to 260 miles to account for the export of contaminated soils to the nearest facility.⁶ A summary of the construction-related trips is shown in Table 3.2-9.

Table 3.2-9: Construction Off-site Trips

Construction Activity	Worker (Trips per Day)	Vendor (Trips per Day)	Haul (Trips per Day)
Nonresidential Construction			
Site Preparation	17.5	–	0.96
Grading	15	–	29.8
Building Construction	238	49.2	0
Paving	15	–	0

⁶ The import of replacement soils is anticipated to come from a closer facility (similar to default CalEEMod distances) and would not travel the hauling distance of 260 miles to the facility in Lost Hills, California. However, as CalEEMod only provides for input of one hauling trip distance per grading phase, the analysis is conservative as both the export of contaminated soils as well as the import of replacement soils were assumed to travel a hauling distance of 260 miles.

Construction Activity	Worker (Trips per Day)	Vendor (Trips per Day)	Haul (Trips per Day)
Architectural Coating	47.5	–	0

Source: CalEEMod Output (Appendix B).

As stated by the project applicant, project operation would not overlap with project construction. Therefore, no on-site sensitive receptors were included in the construction Health Risk Assessment (HRA) prepared for the proposed project.

Off-Gassing Materials

Asphalt paving and architectural coating materials used during construction would generate off-gas emissions of ROG. The data collection process determined the acres of asphalt paving required, which CalEEMod uses to determine associated ROG emissions. CalEEMod contains assumptions for application of architectural coatings that are based on the land use type and square footage of the buildings to be constructed and were used to quantify emissions.

Operation-related Criteria Pollutants

The operational phase emissions are based on the development of the proposed land uses. The modeling accounts for the average daily vehicle trips and VMT, energy usage, water demand, and wastewater, and solid waste generated by the proposed project.

On-road Motor Vehicles

On-road transportation sources are based on vehicle trip generation rates contained in the Traffic Impact Study (TIS) prepared by W-Trans, dated March 17, 2022, which can be found in Appendix I. According to the trip generation information provided therein, the proposed project would result in an average 1,360 vehicle trips per day.

Architectural Coatings

Paints release VOC/ROG emissions during application and drying. The buildings would be repainted on occasion. Based on CalEEMod defaults, it is assumed that the buildings would be recoated once every 10 years. The proposed project would be required to comply with the BAAQMD Regulation 8, Rule 3—Architectural Coatings. This rule governs the manufacture, distribution, and sale of architectural coatings and limits the ROG content in paints and paint solvents.

Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to detergents, cleaning compounds, polishes, floor finishes, cosmetics, personal care products, home, lawn, and garden products, disinfectants, sanitizers, aerosol paints, and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings.⁷ The default emission factor developed for CalEEMod was used.

⁷ California Air Resources Board (ARB). 2019. Regulation for Reducing Emissions from Consumer Products. May.

Landscape Equipment

CalEEMod was used to estimate the emissions from landscaping equipment using the default assumptions in the model.

Electricity

Electricity used by the proposed project (e.g., lighting, space heating, and cooking) would result in emissions from power plants that would generate electricity distributed on the electrical power grid; however, those emissions are not considered in the criteria pollutant and ozone precursor emission estimates contained herein as they are considered indirect emissions. While indirect emissions are not under the purview of the analysis of criteria pollutants and ozone precursors, indirect emissions are still pertinent to the analysis of GHG emissions. See Section 3.7, Greenhouse Gas Emissions.

Natural Gas

The proposed project would generate emissions from the combustion of natural gas for water heating. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. The Title 24 uses are defined as the major building envelope systems covered by California Building Standards Code (CBC) Title 24, Part 6, such as space heating, space cooling, water heating, and ventilation. Although the proposed project is anticipated to utilize natural gas only for water heating, the modeling utilized CalEEMod defaults for natural gas consumption in order to provide a more conservative analysis.

Stationary Sources

Stationary sources are based on stationary source equipment. It was assumed that each proposed building would include a backup diesel generator, to provide a conservative analysis. As the proposed project would generate an estimated electricity demand of 1,303,927 kilowatt-hours (kWh) per year with a normalized annual energy demand of approximately 179 kilowatts (kW), the proposed backup diesel generator(s) was assumed to total 358 horsepower. The backup generator was assumed to operate at the maximum 50 hours per year, as would be allowed under a stationary source permit issued by the BAAQMD. Should any stationary source equipment or operation be used during future project operations, the project proponent would be required to apply for a permit with the BAAQMD, under Rule 2, Regulation 2 New Source Review, to ensure that any emissions generated by the new equipment or operation would not exceed BAAQMD's significance thresholds for criteria pollutants, ozone precursors, GHG emissions, or human health impacts.⁸

Construction- and Operation-related Toxic Air Contaminants

TACs are air pollutants in minuscule amounts in the air that could increase the chances of experiencing health problems if a person receives exposure to them. Exposures to TAC emissions can have both chronic long-term (over a year or longer) and acute short-term (over a period of hours) health impacts. Construction-period TAC emissions could contribute to increased health risks to nearby residents or other sensitive receptors.

This analysis assesses the potential health impacts to surrounding sensitive receptors resulting from TAC emissions during project construction. The TACs of greatest concern are those that cause serious

⁸ Bay Area Air Quality Management District (BAAQMD). 2017. Regulation 2 Permits Rule 2 New Source Review. December 6.

health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects. Some health problems occur soon after a person inhales TACs. These immediate effects may be minor, such as watery eyes; or they may be serious, such as life-threatening lung damage. Other health problems may not appear until many months or years after a person’s first exposure to the TAC. Cancer is one example of a delayed health problem.

Fine particle pollution can be emitted directly or formed secondarily in the atmosphere. PM_{2.5} health impacts are important because their size can be deposited deep in the lungs, causing respiratory effects. For the purposes of this analysis, exhaust emissions of DPM are represented as exhaust emissions of PM_{2.5}. Studies indicate that DPM poses the greatest health risk among airborne TACs. A 10-year ARB research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic long-term health risk. DPM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel-fueled internal combustion engines emit DPM, the composition of the emissions varies depending on engine type and age, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. The CalEEMod emissions model has been used to estimate DPM emissions during construction of the proposed project.

Odors

The BAAQMD thresholds for odors are qualitative based on BAAQMD Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health, or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury, or damage to business or property. Under BAAQMD Rule 1-301, the BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.

Table 3.2-10 shows the screening distances for various land uses that are considered to have objectionable odors.⁹

Table 3.2-10: BAAQMD Odor Screening-level Distances Thresholds

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile

⁹ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May.

Land Use/Type of Operation	Project Screening Distance
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles
Source: Bay Area Air Quality Management District (BAAQMD) 2017.	

3.2.5 - Thresholds of Significance

The lead agency utilizes the criteria in the CEQA Guidelines Appendix G Environmental Checklist to determine whether impacts to related to air quality are significant environmental effects. Would the project:

- a) Conflict with or obstruct implementation of the applicable Air Quality Plan;
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard;
- c) Expose sensitive receptors to substantial pollutant concentrations (and thereby possibly cause substantial adverse effects on human beings, directly or indirectly); or
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Additional guidance on the significance of air quality impacts is found in CEQA Guidelines Section 15065, subdivision (a)(4), which provides that a lead agency shall find that a project may have a significant effect on the environment if “the environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.” According to the California Supreme Court, this “mandatory finding of significance” applies to potential effects on public health from environmental impacts such as those associated with air pollutant emissions from projects (*California Business Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, 386-392.).

Significance Criteria

The preceding thresholds of significance are stated in general terms. It is therefore desirable to formulate additional, more precise thresholds based on guidance from the BAAQMD, as is encouraged in Appendix G to the CEQA Guidelines. As explained earlier, BAAQMD’s May 2017 CEQA Air Quality Guidelines were prepared to assist in evaluating air quality impacts of projects and plans proposed within the Bay Area.¹⁰ The guidelines provide recommended procedures for evaluating potential air quality impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHGs.

Regional Significance Criteria

Table 3.2-11 shows the BAAQMD’s criteria for regional significance for project construction and operations.

Table 3.2-11: BAAQMD Regional (Mass Emissions) Air Pollutant Significance Thresholds

Pollutant	Construction Phase	Operational Phase	
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
PM ₁₀ and PM _{2.5} Fugitive Dust	Best Management Practices	None	None

Notes:
 NO_x = oxides of nitrogen
 PM₁₀ = particulate matter, including dust, 10 micrometers or less in diameter
 PM_{2.5} = particulate matter, including dust, 2.5 micrometers or less in diameter
 ROG = reactive organic gas
 Source: Bay Area Air Quality Management District (BAAQMD) 2017. California Environmental Quality Act Air Quality Guidelines. May.

If a project were to exceed the emissions in Table 3.2-11, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. In setting these thresholds, BAAQMD specifically framed them as dealing with cumulative effects.¹¹ Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with PM include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat,

¹⁰ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May.

¹¹ Bay Area Air Quality Management District (BAAQMD) 2017. California Environmental Quality Act Air Quality Guidelines, pages 2-1, 2-3, and 2-4. May.

decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions thresholds shown in Table 3.2-11, it is speculative to determine how exceeding regional thresholds would affect the number of days the region is in nonattainment—as mass emissions are not linearly correlated with concentrations of emissions—or how many additional individuals in the SFBAAB would be affected by the health effects cited above.

BAAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of emissions in the SFBAAB. At present, BAAQMD has not provided any methodology to assist local governments in reasonably and accurately assessing the specific connection between mass emissions of ozone precursors (e.g., ROG and NO_x) and other pollutants of concern on a regional basis and any specific effects on public health or regional air quality concentrations that might result from such mass emissions. The Department of General Services has therefore concluded that it is not feasible to predict how mass emissions of pollutants of regional concern from the proposed project could lead to specific public health consequences, changes in pollutant concentrations, or changes in the number of days for which the SFBAAB will be in nonattainment for regional pollutants.

Ozone concentrations, for instance, depend upon various complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground level ozone concentrations related to the NAAQS and CAAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. To achieve the health-based standards established by the EPA, the air districts prepare Air Quality Management Plans that detail regional programs to attain the Ambient Air Quality Standards (AAQS). However, if a project within the BAAQMD exceeds the regional significance thresholds, the proposed project could contribute to an increase in health effects in the basin until the attainment standards are met in the SFBAAB.

On the other hand, it is technically feasible to predict with reasonable accuracy the potential localized health consequences of localized pollutants such as TACs and PM_{2.5}. As discussed below, an HRA that addresses the potential for additional incidences of cancer resulting from both the construction-related emissions and the operational emissions of the proposed project has been prepared.

Consistency with Air Quality Plan

The applicable Air Quality Plan (AQP) is 2017 Clean Air Plan, which identifies measures to:

- Reduce emissions and reduce ambient concentrations of air pollutants;
- Safeguard public health by reducing exposure to the air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and
- Reduce GHG emissions to protect the climate.

A project would conflict with or obstruct implementation of an applicable AQP (i.e., 2017 Clean Air Plan) if it would result in substantial new regional emissions not foreseen in the air quality planning process.

Local CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which is 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). However, with the turnover of older vehicles, the introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in the attainment of the California and National AAQS, and CO concentrations in the SFBAAB have steadily declined. Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if all the following criteria are met:

- The project would be consistent with an applicable congestion management program established by the local Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans;
- The project would not increase traffic volumes at impacted intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at impacted intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).¹²

Community Risk and Hazards

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and PM_{2.5} because emissions of these pollutants can have significant health impacts at the local level. The proposed project would generate TACs and PM_{2.5} during construction activities that could elevate concentrations of air pollutants at the nearby school and residential sensitive receptors. The BAAQMD has adopted screening tables for air toxics evaluation during construction.¹³ Construction-related TAC and PM_{2.5} impacts should be addressed on a case-by-case basis, considering each project's specific construction-related characteristics and proximity to off-site receptors, as applicable.¹⁴

A site-specific analysis of TACs and PM_{2.5} impacts on sensitive receptors was conducted. The thresholds identified below are applied to the proposed project's construction and operational emission generation.

¹² Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May.

¹³ Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program, Health Risk Screening Analysis Guidelines. January.

¹⁴ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May.

Community Risk and Hazards: Project Level

Project-level emissions of TACs or PM_{2.5} from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- An excess cancer risk level of more than 10 in 1 million, or a non-cancer (i.e., chronic or acute) HI greater than 1.0 would be a significant cumulatively considerable contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5} from a single source would be a significant cumulatively considerable contribution.

Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the proposed project, meets any of these conditions:

- Has excess cancer risk levels of more than 100 in 1 million or a chronic non-cancer HI (from all local sources) greater than 10.0.
- Exceeds 0.8 µg/m³ annual average PM_{2.5}.

In February 2015, the Office of Environmental Health Hazard Assessment (OEHHA) adopted new HRA guidance that includes several efforts to be more protective of children's health. These updated procedures include age sensitivity factors to account for the higher sensitivity of infants and young children to cancer-causing chemicals and age-specific breathing rates.¹⁵

Odors

As stated previously, the BAAQMD thresholds for odors are qualitative based on BAAQMD Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health, or safety of any such persons or the public; or which causes, or has a natural tendency to cause, injury, or damage to business or property.

The BAAQMD does not have a recommended odor threshold for construction activities. However, the BAAQMD recommends operational screening criteria that are based on the distance between receptors and types of sources known to generate odors. For projects within the screening distances, the BAAQMD has the following threshold for project operations:

¹⁵ Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments. February.

An odor source with five or more confirmed complaints per year averaged over 3 years is considered to have a significant impact on receptors within the screening distance shown in Table 3.2-10 above.

Two circumstances have the potential to cause odor impacts:

1. A source of odors is proposed to be located near existing or planned sensitive receptors, or
2. A sensitive receptor land use is proposed near an existing or planned source of odor.

3.2.6 - Project Impacts and Mitigation Measures

Proposed Project Analysis and Conclusion

Consistency with Air Quality Plan

Impact AIR-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

The project site is located in the San Francisco Bay Area Air Basin (Air Basin), where the BAAQMD regulates air quality. The EPA is responsible for identifying nonattainment and attainment areas for each criteria pollutant within the Air Basin. The Air Basin is designated nonattainment for State standards for 1-hour and 8-hour ozone, 24-hour respirable particulate matter (PM₁₀), annual PM₁₀, and annual fine particulate matter (PM_{2.5}).¹⁶

The BAAQMD has adopted several air quality policies and plans to address regional air quality, the most recent of which is the 2017 Clean Air Plan. The 2017 Clean Air Plan was adopted in April of 2017 and serves as the regional AQP for the Air Basin for attaining NAAQS and CAAQS. The primary goals of the 2017 Clean Air Plan are to protect public health and protect the climate. The 2017 Clean Air Plan acknowledges that the BAAQMD's two stated goals of protection are closely related. As such, the 2017 Clean Air Plan identifies a wide range of control measures intended to decrease both criteria pollutants¹⁷ and GHG emissions.¹⁸ The 2017 Clean Air Plan also accounts for projections of population growth provided by the ABAG and VMT provided by the MTC and identifies strategies to bring regional emissions into compliance with federal and State air quality standards. The project site is within the geographic purview of the 2017 Clean Air Plan, and the Department of General Services finds the 2017 Clean Air Plan is an appropriate framework by which to study the project. Accordingly, the project would be judged to conflict with or obstruct implementation of the 2017 Clean Air Plan if it would result in substantial new regional emissions not foreseen in the air quality planning process.

¹⁶ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act. Air Quality Guidelines. May.

¹⁷ The EPA has established National Ambient Air Quality Standards (NAAQS) for six of the most common air pollutants—carbon monoxide, lead, ground level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide—known as “criteria” air pollutants (or simply “criteria pollutants”).

¹⁸ A greenhouse gas (GHG) is any gaseous compound in the atmosphere that is capable of absorbing infrared radiation, thereby trapping and holding heat in the atmosphere. By increasing the heat in the atmosphere, greenhouse gases are responsible for the greenhouse effect, which ultimately leads to global warming.

The BAAQMD does not provide a numerical threshold of significance for project-level consistency analysis with AQPs. Therefore, for purposes of this project, the following criteria will be used for determining a project's consistency with the AQP.

- **Criterion 1:** Does the project support the primary goals of the AQP?
- **Criterion 2:** Does the project include applicable control measures from the AQP?
- **Criterion 3:** Does the project disrupt or hinder implementation of any AQP control measures?

Criteria 1: Support Primary Goals of AQP

The primary goals of the 2017 Clean Air Plan, the current AQP to date, are to:

- Attain air quality standards.
- Reduce population exposure to unhealthy air and protecting public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

A measure for determining whether the proposed project supports the primary goals of the AQP is if the proposed project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQP. This measure is determined by evaluating whether the proposed project was reasonably accounted for in the AQP.

The BAAQMD estimates the regional emissions inventory for the Air Basin, in part, from the regional population, housing, and employment projections developed by ABAG and the MTC. These demographic trends are incorporated into Plan Bay Area 2040, compiled by ABAG and the MTC, to determine priority transportation projects and estimate VMT in the Bay Area. The 2017 AQP also lists the Regional Housing Needs Allocation as an external policy, plan, or program that complements the 2017 AQP, noting that the Regional Housing Needs Allocation must be consistent with Plan Bay Area's 2040 Sustainable Communities Strategy. Therefore, these regional demographic and housing projections are reflected in the emissions inventory for the 2017 Clean Air Plan. As such, projects consistent with Plan Bay Area 2040 are considered consistent with the applicable AQP, the 2017 Clean Air Plan. Large projects that exceed regional employment, population, and housing planning projections have the potential to be inconsistent with the regional inventory compiled as part of the 2017 Clean Air Plan.

As stated in Section 2.2.1, Proposed Project, the proposed project includes construction of up to 250 new apartments, including approximately 135 units available to Low to Moderate Income educators working in Marin County and employees of the County of Marin and up to 115 units available to Extremely Low to Low Income residents. The County's 2022 population estimate is 257,135 people and, as provided by the CalEEMod output, the project is to result in a population of approximately 600 people.¹⁹ As the Plan Bay Area 2040 forecasted the County of Marin to experience a population of

¹⁹ California Department of Finance (CDF). 2022. Estimates -E-1 Population Estimates for Cities, Counties, and the State – January 1, 2021 and 2022. Website: <https://dof.ca.gov/forecasting/demographics/estimates-e1/>. Accessed September 15, 2022.

265,875 people in 2020,²⁰ the proposed project would be within the growth assumptions contained in the Plan Bay Area 2040 and, by extension, the AQP. Importantly, the project would not induce new growth but would accommodate an existing demand for housing underserved populations on a site located approximately 0.5 mile from public transit, in a location that implements policies directed toward the reduction of air emissions. Furthermore, the 250 new units are within the 3,569 units required in unincorporated Marin County and 10,836 units required in incorporated Marin County under ABAG’s Final Regional Housing Needs Allocation (RHNA) Plan for the San Francisco Bay Area from 2023-2031. Therefore, the proposed project would be consistent with the population, employment, and housing planning projections used in the AQP.

Furthermore, as discussed in Criteria 2 and Criteria 3, the proposed project includes applicable control measures from the 2017 AQP, and does not disrupt or hinder implementation of any AQP control measures.

As discussed under Impact AIR-2 and Impact AIR-3 and in Section 3.7, Greenhouse Gas Emissions, implementation of the proposed project would not exceed the BAAQMD operational or construction thresholds for criteria pollutants and would not result in a significant GHG impact. As such, development of the project site is consistent with the primary goals of the 2017 Clean Air Plan as stated above.

Criteria 2: Assumptions in AQP

The 2017 Clean Air Plan contains control measures to reduce air pollutants and GHGs at the local, regional, and global levels. Along with the traditional stationary, area, mobile source, and transportation control measures, the 2017 Clean Air Plan contains many control measures designed to protect the climate and to promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary mobile sources. The 2017 Clean Air Plan also includes an account of the implementation status of control measures identified in the prior 2010 Clean Air Plan.

Table 3.2-12 lists the relevant Clean Air Plan policies to the proposed project and evaluates its consistency with the policies. As shown below, the proposed project would be consistent with applicable measures.

Table 3.2-12: Project Consistency with Applicable Clean Air Plan Control Measures

Control Measure	Project Consistency
Buildings Control Measures	
BL1: Green Buildings	Consistent. The proposed project would not conflict with implementation of this measure. The proposed project would comply with the latest energy efficiency standards and incorporate applicable energy efficiency features designed to reduce project energy consumption.

²⁰ Association of Bay Area Governments (ABAG). 2017. Projections 2040. Website: <http://projections.planbayarea.org/data>. Accessed September 15, 2022.

Control Measure	Project Consistency
BL4: Urban Heat Island Mitigation	Consistent. The proposed project would provide 35,000 square feet of landscaping which would serve to reduce the urban heat island effect and would include the planting of shade trees.
Energy Control Measures	
EN1: Decarbonize Electricity Generation EN2: Decrease Electricity Demand	Consistent. The project applicant would, at a minimum, be required to conform to the energy efficiency requirements of the California Building Standards Code, also known as Title 24. The 2022 Title 24 Standards are the State building regulations, which went into effect on January 1, 2023. Proposed buildings that would receive building permits after January 1, 2023, would be subject to the 2022 Title 24 Standards, including the requirements related to appliances and energy efficiency.
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	Consistent. The proposed project would include approximately 35,000 square feet of landscaped area. Plantings would include trees, shrubs, and groundcover.
WA3: Green Waste Diversion	Consistent. The waste service provider for the proposed project will be required to meet the Assembly Bill (AB) 341 and Senate Bill (SB) 939 and SB 1374 requirements that require waste service providers to divert green waste. All vegetation refuse generated during operations of the proposed project would be disposed of off-site by the waste service provided.
WA4: Recycling and Waste Reduction	Consistent: The waste service provider for the proposed project will be required to meet the AB 341, SB 939 and SB 1374 requirements that require waste to be recycled.
Stationary Control Measures	
SS36: Particulate Matter from Trackout	Consistent. Mud and dirt that may be tracked out onto the nearby public roads during construction activities shall be removed promptly by the contractor based on BAAQMD’s requirements.
SS37: Particulate Matter from Asphalt Operations	Consistent. Asphalt used during the construction of the proposed project would be subject to BAAQMD Regulation 8, Rule 15-Emulsified and Liquid Asphalts. Although this rule does not directly apply to the proposed project, it does limit the reactive organic gas (ROG) content of asphalt available for use during construction through regulating the sale and use of asphalt. By using asphalt from facilities that meet

Control Measure	Project Consistency
	BAAQMD regulations, the proposed project would be consistent with this Clean Air Plan measure.
Transportation Control Measures	
TR9: Bicycle and Pedestrian Access and Facilities.	Consistent. In the project area, there is a Class I multiuse path on the south side of East Sir Francis Drake Boulevard, Class II bike lanes on Andersen Drive, and a Class II bike lane on the south side of the East Sir Francis Drake Boulevard that continues on to I-580 as a Class IV bikeway on the north side that connects to Francisco Boulevard East. In addition, the proposed project would include approximately 1,500 linear feet of pedestrian walkways and provide approximately 16 short-term and approximately 30 long-term bicycle parking spaces on-site. The proposed pedestrian crosswalk would also allow bicycles to connect from the project site to the Class I multiuse path on the south side of East Sir Francis Drake Boulevard. Therefore, the proposed project would not conflict with the BAAQMD’s efforts to encourage planning for bicycle and pedestrian facilities.
Source: Bay Area Air Quality Management District (BAAQMD). 2017. Final 2017 Clean Air Plan. April 19. Website: https://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en . Accessed August 12, 2021.	

In summary, the proposed project would not conflict with any applicable measures under the 2017 Clean Air Plan; therefore, the proposed project would be consistent with Criterion 2.

Criteria 3: Control Measures

The proposed project is located close to a range of public transit options and therefore would not discourage the use of public transit and active transportation. The proposed project would not preclude the extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. Considering this information, the proposed project would not disrupt or hinder implementation of any AQP control measures therefore it is consistent with Criterion 3.

Summary

As addressed above, the proposed project would be consistent with all three criteria. Thus, the proposed project would not conflict with the 2017 Clean Air Plan and this impact would be less than significant. Therefore, the proposed project would not result in new or more severe impacts related to conflicts with or obstructions to the applicant AQP than what was previously analyzed in the Marin Countywide Plan.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

Cumulative Criteria Pollutant Emissions Impacts

Impact AIR-2: **The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.**

This impact is related to the cumulative effect of a project's regional criteria pollutant emissions. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The cumulative analysis focuses on whether a specific project would result in cumulatively considerable emissions. According to Section 15064(h)(4) of the CEQA Guidelines, the existence of significant cumulative impacts caused by other projects alone does not constitute substantial evidence that a project's incremental effects would be cumulatively considerable. Rather, the determination of cumulative air quality impacts for construction and operational emissions is based on whether the project would result in mass emissions that exceed the BAAQMD regional thresholds of significance for construction and operations on a project level. The significance thresholds represent the allowable amount of emissions each project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed the BAAQMD thresholds of significance on the project level would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. Construction and operational emissions are discussed separately below.

Construction

During construction, fugitive dust would be generated principally from site preparation, site grading, and other earthmoving activities. Exhaust emissions would also be generated from the operation of the off-road construction equipment and on-road construction vehicles.

Construction Fugitive Dust

The BAAQMD does not recommend a numerical threshold for fugitive dust PM emissions. Instead, the BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented, referred to as Best Management Practices (BMPs). If all appropriate emissions control measures are implemented for a project as recommended by the BAAQMD, then fugitive dust emissions during construction are not considered significant. The proposed project would be required to incorporate various BAAQMD-recommended dust control measures during project construction. A mitigation measure, MM AIR-2, has been incorporated as part of the proposed project to ensure compliance with BAAQMD-recommended dust control measures. With incorporation of the required BAAQMD BMPs, short-term construction impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation would be less than significant for fugitive dust.

Construction Air Pollutant Emissions: ROG, NO_x, PM₁₀, and PM_{2.5}

Construction emissions were estimated using CalEEMod Version 2022.1. CalEEMod provides a consistent platform for estimating construction and operational emissions from a wide variety of

land use projects and is the model recommended by the BAAQMD for estimating project emissions. Construction emissions were then analyzed against the applicable thresholds of significance established by the BAAQMD for ROG, NO_x, exhaust PM₁₀, and exhaust PM_{2.5} to determine significance for this impact. The predominant activity which would generate ROG, NO_x, exhaust PM₁₀, and exhaust PM_{2.5} during project construction would be the operation of construction equipment and vehicles.

Construction of the proposed project is expected to start in the third quarter of 2023 and be completed by the third quarter of 2025, taking approximately 27 months to complete. For the purpose of this analysis, construction of the proposed project was assumed to correspond to these dates. If the construction schedule moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements that would affect future construction equipment. The duration of construction activities and associated equipment represent a reasonable approximation of the expected construction fleet as required by CEQA Guidelines.

In addition, as displayed in Table 3.2-13 construction of the proposed project would involve the off-haul and replacement of an estimated 5,000 cubic yards of soil and 431 tons of demolition debris. As previously discussed, soils excavated during grading activities are contaminated and would therefore need to be hauled to an accepting facility. The nearest facility which accepts contaminated soils is the Transfer/Process Facility (SWIS Number 15-AA-0400) at 18613 Waterflood Road, Lost Hills, California 93249, approximately 260 miles from the project site.

As the project site is located within the BAAQMD's jurisdiction, emissions generated in the BAAQMD area should be analyzed against BAAQMD significance thresholds. Because the hauling truck trips would originate from a development project within the BAAQMD jurisdiction, all project construction emissions are analyzed herein against BAAQMD significance thresholds. However, hauling truck trips would travel approximately 66 miles before entering areas under the San Joaquin Valley Air Pollution Control District's (Valley Air District) jurisdiction just west of the City of Tracy. Therefore, the soil hauling truck travel distance of 194 miles was modeled separately and analyzed against the Valley Air District's significance thresholds. Construction emissions under the BAAQMD's jurisdiction, which include all soil hauling activities and the full hauling distance of 260 miles, are displayed in Table 3.2-13 and compared against the appropriate BAAQMD significance thresholds. Construction emissions under the Valley Air District's jurisdiction, which includes only soil hauling along the 194 miles within Valley Air District jurisdiction, are displayed in Table 3.2-14 and compared against the appropriate Valley Air District significance thresholds. It should be noted that the proposed project includes a project design feature to utilize Tier 4 or Tier 4 compliant construction equipment. Therefore, the emissions provided in Tables 3.2-13 and 3.2-14 show the mitigated CalEEMod emissions to provide for this design feature. The CalEEMod mitigated values also incorporate the BAAQMD Basic Construction Measures (see below) of watering two times per day and limiting vehicle speeds.

Table 3.2-13: Construction Emissions under BAAQMD Jurisdiction

Emissions	Criteria Pollutant Emissions (pounds/day)			
	ROG	NO _x	PM ₁₀ (Exhaust)	PM _{2.5} (Exhaust)
Average Daily Emissions (Pounds/Day)	27.7	53.3	0.6	0.59
BAAQMD Significance Thresholds (Pounds/Day)	54	54	82	54
Significant Impact?	No	No	No	No
Notes: BAAQMD = Bay Area Air Quality Management District NO _x = nitrogen oxides PM ₁₀ = particulate matter, including dust, 10 micrometers or less in diameter PM _{2.5} = particulate matter, including dust, 2.5 micrometers or less in diameter ROG = reactive organic gases Source: Appendix B.				

Table 3.2-14: Construction Emissions under Valley Air District Jurisdiction

Construction Activity	Criteria Pollutant Emissions (Tons)					
	ROG	NO _x	CO	SO _x	PM ₁₀ (Total)	PM _{2.5} (Total)
Grading (Soil Hauling)	0.02	3.54	0.38	0.02	0.91	0.29
Valley Air District Significance Thresholds (Tons/Year)	10	10	100	27	15	15
Significant Impact?	No	No	No	No	No	No
Notes: Totals may not add up due to rounding. CO = carbon monoxide NO _x = nitrogen oxides PM ₁₀ = particulate matter, including dust, 10 micrometers or less in diameter PM _{2.5} = particulate matter, including dust, 2.5 micrometers or less in diameter ROG = reactive organic gases SO _x = sulfur oxide Source: Appendix B.						

As shown in Table 3.2-13 and Table 3.2-14, none of the criteria pollutant or ozone precursor emissions would exceed the applicable significance thresholds during project construction. Therefore, with incorporation of the project design feature utilizing Tier 4 Interim construction equipment, construction emissions would be considered less than significant.

Furthermore, as discussed above, construction contractors are required to follow the BAAQMD Basic Construction Measures, below, which will further support reductions in particulate matter emissions.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Operation

Operational Air Pollutant Emissions: ROG, NO_x, PM₁₀, and PM_{2.5}

Operational emissions would include area, energy, mobile, and stationary sources. Area sources would include emissions from architectural coatings, consumer products, and landscaping equipment. Energy sources include emissions from the on-site combustion of natural gas for water heaters. Mobile sources include exhaust and road dust emissions from the automobiles that would travel to and from the project site. Stationary sources include emissions from stationary source equipment, such as backup generators, that would require a permit issued by the BAAQMD, which a backup generator is anticipated for the proposed project. Pollutants of concern for project operations include ROG, NO_x, PM₁₀, and PM_{2.5}.

As previously discussed, project operations were analyzed at full buildout in 2025. According to the TIS prepared for the proposed project (Appendix I), the proposed project would generate an estimated 1,360 vehicle trips per day.

Operational emission estimates are presented in Table 3.2-15 and analyzed against the applicable BAAQMD significance thresholds. For detailed assumptions and calculations used to estimate emissions, see Appendix B.

Table 3.2-15: Unmitigated Operational Emissions

Emission Source	Criteria Pollutant Emissions (Tons/Year)			
	ROG	NO _x	PM ₁₀ (Total)	PM _{2.5} (Total)
Annual Emissions Analysis				
Maximum Annual Emissions (Tons/Year)	2.38	0.79	0.46	0.10
BAAQMD Significance Thresholds (Pounds/Day)	10	10	15	10
Significant Impact?	No	No	No	No
Average Daily Emissions				
Average Daily Emissions (Pounds/Day)	19.2	19.8	3.41	1.43
BAAQMD Significance Thresholds (Pounds/Day)	54	54	82	54
Significant Impact?	No	No	No	No
Notes: BAAQMD = Bay Area Air Quality Management District lbs. = pounds NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns in diameter PM _{2.5} = particulate matter 2.5 microns in diameter ROG = reactive organic gases Source: CalEEMod Output (see Appendix B).				

As shown in Table 3.2-15, the proposed project would not result in operational emissions that exceed the BAAQMD’s significance threshold. Therefore, the proposed project would not exceed applicable BAAQMD significance thresholds under the scenario presented in Table 3.2-15 and would not result in a potentially significant impact to air quality during project operation.

Operational Carbon Monoxide Hotspot

The CO emissions from traffic generated by the proposed project are a concern at the local level. Congested intersections can result in high, localized concentrations of CO.

The BAAQMD recommends a screening analysis to determine whether a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The proposed project would result in a less than significant impact to air quality for local CO if all the following screening criteria are met:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and

3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As indicated in the TIS (Appendix I), no intersections impacted by the proposed project would experience traffic volumes of 44,000 vehicles per hour. According to the TIS, the study intersection which would experience the most traffic volume during the “Existing Plus Project Traffic Volumes” scenario during AM and PM peak-hours would be the intersection of Drakes Cove Road and East Sir Francis Drake Boulevard. As discussed in the TIS, that intersection would experience an estimated 1,478 AM peak-hours vehicle trips and 1,503 PM peak-hour vehicle trips with the implementation of the proposed project. Therefore, the proposed project would not result in any nearby intersection having peak-hour traffic volumes exceeding 44,000 vehicles per hour.

CO hotspots can occur when a transportation facility’s design or orientation prevents the adequate dispersion of CO emissions from vehicles, resulting in the accumulation of local CO concentrations. The design or orientation of a transportation facility that may prevent the dispersion of CO emissions include tunnels, parking garages, bridge underpasses, natural or urban canyons, below-grade roadways, or other features where vertical or horizontal atmospheric mixing is substantially limited. Adjacent roadways that would receive new vehicle trips generated by the proposed project do not include roadway segments where vertical or horizontal atmospheric mixing is substantially limited.

Finally, the proposed project would not conflict with the Congestion Management Plan (CMP) developed by the Transportation Authority of Marin as discussed in the TIS. As discussed in the TIS, all studied roadway segments and intersections within the CMP would operate at acceptable levels with traffic generated by the proposed project in combination with existing traffic levels. Therefore, based on the above criteria, the proposed project would not exceed the CO screening criteria and would have a less than significant impact related to CO.

Overall

With incorporation of project design features, construction emissions associated with the proposed project would not exceed the applicable BAAQMD significance thresholds, and the proposed project would not result in any operational emissions beyond the BAAQMD’s significance thresholds. However, to ensure compliance with BAAQMD Basic Construction Measures, the project will implement MM AIR-2. In addition, the proposed project would not exceed the CO screening criteria and would have a less than significant impact related to CO.

Level of Significance

Potentially significant impact.

Mitigation Measures

MM AIR-2 Implement Basic Construction Measures During Construction

Prior to issuance of a grading permit or building permit, whichever is sooner, the project applicant shall require all construction contractors to implement the basic

construction mitigation measures recommended by the Bay Area Air Quality Management District (BAAQMD). Emission reduction measures shall include, at a minimum, the following measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Level of Significance After Mitigation

Less than significant impact.

Sensitive Receptors Exposure to Pollutant Concentrations

Impact AIR-3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations.

The proposed project could expose sensitive receptors to elevated pollutant concentrations if it causes or contributes significantly to elevated pollutant concentration levels. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

Construction-Related Diesel Particulate Matter

The project is a residential project and will not be a source of operational toxic air contaminants. However, as the proposed project includes development of land with existing residential uses either adjacent, or within close proximity, to the project site, a construction HRA was prepared for the proposed project and is summarized below.

The ARB has identified DPM as a carcinogenic air contaminant. Major sources of DPM include off-road construction equipment and heavy-duty delivery truck and worker activities. Therefore, the

proposed project could expose sensitive receptors to elevated pollutant concentrations if it causes or contributes significantly to elevated pollutant concentration levels. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects. The modeling results and calculations used for the HRA are contained in Appendix B.

The BAAQMD has adopted screening tables for air toxics evaluation during construction.²¹ The project would result in a significant construction TAC or PM_{2.5} impact if it exceeds an excess cancer risk level of more than 10 in 1 million, a non-cancer (chronic or acute) HI greater than 1.0, or an increase greater than 0.3 µg/m³ annual average PM_{2.5} from a single source. Construction DPM emissions (represented as PM_{2.5} exhaust) were estimated using CalEEMod Version 2022.1. Table 3.2-16 and Table 3.2-17 present a summary of the results of the modeling parameters.²²

Table 3.2-16: Construction-Based Emission Factors

Year ¹	tons/year of DPM	Duration
2023	0.037769231	1-year exposure
2024-2025	0.008181818	2-year exposure
³ Notes: Construction is anticipated begin third quarter of 2023 and last approximately 27 months. Source: CalEEMod Annual Construction Emissions (see Appendix B).		

Table 3.2-17: General Modeling Assumptions—AERMOD Model

Feature	Option Selected
Terrain processing	AERMAP-generated NED GEOTIFF 30 m
Regulatory dispersion options	Default
Land use	Urban
Coordinate system	UTM Zone 10 North
Building downwash	Included in calculations (as applicable)
Meteorological data	San Francisco International Airport Meteorological Data

Table 3.2-18 presents a summary of the results of the HRA prepared for the proposed project during project construction.

Sensitive receptors within close proximity to the project site include existing residential uses to the west along Drakes Cove Road and Drakes Cove Court, to the northwest along Drakes Way, and to the east within San Quentin just east of Sir Francis Drakes Boulevard. Based on the HRA modeling, a

²¹ Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program, Health Risk Screening Analysis Guidelines.

²² Meteorological data from the San Francisco International Airport station was requested from and provided by BAAQMD. The files provided included records that were out of sequence; therefore, in order for AERMOD to utilize the provided meteorological data, the user had to check non-default as well as the no check for non-sequential met data.

Maximally Impacted Sensitive Receptor (MIR) was identified among the different modeling scenarios to identify the proposed project’s worst-case health impacts. The following lists the MIR identified during project construction.

- Off-Site Residential MIR: Single-family residential use, approximately 65 feet west of the project site (Receptor 1, 2 Drakes Cove Road, Larkspur).

Based on the modeling, the highest risk corresponds to the infant risk (see calculations included in Appendix B). Therefore, Table 3.2-18 summarizes the construction cancer risk and hazard index results for the infant scenario for the MIR. It should be noted that cancer risk and chronic non-cancer hazards shown in Table 3.2-18 account for the implementation of the project design feature utilizing Tier 4 Interim construction equipment as well as the application of the BAAQMD’s fugitive dust BMPs.²³ However, the BAAQMD’s fugitive dust BMPs only affect emissions of fugitive dust and not vehicle exhaust or DPM emissions.

Table 3.2-18: Unmitigated Cancer Risks and Chronic Non-Cancer Hazards

Scenario	Cancer Risk ¹ (risk per million)	Chronic Non-Cancer Hazard Index ²	TAC Concentration ³ (µg/m ³)
Residential MIR Impact			
2023 (1 year)	0.129	0.005	0.025
2023-2024 (2 year)	0.774	0.001	0.006
Thresholds of Significance	10	1	0.3
Exceeds Individual Source Threshold?	No	No	No
Notes: µg/m ³ = micrograms per cubic meter MIR = Maximally Impacted Sensitive Receptor TAC = toxic air contaminants ¹ Cancer risk calculations included in Appendix B. Totals may not add up due to rounding. ² Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (PM _{2.5} exhaust) by the DPM REL of 5 µg/m ³ . Totals may not add up due to rounding. Calculations included in Appendix B. ³ DPM concentrations are drawn directly from AERMOD modeling results. Totals may not add up due to rounding. Emission Concentration Source: Appendix B. Thresholds Source: Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May.			

As shown in Table 3.2-18, construction of the proposed project would emit construction-related DPM emissions that would not exceed the BAAQMD’s recommended thresholds. Therefore, construction of the proposed project is determined to not result in potentially significant impacts related to cancer risk, chronic non-cancer hazard, and TAC concentration during project construction.

Furthermore, as previously stated, the proposed project is anticipated to export approximately 5,000 cubic yards of soil which could be contaminated. Therefore, the excavation of contaminated soils

²³ Use of Tier 4 Interim construction equipment is shown in the CalEEMod modeling output under the mitigated scenario.

could expose workers and the public to hazardous materials in dust or vapors that could be released from contaminated soil or groundwater. However, the project would be required to adhere to federal, State, and regional regulations, which would result in less than significant impacts related to public hazard risk because of hazardous materials upset. See Section 3.7, Hazards, for further information regarding existing on-site hazardous soils. Potential impacts associated with the former use of the site as a firing range are addressed in the creation and execution of a soil management plan that will test, segregate and dispose of all potentially contaminated soil is incorporated as MM HAZ-2 and would reduce impacts to a less than significant level. The proposed project would result in less than significant impacts to nearby existing and future sensitive receptors in accordance with the BAAQMD's project-level significance threshold.

Community Health Risk Assessment

As stated previously, cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. According to BAAQMD recommendations, cumulative health risk values are determined by adding the health risk values from refined modeling of the proposed project to the screening-level health risk values from each individual stationary and mobile source within a 1,000-foot radius of the site. A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the proposed project, meets any of these conditions:

- Has excess cancer risk levels of more than 100 in 1 million or a chronic non-cancer HI (from all local sources) greater than 10.0.
- Exceeds 0.8 $\mu\text{g}/\text{m}^3$ annual average $\text{PM}_{2.5}$.

Land uses within the 1,000-foot evaluation zone include residential, commercial, park, and vacant land. Using the BAAQMD Stationary Source Screening Map, there are no stationary sources within 1,000 feet of the project's property lines. However, the proposed project is in a BAAQMD Community Air Risk Evaluation (CARE) area. As the project is located in a CARE area, mobile source emissions including roadways with Average Daily Traffic (ADT) over 10,000 daily trips per day need to be evaluated for potential health risks to the proposed residential uses. The project site is located adjacent to Sir Francis Drake Boulevard, approximately 0.43 miles west of I-580, and approximately 0.59 miles east of US-101. In addition, the project site is approximately 0.8 miles east of the Larkspur Sonoma-Marin Area Rail Transit (SMART) Station and 0.3 miles east of the Golden Gate/Larkspur Ferry.

A community HRA was conducted in accordance with BAAQMD recommendations. The cumulative health risk values were determined by use of the BAAQMD raster tools for each individual mobile source in proximity to the project site. As stated previously, no stationary sources are located within the BAAQMD's suggested 1,000-foot radius for community HRAs. The cumulative health risk results, including health risks from all of the identified existing mobile sources, are summarized in Table 3.2-19. Cumulative health risk results shown therein are representative of the health risks to the on-site residential MIR, which would experience the greatest health impact of all identified MIRs.

Table 3.2-19: Summary of the Cumulative Health Impacts at the MIR

Source/Impact Scenario	Source Type	Distance from MIR ¹ (feet)	Cancer Risk (per million)	Chronic HI	PM _{2.5} Concentration (µg/m ³)
Roadways					
Existing Local Roadway Network		185	13.59	N/A	0.231
Rail					
Existing Rail Lines		3,485	0.355	N/A	<0.001
Freeways					
Existing Freeways ²		2,790	6.994	N/A	0.140
Ferry's					
Existing Ferry		1,965	11.696	0.003	0.015
Cumulative Health Risks					
Cumulative Maximum at MIR			32.635	0.003	0.387
BAAQMD's Cumulative Thresholds of Significance			100	10	0.8
Threshold Exceedance?			No	No	No
Notes: µg/m ³ = micrograms per cubic meter HI = hazard index MIR = Maximally Impacted Sensitive Receptor N/A = no data available PM _{2.5} = particulate matter 2.5 microns in diameter ¹ The MIR represents the MIR which experienced the greatest cancer risk impact among all project MIRs. The MIR is located at latitude 37°56'38.31"N and longitude 122°30'4.82"W. ² Interstate 580 is located as close as approximately 2,790 feet north of the MIR, US-101 is located approximately 3,622 feet northwest of the MIR, and the Golden Gate/Larkspur Ferry is located approximately 1,965 feet west of the MIR. The nearest distance was provided in the table to describe the distance to the MIR. Source: Appendix B.					

As noted in Table 3.2-19, the cumulative impacts from existing sources of TACs would be less than the BAAQMD's cumulative thresholds of significance. Thus, the community health risk impacts from project construction would be less than significant.

Carbon Monoxide Hotspot

As discussed in Impact AIR-2, the proposed project would not generate sufficient vehicle traffic during project operation to substantiate creating a CO hotspot. Therefore, this impact would be less than significant with regard to exposing sensitive receptors to substantial concentrations of CO emissions. As such, the proposed project would result in less than significant impacts related to exposing sensitive receptors to substantial pollutant concentrations.

Overall

The proposed project would result in less than significant impacts to nearby existing and future sensitive receptors in accordance with the BAAQMD's project-level significance threshold. The cumulative impacts from implementation of the proposed project and existing sources of TACs would be less than the BAAQMD's cumulative thresholds of significance. Thus, the community health risk impacts would be less than significant. Therefore, this impact would be less than significant with regard to exposing sensitive receptors to substantial concentrations of CO emissions. As such, the proposed project would result in less than significant impacts related to exposing sensitive receptors to substantial pollutant concentrations.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

Objectionable Odors Exposure

Impact AIR-4: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As stated in the BAAQMD 2017 Air Quality Guidelines, odors are generally regarded as an annoyance rather than a health hazard. The ability to detect odors varies considerably among the populations and is subjective. The BAAQMD does not have a recommended odor threshold for construction activities. However, the BAAQMD recommends operational screening criteria that are based on the distance between receptors and types of sources known to generate odors. For projects within the screening distances, the BAAQMD has the following threshold for project operations:

An odor source with five or more confirmed complaints per year averaged over 3 years is considered to have a significant impact on receptors within the screening distance shown in Table 3.2-10 above.

Two circumstances have the potential to cause odor impacts:

1. A source of odors is proposed to be located near existing or planned sensitive receptors, or
2. A sensitive receptor land use is proposed near an existing or planned source of odor.

Construction

During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. Given the size of the project site, it is anticipated that by the time such emissions reach any receptor sites; odor emissions would be diluted to well below any air quality or odor concern level. Therefore, construction odor impacts would be less than significant.

Operation

The proposed project would involve the development of residences whose operations could lead to odors from associated laundry cleaning, vehicle exhaust, outdoor cooking, waste disposal, and emergency generator operations. However, such odors generated by project operation would be small in quantity and duration and would not pose an objectionable odor impact to future and existing receptors. The types of uses that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations, dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The proposed project would not involve the operation of any of these types of land uses.

As the proposed project would involve the development and operation of future residents, the potential could exist for existing nearby odor generators to create objectionable odors impacting future residents. As previously discussed, an odor source with five or more confirmed complaints per year, averaged over 3 years, is considered to have a substantial effect on receptors. There are currently four existing facilities that are within their respective screening distances to the project site. These facilities include Marin Sanitary Service located at 1050 Andersen Drive, San Rafael approximately 0.58 miles northwest of the project site; Central Marin Sanitation Agency located at 1301 Andersen Drive, San Rafael, approximately 0.26 miles northeast of the project site; Marin Hazardous Waste Facility located at 565 Jacoby Street, San Rafael, approximately 0.25 miles north of the project site; and Marin Recycling located at 535 Jacoby Street, San Rafael, approximately 0.55 miles northwest of the project site. An odor complaint record request was submitted to the BAAQMD to identify odor complaint histories for those facilities. In the last 3 years only one odor complaint in 2019 for Marin Recycling has been recorded. The other three facilities have no recorded odor complaints over the last 3 years. As only one odor complaint has been recorded for those over the last 3 years and the complaint was in 2019, the proposed project, as a receptor, would not result in a significant impact related to odors.²⁴ The existing facilities have existing residences within 1 mile and have not received any additional odor complaints in the last 3 years. Therefore, it is not expected that operations from these existing facilities would generate odors that would adversely affect a substantial number of people. As such, the proposed project would not introduce new sources of odors that would be considered potentially significant based on BAAQMD's guidance and would not introduce new sensitive receptors to any significant odor impacts. Therefore, the proposed project's impacts would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

²⁴ Bay Area Air Quality Management District (BAAQMD). 2022. Public Records Tracker.

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3.3 - Biological Resources

3.3.1 - Introduction

This section describes the existing biological setting and potential effects from implementation of the proposed project on the project site and the surrounding area. This section also identifies mitigation measures to reduce these potential effects to less than significant levels where applicable. Descriptions and analysis in this section are based on a Biological Resources Assessment (BRA) prepared by FCS, including floristic rare plant surveys conducted by Pinecrest Environmental Consulting (PEC), and a Preliminary Arborist Report prepared for the proposed project by HortScience Bartlett Consulting (HortScience). All supporting documents are contained in Appendix C. The purpose of the BRA is to (1) document existing and potentially occurring biological resources on the project site and adjacent areas; (2) analyze potential project-related impacts on regulated biological resources; (3) summarize relevant local, State, and federal regulations; and (4) recommend appropriate measures to mitigate potential impacts on biological resources to less than significant levels.

During the Draft Environmental Impact Report (Draft EIR) scoping period, the following comments were received related to the proposed project regarding Biological Resources:

- The Draft EIR should acknowledge the California Department of Fish and Wildlife (CDFW) as a trustee and Responsible Agency.
- The Draft EIR should review the CEQA Guidelines applicable to the Project Description.
- The Draft EIR should review the regulatory requirements applicable to the proposed project.
- The Draft EIR should review the CEQA Guidelines required for the environmental setting section.
- The Draft EIR should review the CEQA Guidelines required for the impact analysis and mitigation measures.
- The Draft EIR should review CEQA requirements for environmental data.
- The Draft EIR should describe CDFW filing fees.
- The Draft EIR should address the concern regarding project impact on existing wildlife on project site.
- The Draft EIR should address construction impacts on biological resources.
- The Draft EIR should evaluate the project impact on local endangered species and wildfire.

3.3.2 - Environmental Setting

The study area for the proposed project is defined as the project site as well as any areas surrounding the site that would be disturbed as a result of the proposed project.

Soils, Topography, and Hydrology

The study area is located on the toe of a ridge forming a peninsula extending into the northern San Francisco Bay. The western part of the study area consists of a relatively steep slope, while the eastern part consists of a terrace, including an area graded to accommodate a shooting range in the past. Elevations range from 20 feet above mean sea level (AMSL) on the western boundary, to 145 feet AMSL on the eastern hill slope. Subsequently, the site drains direct precipitation from the slopes east and north of the study area through the site via a network of first and second order ephemeral to intermittent drainage channels and conveys collected runoff through two channels and culverts under Sir Francis Drake Boulevard to the lagoon at Remillard Park, an impoundment of San Francisco Bay.

The Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) depicts two soil types within the project site, predominantly *Tocaloma-Saurin association, steep*; and a small area of *Xerothents, fill*.¹ The location and extent of these soil types are shown on Exhibit 3.3-1. *Tocaloma-Saurin association, steep* is a well-drained soil derived from parent material consisting of residuum weathered from sandstone and shale. It has no hydric soil rating and a typical profile includes bedrock, layered with very gravelly loam, layered with loam.

Vegetation Communities and Land Cover Types

The following section describes the vegetation communities and land cover types present on the study area.

Coyote Brush Scrub—Baccharis pilularis Shrubland Alliance

This vegetation type is one of the most common and robust woody vegetation types of the region. While individual coyote brush can be found scattered throughout the site, only a few disjunct areas are dominated by Coyote Brush Scrub, meeting the Manual of California Vegetation (MCV) definition of *Baccharis pilularis* Shrubland Alliance. Species composition of this vegetation type varies depending on successional development, with later stages of development being indicated by other shrub species co-dominating, specifically on this site consisting of French broom (*Genista monspessulana*) and poison oak (*Toxicodendron diversilobum*). Earlier stages show a substantial portion of non-native annual grassland intermixed.

Non-Native Annual Grassland—Avena spp.—Bromus spp. Herbaceous Seminal Alliance

This vegetation type is typically dominated by non-native annual grasses and annual or perennial forbs from dense to sparse cover with less than 10 percent tree cover. With a few exceptions, the plants are dead through the summer and fall dry season, persisting as seeds. This community usually occurs below 3,000 feet and is the most common herbaceous vegetation type of the region. This vegetation type is classified by the MCV as *Avena spp.—Bromus spp.* Herbaceous Semi-Natural Alliance, which has broad membership rules, but is dominated by a non-native annual grass species. Within the study area a few iterations of this alliance are present; *Avena* spp. greater than 70 percent cover and false brome (*Brachypodium distachyon*) and other brome species (*Bromus* spp.)

¹ Natural Resources Conservation Service (NRCS). 2021. Web Soil Survey (WSS). United States Department of Agriculture (USDA). Website: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed October 3, 2022.

greater than 60 percent cover. The herb layer in this alliance is less than 4 feet and cover ranges from open to continuous. Trees and shrubs may be present at low cover. This community is found on various substrates including foothills, waste spaces, rangelands, and openings in woods.

Non-native annual grassland is scattered throughout the study area. Some areas of this community have a species composition that trends towards ruderal; however, these are small enough to be considered part of the grassland matrix. Further, the flush of ruderal weeds may be a response to past disturbance. Individual scattered trees, including mature oak trees that occur within this habitat type are not considered their own vegetation type, but rather a component of the grassland matrix.

This community type is dominated by non-native annual grasses reaching a height of approximately two feet tall, unless grazed or mowed. The most predominant non-native grass species within the study area is slim oat (*Avena barbata*). Other common grass species include rattlesnake grass (*Briza maxima*), little rattlesnake grass (*Briza minor*), dogtail grass (*Cynosurus echinatus*), false brome, and others. A small patch of beardless wild rye (*Elymus triticoides*) and purple needlegrass (*Stipa pulchra*) occur; however, these patches are far below the CDFW-defined minimum mapping unit of 0.25-acre to be considered or mapped as separate, individual plant communities.

Purple Needlegrass–*Nassella pulchra*–*Avena* spp.–*Bromus* spp.–Oat Species–Brome species Grasslands

This vegetation community is categorized as having an open to dense herbaceous layer of *Nassella pulchra*, *Avena* spp., and *Bromus diandrus*. The overall herbaceous cover ranges from 19 to 86 percent. Non-native annual bromes and *Avena* spp. are greater than 35 percent of the herbaceous layer, while the native *Nassella pulchra* is usually five percent or more absolute cover and characterizes the stand. Elevations Statewide range from approximately 32 to 1,542 feet. Soil textures include fine clays and clay loams.

Specifically, this plant community on-site is consistent with the CDFW-defined California Natural Sensitive Community 41.150.05 *Nassella pulchra*–*Avena* spp.–*Bromus* spp. It consists of areas where purple needlegrass is dominant or characteristically present in the herbaceous layer with other perennial grasses and herbs, including the species found in the Non-Native Annual Grassland described above. Scattered emergent trees and shrubs are present at low cover.

Pampas Grass Patches–*Cortaderia jubata*, *C. selloana* Semi-Natural Herbaceous Stands

This vegetation community is defined by where *Cortaderia jubata* or *Cortaderia selloana* is dominant in the herbaceous and shrub canopies. Emergent trees and shrubs may be present at low cover. *Cortaderia* species invade and threaten California's native coastal vegetation types, particularly those in sensitive coastal dune and bluff scrub areas. Within the study area, this vegetation community is found as a dense patch on the northern hill slope. Individuals of pampas grass are scattered throughout the site within other vegetation communities, and primarily in more disturbed areas.

Coast Live Oak Woodland–*Quercus agrifolia* Woodland Alliance

Groupings of individual coast live oaks forming what can be considered parts of a woodland are found throughout the study area, but primarily on the lesser-disturbed slopes. Where they occur, it is predominantly as small stands often dominated by one mature, fully developed coast live oak with

smaller saplings recolonizing nearby, as part of the natural succession process from grassland to shrubland to woodland. Scattered individual coast live oaks that are not part of the coast woodland are present, but are included as constituents of other vegetation communities, as appropriate.

Broom Patches—Cytisus scoparius-Genista monspessulana-Cotoneaster spp. Shrubland

On-site, the dominant species of this vegetation community is French broom (*Genista monspessulana*), with presence of wooly and milkflower cotoneaster in the shrub canopy. Shrubs, including coyote shrub and emergent trees in the form of coast live oak are present at low cover. This vegetation community is the most abundant cover type of the project site and is an indicator of its disturbance history and its current intermediate successional state from grassland to shrubland to oak woodland.

Arroyo Willow Thickets—Salix lasiolepis Shrubland Alliance (riparian and non-riparian)

Arroyo willow (*Salix lasiolepis*) are dominant or co-dominant in the tall shrub or low tree canopy. On-site, this vegetation type persists as a small stand on the northern slope, and as a more substantial stand along the lower reach of the second-order tributary on the western the terrace. The population along the drainage appears to persist at this location because of the increased hydrological conditions associated with the flows, including subsurface flows of the drainage and the terrace landform, which allows water to saturate the soil more easily, and decrease drainage rates. Because of its clear association with the drainage, the Arroyo willow thicket at this location functions as a riparian community. The other occurrence of this vegetation type is not associated with a drainage channel, and therefore it is not classified as a riparian community.

Drainage Channels

The drainage channels on-site consist of first to second order ephemeral to intermittent tributaries to San Francisco Bay (through Remillard Lagoon) and are described in detail in the Aquatic Resources Delineation (Appendix C), which was verified by the U.S. Army Corps of Engineers (USACE). The drainage patterns have been significantly modified by excavating at least two sections, shown as Tributary Segments 1-3 and 1-4 (Exhibit 3.3-4). Specifically, Segment 1-3 is an artificial channel dug parallel to the slope to divert water around the former gun range, which does not drain effectively and is therefore saturated and ponds water much longer into the season than is typical for a natural drainage at this location. Ponding and saturation at one small section of this artificial channel allowed plant species adapted to wetter conditions to persist in trace amounts, including the rushes listed in the Plant List (Appendix C). However, these patches are substantially below the typical minimum mapping unit of 0.25 acre for plant community mapping and are therefore not addressed as a separate vegetation community. The only riparian vegetation community associated with these ephemeral to intermittent drainages is the Arroyo willow thicket described above.

Urban and Developed Land

Developed land includes areas that have been constructed upon or physically altered to an extent that native or semi-natural vegetation is no longer supported and retains no soil substrate. Developed land is characterized by permanent or semi-permanent structures, pavement or other hardscape, and landscaped areas that require active management. On-site, this landcover type

includes the paved access road and staging area, and the small utility structure found on the western terrace along East Sir Francis Drake Boulevard.

Common Wildlife

The vegetation community and land cover types discussed above provide habitat for numerous wildlife species. Wildlife activity was low during the field survey and consisted primarily of avian species. The following discussions regarding the wildlife species observed within the project site are organized by taxonomic group. Each discussion contains representative examples of a particular taxonomic group either observed or expected to occur on-site. Special-status wildlife species are addressed separately in the Special-Status Species Section, below.

Species

Amphibians

Due to the lack of reliable ponding and lack of substantial intermittent or perennial aquatic habitats, and the substantial barrier of Sir Francis Drake Boulevard, no substantial or sensitive amphibian use of the site is expected. Sierran treefrog (*Pseudacris sierra*) may be present if Tributary segment 1-3 ponds for a considerable time, but no individual of this species or evidence of the species were observed during site surveys.

Birds

Bird species observed directly on-site included red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), European starling (*Sturnus vulgaris*), mourning dove (*Zenaidura macroura*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), California scrub jay (*Aphelocoma californica*), house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), turkey vulture (*Cathartes aura*) and others. While most terrestrial avian species known to occur in the area may be observable foraging or dispersing on the site, nesting species would be limited to those species with a nesting habitat preference in grassland, shrubland and trees with a moderate tolerance of disturbance, such as common passerines, common dove species, local hummingbirds, corvids and certain birds of prey.

Mammals

White-tailed deer (*Odocoileus virginianus*) and a few woodrat nests likely from dusky footed woodrat (*Neotoma fuscipes ssp. fuscipes*) were observed on-site. Other mammals adapted to urban/wildland interface areas and expected to occur at least temporarily would include raccoon (*Procyon lotor*), Botta's pocket gopher (*Thomomys bottae*), and potentially coyote (*Canis latrans*). However, the ridge of the San Quentin peninsula to which the site is connected is surrounded on all sides by either open water or substantial and dense development, making it unlikely that terrestrial non-volant species that rely on larger areas of relatively undisturbed habitat can disperse to the site and establish self-sustaining populations. Tree-roosting common bat species tolerant of human disturbance, such as noise and light pollution and human trespassers and nearby development could potentially occur on-site.

Reptiles

Western fence lizard (*Sceloporus occidentalis*) was observed on-site. Presence of common reptiles adapted to urban environments such as Pacific gopher snake (*Pituophis catenifer catenifer*) have potential to occur on-site, but no Pacific gopher snake or evidence of the species were observed during site surveys.

Movement Corridors

A wildlife corridor is an area of habitat connecting wildlife populations separated by human activities or structures (such as roads, development, or logging). This allows an exchange of individuals between populations, which may help prevent the negative effects of inbreeding and reduced genetic diversity (via genetic drift) that often occur within isolated populations.

The project site is surrounded on two sides by development, specifically East Sir Francis Drake Boulevard and the San Francisco Bay to the southwest and a residential development to the northwest. The project site itself forms somewhat of a dead end for non-volant wildlife dispersal, and does not function as a connector of similar habitats suitable for a specific functional groups of wildlife. A connecting function would be a critical element for any site to function as a meaningful wildlife corridor. Therefore, non-volant wildlife movement through the site is limited, and the site does not connect similar habitats suitable for sustainable wildlife populations.

While the ridgeline above the project site likely facilitates common wildlife movement within its undeveloped areas, including open space to the north and east, CDFW does not identify this area or any areas on the San Quentin peninsular as part of an Essential Connectivity Area.²

Nursery Sites

Wildlife nursery sites include nesting birds and maternity bat roosts, aquatic breeding habitat, and special-status and non-special-status wildlife breeding or nesting colonies. No significant breeding/nesting colonies were observed during the wildlife surveys. However, individual nesting birds and roosting bats have a potential of being present on-site seasonally.

Sensitive Biological Resources

Sensitive biological resources typically include sensitive natural communities, special-status species and their habitats, protected aquatic resources (i.e., state or federally protected wetlands and other waters), wildlife nursery sites, wildlife movement corridors, and protected trees.

Sensitive Natural Communities

The CDFW maintains a list of natural communities which attempts to classify vegetation types found within the State of California and ranks them based on rarity. Communities ranked S1-S3 are considered sensitive natural communities, and CDFW additionally identifies certain plant communities as “sensitive” but does not assign a State rarity rank. Wetland communities and

² California Department of Fish and Wildlife (CDFW). 2022. Biogeographic Information and Observation System (BIOS). Essential Connectivity Areas-California Essential Habitat Connectivity (CEHC) [ds620].Website: <https://wildlife.ca.gov/Data/BIOS>. Accessed October 31, 2022.

riparian habitats are also typically considered sensitive natural communities regardless of species composition, to be addressed in the environmental review process.

Riparian Arroyo Willow Riparian Woodland

An approximately 0.27-acre stand of Arroyo willow woodland (*Salix lasiolepis* Shrubland Alliance) is associated with the open drainage channel segment 1-6 and is considered a sensitive community due to its association with a watercourse, providing woody riparian functions. Individual willows are interspersed in other locations of the site; however, they would not meet the definition of a sensitive plant community.

Purple Needlegrass—Oat Species—Brome species Grassland

The Purple Needlegrass (*Nassella pulchra*)—Oat species—Brome species Grassland is defined by CDFW as California Sensitive Natural Community 41.150.05 with a ranked rarity of G3S3 and is identified as “sensitive”. Approximately 0.57-acre of this community can be found in the northwest corner of the study area (Exhibit 3.3-3). It should be noted that purple needlegrass is not a special-status species or rare plant species. However, when it forms a substantial plant community, that community is considered a sensitive natural community, which is the case for this specific population.

Coast Live Oak Woodland

The CDFW does not identify coast live oak woodland as sensitive; however, the Marin Countywide Plan (while not applicable to this analysis) identifies coast live oak woodland vegetation community as sensitive, and the County would require protections for individual coast live oak trees within this community through its tree protection ordinance. Therefore, and with the intent to reduce all impacts on biological resources as much as feasible, this BRA identifies the coast live oak woodland on-site as potentially sensitive.

Special-status Species

The following section summarizes the special-status species evaluations of the BRA (Appendix C), which includes more detailed information.

Special-Status Wildlife Species

FCS Biologists compiled a list of threatened, endangered, and otherwise special-status species previously recorded within a 2-mile radius of the project site (Appendix C). California Natural Diversity Database (CNDDDB) identifies 44 federal and State-listed threatened and/or endangered wildlife species and State Species of Special Concern that have been recorded within the *San Quentin, California*, United States Geological Survey (USGS) Topographic Quadrangle Map and eight surrounding quadrangles. Thirty-eight of these species have no potential to occur on-site, as discussed in the Special-Status Species Occurrence Evaluation (Appendix C). CNDDDB occurrences near the study area are shown on Exhibit 3.3-2.

Special-status wildlife species or functional groups that potentially include special-status species that have at least low potential to visit or utilize the site temporarily, are therefore discussed in more detail below.

Northern Spotted Owl (*Strix occidentalis caurina*)

Northern Spotted Owl (NSO) is listed as threatened under ESA and CESA. The NSO is a medium-sized, dark brown owl with a barred tail, white spots on the head and breast, and dark brown eyes surrounded by prominent facial disks. Males and females have similar plumage, but females typically weigh 10 to 20 percent more than males. The distribution of the northern subspecies includes southwestern British Columbia, western Washington and Oregon, and northwestern California south to Marin County. Spotted owl are mostly nocturnal, but they may forage opportunistically during the day. Northern flying squirrel (*Glaucomys sabrinus*) and woodrats are usually the predominant prey. Other prey species such as the red tree vole (*Arborimus longicaudus*), red-backed vole (*Clethrionomys gapperi*), mice, rabbit and hare, birds, and insects may be seasonally or locally important.

NSO generally inhabits older forested habitats because they contain the structural characteristics required for nesting, roosting, and foraging. Specifically, NSO requires a multi-layered, multi-species canopy with moderate to high canopy closure. The stands typically contain a high incidence of trees with large cavities and other types of deformities; large snags; an abundance of large, dead wood on the ground; and open space within and below the upper canopy for spotted owl to fly. Recent landscape-level analyses suggest that in some parts of the subspecies' range, a mosaic of older forest habitat interspersed with other vegetation types may benefit NSO more than large, homogeneous expanses of older forests.³

NSO is known to occur in Marin County, including in the past from San Anselmo and Corte Madera Area, so it is possible that a vagrant dispersing individual may at some point visit the project site.

The trees on the project site do not form a multi-layered, multi-species forest canopy with moderate to high canopy closure; and do not contain a high incidence of trees with large cavities and other types of deformities, large snags, an abundance of large, dead wood on the ground, and open space within and below the upper canopy for spotted owls to fly. Rather, the scattered oak woodland generally has a single canopy, and the understory is generally herbaceous with areas of invasive French broom as the dominant understory species and disturbed by human presence and activities, including active homeless encampment.

Therefore, the woodlands of the project site do not contain the structural characteristics typically required for nesting, roosting and foraging for NSO; there is no potential for this species to establish successful nesting on-site; and there is a low potential for a vagrant dispersing individual to occur on-site. No spotted owls were observed during several surveys.

White-Tailed Kite (*Elanus leucurus*) and Cooper's Hawk (*Accipiter cooperii*)

Both species have been reported in 2020 and 2021 from areas adjacent to the project site, and the trees on the project site or within disturbance distance could provide suitable nesting habitat for either species. While the habitat is not optimal due to its proximity to residential development and

³ United States Fish and Wildlife Service (USFWS), Arcata Fish and Wildlife Office. 2020. Northern Spotted Owl. February 18. Website: https://www.fws.gov/arcata/es/birds/NSO/ns_owl.html. Accessed October 3, 2022.

small size, and none were observed on-site, it cannot be ruled out that white-tailed kite or Cooper's hawk could nest on the project site or within relevant disturbance distance.

Protected Nesting Birds (Including All Special-Status Bird Species)

In addition to the specific special-status bird species discussed in more detail above, the active nests of most resident and migratory (game and non-game) birds (including the nests of additional special-status bird on-site) are protected by the MBTA and/or Fish and Game Code; and are therefore categorized as "special-status" wildlife functional group during this time.

Almost the entire project site provides nesting opportunities for different taxa of birds, including for ground nesters. The grass and shrubland on-site provide foraging opportunities to support successful nesting and rearing habitat. Therefore, it is expected that protected bird nests are present on the project site during the nesting season (typically considered to last from February 15 to August 31 for most species).

Bats (Including Special-Status Bats)

The project site offers degraded but potentially viable roosting habitat for bat species. Bats could potentially use cavities in trees on-site to roost and forage over the grassland and shrubland.

Bat species are often grouped together on the basis of their roosting habitat requirements. Of the special-status bat species that have potential to occur in the region, but unlikely to inhabit the site due to their sensitivity and rarity, Townsend's big-eared bat (*Corynorhinus townsendii*), long-eared myotis, fringed myotis, long-legged myotis, yuma myotis, and greater western mastiff bat (*Eumops perotis*) are likely to be found roosting in artificial structures (e.g., the utility structure on-site), although they are known to roost in natural features also. Other species, such as pallid bat, western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), and California myotis (*Myotis californicus*), would be more likely to roost in natural features rather than artificial structures.

Roosts are used during the daytime to seek refuge; at night between foraging excursions to rest, digest prey, seek refuge from predators or poor weather conditions, or for social purposes; and in winter for hibernation. Adult females and their young use some particularly secure roosts as maternity roosts. The number of bats occupying a given roost can vary from a solitary individual to a large colony, depending on the species. Roosting sites are very sensitive to human disturbance, especially when bats are hibernating or rearing young.

At dusk, bats leave their roosts to forage for insects in nearby ponds or riparian habitats. Bats generally prey on insect species that are locally abundant near water bodies. Ecotone areas (areas of transition between habitats) are also used as foraging areas. The grass and shrublands of the project site and riparian area of Remillard Lagoon have foraging potential for bat species. Therefore, it cannot be ruled out that bat roosts are present on the project site, while none were observed during the site surveys.

Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly is listed as Candidate under the Endangered Species Act, and wintering roosts are protected under the Fish and Game Code.

Preferred monarch habitat is filled with diverse nectar sources which support monarchs and native bees. Native milkweeds (*Asclepias spp.*) and other nectar sources provide monarchs with foraging habitat, resting and refueling stops during migration, and food at the overwintering sites.

Overwintering habitats consist of tree groves that typically occur within 1.5 miles of the Pacific coastline, or within the San Francisco Bay Area, where the proximity to large water bodies moderates temperature fluctuations. Overwintering begins in September or October. Suitable grove conditions include temperatures above freezing, high humidity, dappled sunlight, access to water and nectar, and protection from high winds and storms. Monarchs will select the native Monterey pine, Monterey cypress, western sycamore, and other native tree species when they are available, but will also utilize non-native eucalyptus species if other optimal habitat conditions are met. During breeding season in the late spring and summer, female monarch butterflies will lay their eggs on the underside of young leaves or flower buds of milkweeds. Caterpillars then hatch within 3-5 days and begin to feed on milkweed leaves that provide energy and protective toxic compounds that protect the caterpillars from predation. Within a month, the caterpillars will grow, produce a chrysalis, and emerge as fully-formed adult butterflies.

No milkweed is present on-site, as confirmed through protocol-level rare plant surveys. The project site does not contain suitable tree groves to support overwintering monarch populations. No overwintering roosts have been documented from the site or from adjacent areas or were observed during winter wildlife surveys. The closest known overwintering site (#2902) is located at McNears Beach County Park in northeast San Rafael, approximately 4.3 miles northeast of the project site.

Therefore, the project site does not contain the structural characteristics required for overwintering or to establish a viable permanent population on-site. However, there is potential for dispersing individuals to occur on-site, although no monarch butterfly was observed on-site during site surveys.

Special-Status Plant Species

The CNDDDB and California Native Plant Society (CNPS) list 76 special-status or sensitive plant species that have been recorded within the San Quentin, California, USGS Topographic Quadrangle Map and the eight surrounding quadrangles (Appendix C).^{4,5,6} The CNDDDB occurrences near the study area are shown on Exhibit 3.3-2. A list of all plant species recorded on-site during the protocol-level floristic surveys is also included in Appendix C.

No rare or special-status plant species were observed during the appropriately timed protocol-level floristic surveys and are therefore determined to be absent from the approximately 8.4-acre study area surveyed to date. Subsequent to the completion of the rare plant surveys, the study area was expanded by approximately 2 acres (see Exhibit 3.3-4). Because of similar habitat conditions across the expanded area, absence of rare plants within the additional area is likely; however, absence will

⁴ United States Geological Survey (USGS). 2022. National Geospatial Program. Website: https://www.usgs.gov/core-science-systems/national-geospatial-program/us-topo-maps-america?qt-science_support_page_related_con=4#qt-science_support_page_related_con. Accessed October 3, 2022.

⁵ California Department of Fish and Wildlife (CDFW). 2022. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-status Species. Website: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed October 3, 2022.

⁶ California Native Plant Society (CNPS). 2022. California Native Plant Society Rare and Endangered Plant Inventory. Website: <http://www.rareplants.cnps.org/>. Accessed October 3, 2022.

be confirmed during the spring flowering season of 2023 (see Impact Analysis for Special-status Plant Species including related mitigation, below).

Wetlands and Waters of the United States and the State

All drainage features on-site have bed, bank, and evidence of seasonal concentrated surface flow, and consist of ephemeral to intermittent second to first-order streams and tributaries to San Francisco Bay. All features are described in detail in the Aquatic Resources Delineation Report (included in the BRA, Appendix C). These drainages were delineated and verified by the USACE to be potential jurisdictional non-wetland waters of the U.S. Consequently, these features are also regulated (i.e., protected) by the Regional Water Quality Control Board (RWQCB) as jurisdictional waters of the State. Additionally, activities potentially impacting bed, banks or riparian habitat and riparian species are expected to be protected through the Lake and Streambed Alteration Program, administered by the CDFW

3.3.3 - Regulatory Framework

Federal

Endangered Species Act of 1973

The United States Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under the federal Endangered Species Act of 1973. Section 9 of the Endangered Species Act protects listed species from “take,” which is broadly defined as actions taken to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” The Endangered Species Act protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; during the environmental review process, these species are usually treated by resource agencies as if they were actually listed.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. All migratory birds and their nests are protected from take and other impacts under the MBTA (16 United States Code [USC] § 703, et seq.).

Bald and Golden Eagle Protection Act

The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, et seq.) and the Bald and Golden Eagle Protection Act (16 USC §§ 668–668d).

Clean Water Act

Section 404

The USACE administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States.

Currently, the Environmental Protection Agency and USACE (hereafter the agencies) are in receipt of the U.S. District Court for the District of Arizona’s August 30, 2021 order vacating and remanding the Navigable Waters Protection Rule in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. In light of this order, these agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice.

Therefore, since the agencies are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice, our analysis follows 40 Code of Federal Regulations 230.3(s), which defines “waters of the United States” as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands.
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c. Which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under this definition.
5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section.
6. The territorial sea.
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 Code of Federal Regulations 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the United States Environmental Protection Agency (EPA) and/or USACE.

“Wetland” refers to areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of

vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and seasonal wetlands. Wetlands are considered jurisdictional if they fall under one of the categories of waters of the United States defined above. The USACE jurisdiction typically extends up to the ordinary high-water mark (OHWM).

In general, a USACE permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the impacted acreage, the purpose of the proposed fill, and other factors.

Section 401

As stated in Section 401 of the CWA, “any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.” Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB.

State

CEQA Guidelines

The California Environmental Quality Act (CEQA) requires public agencies to evaluate potential impacts to special-status species and their habitat. The following CEQA Guidelines Appendix G checklist questions serve as thresholds of significance when evaluating the potential impacts of a proposed project on biological resources. Impacts are considered significant if a project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Have a substantial adverse effect on federally and State-protected wetlands as defined by Section 404 of the CWA (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.

The proposed project is a State project located on State-owned land. Pursuant to Article XI, Section 7 of the California Constitution, a State agency is not subject to local regulation unless the Legislature

expressly waives immunity in a statute or the California Constitution (see also Executive Order N-06-19). The State has not waived immunity for the proposed project and County-adopted land use plans, policies, and regulations are, therefore, not applicable to the project. Although Marin County land use regulations are not applicable, the State has voluntarily elected to evaluate consistency with certain policies related to coast live oak regulations. Specifically, the Marin Countywide Plan (while not applicable to this analysis) identifies coast live oak woodland vegetation community as sensitive, and the State has elected to treat this community as sensitive to reduce all impacts on biological resources, where feasible.

Oak Woodlands Conservation Act

California State Senate Bill 1334, the Oak Woodlands Conservation Act, became law on January 1, 2005, and was added to the CEQA statutes as Section 21083.4. This statute requires that a county must determine whether a project will result in a significant impact on oak woodlands and, if it is determined that a project may result in a significant impact on oak woodlands then the County shall require one or more of the following mitigation measures:

- Conserve oak woodlands through the use of conservation easements;
- Plant an appropriate number of trees, including maintenance of plantings and replacement of failed plantings;
- Contribute funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements;
- Other mitigation measures developed by the county.

The applicable thresholds of significance are discussed below in Section 3.3.5.

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW when preparing CEQA documents to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code [FGC] § 2080). CESA directs agencies to consult with the CDFW on projects or actions that could affect listed species, directs the CDFW to determine whether jeopardy would occur, and allows the CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State’s prohibition against take of a listed species if the “take” of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Fish and Game Code Sections 2050 through 2098 outline the protection provided to California’s rare, endangered, and threatened species. Fish and Game Code Section 2080

prohibits the taking of plants and animals listed under the CESA. Fish and Game Code Section 2081 established an incidental take permit program for State-listed species. The CDFW maintains a list of “candidate species,” which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, et seq.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by the CDFW). An exception to this prohibition in the NPPA allows landowners to take listed plant species under specified circumstances, provided that the owners first notify the CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from “take” prohibition “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.” Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

In addition to formal listing under the Endangered Species Act and CESA, some species receive additional consideration by the CDFW and local lead agencies during the CEQA process. Species that may be considered for review are those listed as a “Species of Special Concern.” The CDFW maintains lists of “Species of Special Concern” that serve as species “watch lists.” Species with this status may have limited distributions or limited populations, and/or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and specific protection measures may be warranted. In addition to Species of Special Concern, the CDFW Special Animals List identifies animals that are tracked by the CNDDDB and may be potentially vulnerable but warrant no federal interest and no legal protection.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS List ranked 1A, 1B, and 2 would typically require evaluation under CEQA.

Fish and Game Code Sections 3500 to 5500 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs

of any such bird except as otherwise provided by the Fish and Game Code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. 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 Fish and Game Code Section 206.591. Authorization from the CDFW would be in the form of an Incidental Take Permit.

Fish and Game Code Section 1602 requires any entity to notify the CDFW before beginning any activity that “may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake” or “deposit debris, waste, or other materials that could pass into any river, stream, or lake.” “River, stream, or lake” includes waters that are episodic and perennial and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if the CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water. CDFW jurisdiction typically extends to the edge or “drip line” of the riparian habitat or top of bank.

California Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State” (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the State” (Water Code § 13050(e)). In 2019, the California State Water Resources Control Board (State Water Board) published the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) to guide wetland/waters of the State determinations and the permitting process.

California Native Plant Society

The CNPS maintains a rank of plant species that are native to California and that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Following are the definitions of the CNPS ranks:

- **Rank 1A:** Plants presumed extirpated in California and either rare or extinct elsewhere
- **Rank 1B:** Plants rare, threatened, or endangered in California and elsewhere
- **Rank 2A:** Plants presumed extirpated in California but common elsewhere
- **Rank 2B:** Plants rare, threatened, or endangered in California but more common elsewhere
- **Rank 3:** Plants about which more information is needed, a review list
- **Rank 4:** Plants of limited distribution, a watch list

Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. All plants appearing on the CNPS List ranked 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. Rank 3 and 4 plants do not automatically meet this definition. Rank 4 plants do not clearly meet CEQA standards and thresholds for impact considerations. Nevertheless, some level of CEQA review is justified for California Rare Plant Rank (CRPR) 4 taxa, and under some circumstances, a full impact analysis is warranted. Taxa that can be shown to meet the criteria for endangered, rare, or threatened status under CEQA Section 15380(d) or that can be shown to be regionally rare or unique as defined in CEQA Section 15125(c) must be fully analyzed in a CEQA document. Some circumstances, such as local rarity, having occurrences peripheral to the taxon's distribution, or having occurrences on unusual substrates or rare and declining habitats, provide justification for treating some CRPR 4 taxa occurrences as regionally rare or unique. One limitation to fully analyzing impacts on CRPR 4 taxa is the difficulty in obtaining current data on the number and condition of the occurrences.

Regional and Local

No relevant regional or local laws or regulations apply to the project.

3.3.4 - Methodology

Literature Review

Literature review was conducted to analyze existing documentation regarding biological resources and habitat conditions within the study area and is summarized below.

Existing Documentation

As a part of the literature review, an FCS Biologist compiled and analyzed existing environmental documentation for the study area and relevant areas in its vicinity. This documentation included literature pertaining to the habitat requirements of special-status species with the potential to occur in the project vicinity; and federal register listings, protocols, and species data provided by the USFWS, CDFW and CNPS. Additionally, an Aquatic Resources Delineation, a USACE Preliminary Jurisdictional Determination, and a Preliminary Arborist Report (each contained in Appendix C) were reviewed, and the provided information and conclusions were integrated into this analysis.

Topographic Maps and Aerial Photographs

FCS Biologists reviewed the USGS 7.5-minute Topographic Quadrangle Maps in *San Quentin, California* Topographic Quadrangle Map and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity.⁷ Information obtained from the topographic maps included elevation, general watershed information, and potential drainage feature locations using Google Earth in conjunction with the EPA Watershed Assessment, Tracking, and Environmental Results System (WATERS).⁸ Aerial photographs provide a perspective of the most

⁷ United States Geological Survey (USGS). 2021. National Geospatial Program. Website: https://www.usgs.gov/core-science-systems/national-geospatial-program/us-topo-maps-america?qt-science_support_page_related_con=4#qt-science_support_page_related_con. Accessed October 3, 2022.

⁸ United States Environmental Protection Agency (EPA). 2022. Watershed Assessment, Tracking and Environmental Results System (WATERS). Website: <https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system>. Accessed October 3, 2022.

current site conditions relative to on-site and off-site land use, plant community locations, and potential locations of wildlife movement corridors.

Soil Surveys

The United States Department of Agriculture (USDA) has published soil surveys that describe the soil series (i.e., group of soils with similar profiles) occurring within a particular area.⁹ These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These series are further subdivided into soil mapping units that provide specific information regarding soil characteristics. Many special-status plant species have a limited distribution based exclusively on soil type. Therefore, pertinent USDA soil survey maps were reviewed to determine the existing soil mapping units within the project site and to inform whether the soil conditions on-site are potentially suitable for any special-status plant species. However, NRCS soil maps utilize an approximately 1.4-acre minimum mapping unit, and line placement may not be accurate on a large (i.e., parcel-level) scale.

Special-status Species Database Search

An FCS Biologist compiled a list of threatened, endangered, and otherwise special-status species previously recorded within the project vicinity based on a search of the USFWS Information for Planning and Consultation (IPaC) database,¹⁰ the CNDDDB, and the CNPS Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California for the USGS *San Quentin, California* 7.5-minute topographic quadrangle, and the eight surrounding quadrangles.^{11,12} The CNDDDB Biogeographic Information and Observation System (BIOS 5) was used to determine the distance between the known occurrences of special-status species and the project site.¹³

Field Surveys and Focused Studies

Biological Resources Field Surveys

FCS Biologists familiar with the biological resources of the region conducted general wildlife, habitat, vegetation community and aquatic resource surveys on September 29 and 30, 2021; December 8, 2021; and September 8, 2022. The objective of the field surveys was to ascertain general site conditions, wildlife use, and identify whether existing vegetation communities provide suitable habitat for special-status plant or wildlife species. Potentially sensitive areas identified during the literature review were ground-truthed during the field survey for mapping accuracy. Special attention was paid to sensitive habitats and areas potentially supporting special-status floral and faunal species.

⁹ Natural Resources Conservation Service (NRCS). 2022. Web Soil Survey (WSS). United States Department of Agriculture (USDA). Website: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed October 3, 2022.

¹⁰ United States Fish and Wildlife Service (USFWS). 2021. Information for Planning and Consultation (IPaC). Website: <https://ecos.fws.gov/ipac/>. Accessed October 3, 2022.

¹¹ California Department of Fish and Wildlife (CDFW). 2022. California Natural Diversity Database (CNDDDB) RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed October 3, 2022.

¹² California Native Plant Society (CNPS). 2022. California Native Plant Society Rare and Endangered Plant Inventory. Website: <http://www.rareplants.cnps.org/>. Accessed October 3, 2022.

¹³ California Department of Fish and Wildlife (CDFW). 2022. Biogeographic Information and Observation System (BIOS 5). Website: <https://map.dfg.ca.gov/bios/>. Accessed October 3, 2022.

Wildlife Surveys

Wildlife species detected during the field-level survey by sight, calls, tracks, scat, or other signs were recorded. Notations were made regarding suitable habitat for those special-status species determined to have the potential to occur within the project site.¹⁴ Appropriate field guides were used to assist with species identification during surveys, such as Peterson, Reid, and Stebbins.^{15,16,17} Online resources such as eBird and California Herps were also consulted, as necessary.^{18,19}

Wildlife Movement Corridor

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by natural and anthropogenic dispersal barriers, including rugged terrain, changes in vegetation, development, or human disturbance. Urbanization and the resulting fragmentation of open space areas create isolated “islands” of wildlife habitat, forming separated populations. Corridors act as an effective link between populations.

The project site was evaluated for evidence of a wildlife movement corridor during the reconnaissance-level survey and review of aerial photographs. The focus of this study was to determine whether a change in land use at the project site could have significant impacts on the regional movement of wildlife. Conclusions are based on the information compiled during the literature review, including the Center for Watershed Protection (CWP), aerial photographs, USGS topographic maps and resource maps for the vicinity; the field survey; and professional experience with the desired topography, habitat, and resource requirements of the special-status species potentially utilizing the project site and vicinity.

Aquatic Resources Delineation Survey and Jurisdictional Determination

FCS Senior Biologist and Certified Wetland Delineator, Bernhard Warzecha, assisted by FCS Biologists Robert Carroll and Alec Villanueva, conducted a jurisdictional waters and wetlands delineation of the study area on December 8, 2021. The results of this survey are summarized in the Aquatic Resources Delineation Report (Appendix C) and were verified by the USACE (Appendix C).

Protocol-level Rare Plant Surveys and Study

A protocol-level special-status plant study was conducted by PEC across three dates in 2022 to determine the presence or absence of special-status plants and/or sensitive plant communities on the study area as of July 2022. Floristic plant surveys were conducted on February 25, April 25 and June 23, 2022, to coincide with early-, mid-, and late-flowering time periods. Observations of the local coastal flora were made periodically, and appropriate flowering windows chosen in real-time to capture the greatest abundance of flowering plants possible. The surveys all began in the early

¹⁴ California Department of Fish and Wildlife (CDFW). 2022. CNDDDB RareFind 5 California Natural Diversity Database Query for Special-Status Species. Website: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>. Accessed January 22, 2022.

¹⁵ Peterson, T.R. 2010. A Field Guide to Birds of Western North America, 4th Edition. Boston: Houghton Mifflin Harcourt.

¹⁶ Reid, F. 2006. A Field Guide to Mammals of North America, 4th Edition. Boston: Houghton Mifflin Harcourt.

¹⁷ Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians. Third Edition. Boston: Houghton Mifflin Harcourt.

¹⁸ eBird. 2022. Online bird occurrence database. Website: <http://ebird.org/content/ebird/>. Accessed January 22, 2022.

¹⁹ California Herps. 2022. A Guide to the Amphibians and Reptiles of California. Website: <http://www.californiaherps.com/>. Accessed January 22, 2022.

afternoon and took approximately 3-4 hours in the field, with a subsequent 1-2 hours spent in the laboratory performing identification.

All taxonomic terminology follows currently accepted nomenclature as described in The Jepson Manual (2012). Methods for detecting special-status plants followed the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018).

Beginning at approximately 1:00 p.m. on each of the survey dates, the entire study area was surveyed on foot by qualified PEC botanist Dr. Christopher DiVittorio. PEC botanist Dr. Zoya Akulova also participated in the April field survey, and also performed secondary identification on physical voucher specimens and photographs from the February and June surveys. Resumes for Dr. DiVittorio and Dr. Akulova can be provided upon request. The botanical field survey included walking the study area as of July 2022 on foot in parallel lines approximately 15 feet apart, identifying every species that was flowering, and making note of any species that were past flowering or that had not yet flowered. Voucher specimens and photographs were taken of any species that required identification in the laboratory.

As previously noted, following the completion of the late season rare plant surveys across an approximately 8.4-acre study area, the study area was expanded by approximately 2 acres to the south and southeast hill slope (see Exhibit 3.3-4). While a late season rare plant survey was conducted for late blooming species (including rare tarplants) on September 8, 2022, an additional survey will be conducted in spring 2023 to provide data from the peak blooming period.

Sensitive Natural Communities Identification and Mapping

Sensitive natural communities are vegetation communities or special wildlife habitats that are rare or occur in limited distributions or provide specific habitat requirements for special-status plant or wildlife species. The CDFW maintains a list of natural communities which attempts to classify vegetation types found within the State of California and rank them based on rarity. Communities ranked S1-S3 are considered sensitive natural communities.²⁰ Riparian vegetation and wetland communities are generally considered sensitive, regardless of species composition.

Per the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018), identification and mapping of plant community types following the *Manual of California Vegetation* was conducted by the qualified botanists concurrently with the protocol-level rare plant surveys (see sub-section on protocol-level rare plant survey methods for details); and additionally on September 8, 2022, for the expanded limits of disturbance.

Approach to Analysis

Impacts on biological resources were evaluated based on the likelihood that special-status species, sensitive natural communities, federally protected waters and wetlands, wildlife nursery sites, and wildlife movement corridors are present within the study area and the likely effects of construction

²⁰ California Department of Fish and Wildlife (CDFW). 2022. Natural Communities List, Sacramento: California Department of Fish and Wildlife. Website: <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities>. Accessed January 22, 2022.

or operation on these resources. For the purposes of this Draft EIR, the word “substantial” as used in the significance thresholds above is defined by the following three principal components:

- Magnitude and duration of the impact (e.g., substantial/not substantial),
- Uniqueness of the affected resource (rarity), and
- Susceptibility of the affected resource to disturbance.

The study area for the proposed project is defined as the project site as well as any areas surrounding the site that will be disturbed as a result of the proposed project.

3.3.5 - Thresholds of Significance

The CEQA Guidelines Appendix G lists the following criteria to determine whether biological resources impacts resulting from the implementation of the proposed project would be considered significant:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service?
- c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?
- e) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

For purposes of this analysis, DGS as the Lead Agency has selected the following thresholds to evaluate the significance of biological resources impacts resulting from implementation of the project. Would the project:

- Result in direct take or habitat removal or alteration for candidate, sensitive, or special-status species
- Remove vegetation or damage water quality related to riparian habitat or other sensitive natural community
- Remove, fill, or damage a federally protected wetland
- Interrupt fish movement in an aquatic channel or impede terrestrial movement via a land corridor
- Conflict with the provisions of an applicable habitat conservation plan

3.3.6 - Project Impacts and Mitigation Measures

The following discussion addresses potential project impacts on sensitive biological resources, including special-status species, and recommends mitigation measures (MMs) to avoid and/or mitigate impacts to a less than significant level under CEQA.

Special-status Species

Impact BIO-1: **The proposed project would not 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 United States Fish and Wildlife Service.**

Special-status Plant Species

No special-status or rare plant species occur on the approximately 8.43-acre portion of the project site (see Section 3.3.2) surveyed to date. Therefore, no impacts on special-status or rare plant species are expected to occur within this area. Because the surveyed area includes over 80 percent of the entire study area and includes the same habitat types as the approximately 2-acre expanded limit of disturbance (see Exhibit 3.3-4), and since the expanded limit of disturbance was surveyed for late blooming rare plants, it is unlikely that it would support rare plants. However, presence cannot be ruled out. Therefore, as defined in MM BIO-1a, the project would be required to conduct protocol-level rare plant surveys in the peak spring blooming period to confirm absence of special-status plants. If special-status plant species are found, MM BIO-1b requires compensatory mitigation to offset losses of these populations. With implementation of these project-specific mitigation measures, potential impacts to special-status plants would be less than significant.

Special-status Wildlife Species

Protected Nesting Birds (including Cooper’s Hawk and White-tailed Kite)

All vegetated habitats within the project site and adjacent areas provide suitable nesting habitat for a variety of species of nesting birds, including special-status bird species Cooper’s hawk and white-tailed kite. Relatively undisturbed grassland and barren areas provide potential nesting opportunities for ground nesting birds. Construction activities that occur during the avian nesting season (generally February 1 to August 31) could disturb protected nesting sites within the construction footprint and within indirect disturbance distance. Grading and the removal of vegetation during the nesting season could result in direct harm to nesting birds, while noise, light, and other construction-related disturbances may cause nesting birds adjacent to the vegetation removal areas to abandon their nests. Loss of protected active bird nests due to direct or indirect project-related activities would be considered a significant impact.

With implementation of MM BIO-1c, which requires pre-construction nesting bird surveys and avoidance of direct and indirect impacts on nests, potential project-related impacts on protected bird nests can be reduced to a less than significant level under CEQA.

Roosting Bats

The project site contains trees that could provide suitable bat roosting habitat, including for special-status bats such as pallid bat. While no bat species were observed on-site, this analysis conservatively concludes the project could have a significant impact if bat roosts are present at the start of project construction. Potential direct and indirect impacts could occur to roosting bats due to removal of potential roosting habitat during project construction. These activities could potentially subject bats to risk of death or injury, and they are likely to avoid using the area until such construction activities have dissipated or ceased. Relocation, in turn, could cause hunger or stress among individual bats by displacing them into adjacent territories belonging to other individuals.

With implementation of MM BIO-1d, requiring pre-construction roosting bat surveys and avoidance of direct and indirect impacts on active bat roosts, potential project-related impacts on protected roosting bats would be reduced to a less than significant level.

Monarch Butterfly

As established in detail in Section 3.3.2 there is potential for dispersing individual monarch butterflies to visit the site temporarily. However, the site does not have a population of the obligate host plant milkweed and does not support overwintering habitat. Therefore, the proposed project would not result in significant impacts on this species.

Northern Spotted Owl

As established in detail in Section 3.3.2 there is a low potential for a vagrant individual NSO to visit the site temporarily. However, since the site does not contain NSO nesting habitat and currently likely constitutes a population sink for this species (i.e., site conditions would result in a negative outcome should a dispersing NSO attempt to establish on-site), the proposed project would not result in significant impacts on this species.

Level of Significance Before Mitigation

Less than significant impact with mitigation incorporated.

Mitigation Measures

- MM BIO-1a** A qualified botanist shall conduct protocol-level rare plant surveys of previously un-surveyed areas at the next spring blooming season to confirm absence of rare plants within the portion of the project site that was not surveyed in 2022. Rare plant surveys shall be conducted following the California Department of Fish and Wildlife (CDFW) Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities. The results of the rare plant surveys shall be summarized in a rare plant report following the CDFW requirements defined in the protocol and shall be submitted to CDFW within 60 days after completion of the field work.
- MM BIO-1b** If a special-status or rare plant species is found, the project proponent shall hire a qualified Biologist to prepare and implement a compensatory mitigation plan (including monitoring and reporting requirements) submitted and approved by the

California Department of Fish and Wildlife (CDFW) to offset any losses at a minimum of 1:1 ratio.

MM BIO-1c

Protection of Active Bird Nests (includes pre-construction survey and implementation of avoidance buffer, if found).

1. Removal of trees shall be limited to only those necessary to construct the proposed project as reflected in the relevant project approval documents.
2. If the proposed project requires vegetation to be removed during the nesting season (February 1 to August 31), pre-construction surveys shall be conducted no more than 7 days prior to the start of ground or vegetation disturbance (including tree removal) to determine whether or not active nests are present.
3. If an active nest is located during pre-construction surveys, a qualified Biologist shall determine an appropriately sized avoidance buffer based on the species and anticipated disturbance level. (The California Department of Fish and Wildlife [CDFW] recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors.) A qualified Biologist will delineate the avoidance buffer using Environmentally Sensitive Area fencing, pin flags, and/or yellow caution tape. The buffer zone will be maintained around the active nest site(s) until the young have fledged and are foraging independently. No construction activities or construction foot traffic is allowed to occur within the avoidance buffer(s).
4. The qualified Biologist shall monitor the active nest during construction activities and modify the protection zone accordingly to prevent project-related nest disturbance, until the young have fledged.

MM BIO-1d

A qualified Biologist with relevant roosting bat experience shall conduct a survey for special-status bats during the appropriate time of day to maximize detectability to determine whether bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.).

If the Biologist determines or presumes bats are present, the Biologist shall exclude the bats from suitable spaces by installing one-way exclusion devices. After the bats vacate the space, the Biologist shall close off the space to prevent recolonization. Site disturbance, including grading or vegetation removal shall only commence after the Biologist verifies 7 to 10 days later that the exclusion methods have successfully prevented bats from returning. To avoid impacts on non-volant (i.e., nonflying) bats, the Biologist shall only conduct bat exclusion and eviction from May 1 through October 1. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).

Level of Significance After Mitigation

Less than significant impact.

Sensitive Natural Communities or Riparian Habitat

Impact BIO-2: **The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.**

The Project proposes to remove 0.27 acres of riparian Arroyo willow thickets and 0.47 acre of coast live oak woodland (see section 3.3.2). No removal of purple needlegrass grassland (*Stipa pulchra* Herbaceous Alliance) is proposed or expected, as the identified location of this species is in the far northwest corner of the site and well outside the proposed disturbance area (Exhibit 3.3-4).

Removal of riparian Arroyo willow thickets and coast live oak woodland is considered a significant impact on sensitive natural communities. Therefore, compensatory mitigation at a ratio of at least 1:1 as defined in MM BIO-2a would be necessary to reduce this impact to a less than significant level under CEQA.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM BIO-2a The Applicant shall compensate for the loss of 0.27 acres of riparian Arroyo willow thickets by restoring and conserving native riparian vegetation at a ratio of at least 1:1, or by purchasing adequate mitigation credits as determined by the California Department of Fish and Wildlife (CDFW) through a Streambed Alteration Agreement. Restoration may include removal of invasive species from riparian areas and planting and maintenance of native riparian species, with a preference for Arroyo willow where feasible.

Additionally, the Applicant shall compensate for the loss of 0.47 acre of coast live oak woodland by either purchasing mitigation credits from a mitigation bank or restoring and conserving oak woodland at a ratio of at least 1:1 on-site or off-site within Marin County. Restoration of oak woodland includes planting and maintaining of suitable oak species and co-occurring native woody vegetation, maintenance of mitigation plantings to guarantee establishment of a self-sustaining oak woodland.

In case of Applicant-responsible establishment of riparian Arroyo willow and coast live oak woodland, the Applicant shall submit a Mitigation and Monitoring Plan (MMP) to CDFW. The MMP shall be prepared by a qualified restoration ecologist, and shall include planting and maintenance protocols, performance criteria, and a monitoring and reporting program. At a minimum, the planting and maintenance protocols shall define planting locations, density and spacing, a native species palette, browse protection, irrigation regime, replacement of dead plants, annually

escalating performance criteria until the mitigation goal is achieved, long-term funding commitments, monitoring and reporting based on the trajectory for achieving the 1:1 minimum replacement.

Additionally, MM BIO-3 (below), which requires implementation of measures identified by CDFW through the Streambed Alteration Agreement, will further reduce potential significant impacts on riparian vegetation and habitat to a less than significant level.

Level of Significance After Mitigation

Less than significant impact.

Wetlands and Jurisdictional Features

Impact BIO-3: **The proposed project would not 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.**

The project proposes to impact 3,090 linear feet (approximately 7,390 square feet or 0.17 acres) of open ephemeral to intermittent headwater drainages (Exhibit 3.3-4), protected by State and federal laws and regulations as waters of the U.S. and State (see Section 3.3.4), and by CDFW's Streambed Alteration Program.

Impacts to these features are regulated pursuant the CWA, the Porter-Cologne Water Quality Control Act, and Fish and Game Code Section 1602 et seq., and would require the project proponent to comply with the avoidance, minimization and compensatory mitigation measures defined by the USACE, RWQCB, and CDFW.

The agency-defined permitting regimes (including agency-defined enforceable mitigation measures) have the effect to avoid and/or offset any impacts to a level of less than significant under CEQA, because they require satisfaction of no-net-loss policies regarding aquatic area and function. Therefore, technically, no mitigation measures in addition to those required by the trustee agencies would be necessary to reduce any potential impacts to less than significant under CEQA.

However, for the purpose of this EIR, it is determined that impacts on these drainage features would constitute a significant impact under CEQA, which would be reduced to less than significant with implementation of MM BIO-3 (or mitigation measures required by the trustee agencies, whichever are more conservative).

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM BIO-3 The fill of jurisdictional waters in the form of ephemeral to intermittent streams will be avoided and minimized to the extent feasible. Authorization for the fill of waters

of the U.S. and State shall be obtained by the project proponent prior to the start of construction. Mitigation for the fill of jurisdictional waters shall be accomplished through creation or restoration of other waters at a minimum 1:1 ratio within the project site, at an approved mitigation bank, or at another location within a San Francisco Bay Basin watershed approved of by the USACE, RWQCB, and CDFW. The mitigation goal shall be to create and/or enhance aquatic habitats with habitat functions and values greater than or equal to those that will be impacted by the proposed project. Compensatory mitigation within the project site or at another location within the San Francisco Bay Basin watershed would be described in a stream mitigation plan that would:

- Be prepared consistent with the Final Regional Compensatory Mitigation and Monitoring Guidelines (USACE 2015) and the Compensatory Mitigation for Losses of Aquatic Resources: Final Rule (USACE 2008);
- Define the location of all restoration and creation activities;
- Describe measures that would ensure that adjacent land uses would not adversely affect the ecological functions and values of the stream mitigation area, so as to ensure consistency with the foregoing federal guidelines and rules. Such measures may include the use of appropriately sized buffers between the stream mitigation area and any adjacent development, the use of fencing or walls to prevent unauthorized access, lighting in adjacent development designed to avoid light spillage into the stream mitigation area, landscape-based Best Management Practices for adjacent development prior to discharge into the stream mitigation area, and signage describing the sensitive nature of the wetland mitigation area.
- Provide evidence of a suitable water budget to support restored and created streams;
- Identify the species, quantity, and location of plants to be installed in the stream habitats;
- Identify the time of year for planting and method for supplemental watering during the establishment period;
- Identify the monitoring so as to ensure consistency with the foregoing federal guidelines and rules, which shall be not less than five years for stream restoration;
- Define success criteria that will be required for restoration efforts to be deemed a success;
- Identify adaptive management procedures that may be employed as needed to ensure the success of the mitigation project and its consistency with the foregoing federal guidelines and rules. These include, but are not limited to, remedial measures to address exotic invasive species, insufficient hydrology to support the attainment of performance standards, and wildlife harm;
- Define management and maintenance activities, including weeding, supplemental irrigation, and site protection; and
- Define responsibility for maintaining, monitoring and ensuring the preservation of the mitigation site in perpetuity. The project applicant shall comply with all terms of the permits issued by these agencies, including mitigation requirements, and

shall provide proof of compliance to the applicable State agency prior to issuance of a grading permit.

Level of Significance After Mitigation

Less than significant impact.

Fish and Wildlife Movement Corridors

Impact BIO-4: **The proposed project 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 wildlife nursery sites.**

No substantial wildlife nursery sites, defined as breeding or nesting colonies, breeding ponds, or dens are present on-site or within disturbance distance. However, the vegetated portions on-site have the potential to provide some opportunity for wildlife nursery sites, including for nesting birds and maternity roosts for bats, as discussed in Section 3.3.2. With implementation of MM BIO-1, BIO-2, and BIO-3, impacts on potentially present wildlife nursery sites (if present) would be reduced to less than significant through direct and indirect impact avoidance and compensatory mitigation for loss of sensitive vegetation communities that could provide nursery sites.

The site does not function as a wildlife movement corridor, as discussed in Section 3.3.2. Therefore, project-related impacts on wildlife movement would be considered less than significant.

However, if significantly increased noise and lighting levels are projected into adjacent semi-natural areas during the night (including the ridgeline above the project site), potential significant indirect edge effects may occur, limiting the uses of these edge habitats for wildlife nursing and movement activities. MM BIO-4 would reduce these potentially significant impacts by reducing the noise and lighting levels projected into these areas.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures:

MM-BIO- 1, -2, and -3 (see above)

MM-BIO 4 Construction noise shall be limited to daylight hours. All project lighting associated with construction staging areas, access routes and construction sites in natural lands shall not spill into adjacent natural areas. Temporary project lighting shall not be directed into natural areas to prevent additional light pollution and disruption of nocturnal wildlife activity. Baffles and shielding devices will be required on all lighting systems to limit significant light pollution into natural areas. The Applicant shall ensure that newly installed lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent illuminating adjacent natural areas at a level greater than 2 foot-candle above ambient conditions.

Level of Significance After Mitigation

Less than significant impact.

Local Policies or Ordinances

Impact BIO-5: **The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

No conflicts with local policies or ordinances will occur as no local policies or ordinances are applicable to the proposed project. Please see Section 3.10, Land Use.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Local, Regional, or State Habitat Conservation Plan

Impact BIO-6: **The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.**

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan is applicable to the project site. Therefore, the proposed project would not conflict with the provisions of any such plan.

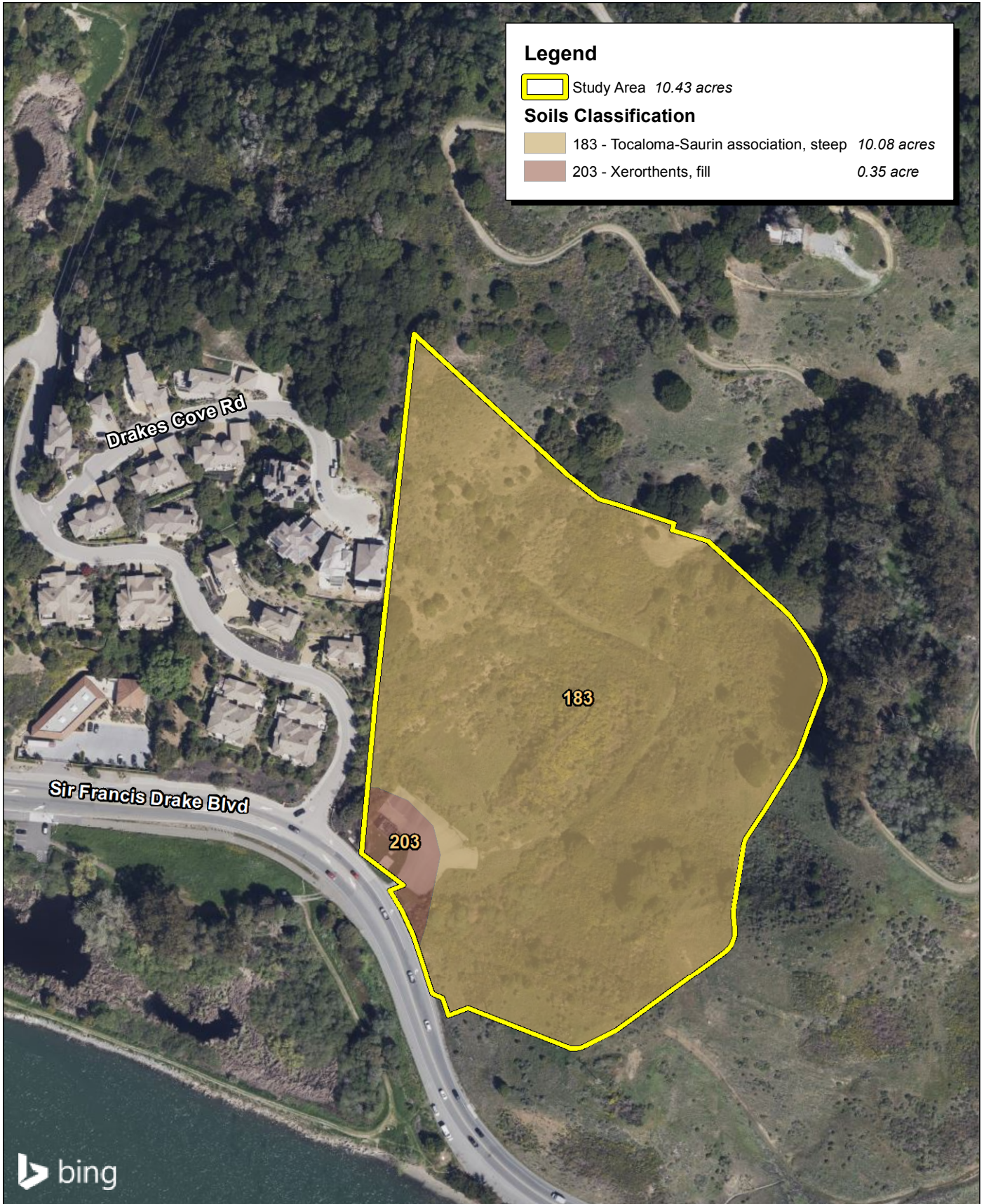
Level of Significance Before Mitigation

No Impact.

Mitigation Measures

None required.

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Source: Bing Aerial Imagery. Pinecrest Environmental Consulting. USDA Soils Data Mart, Marin County.

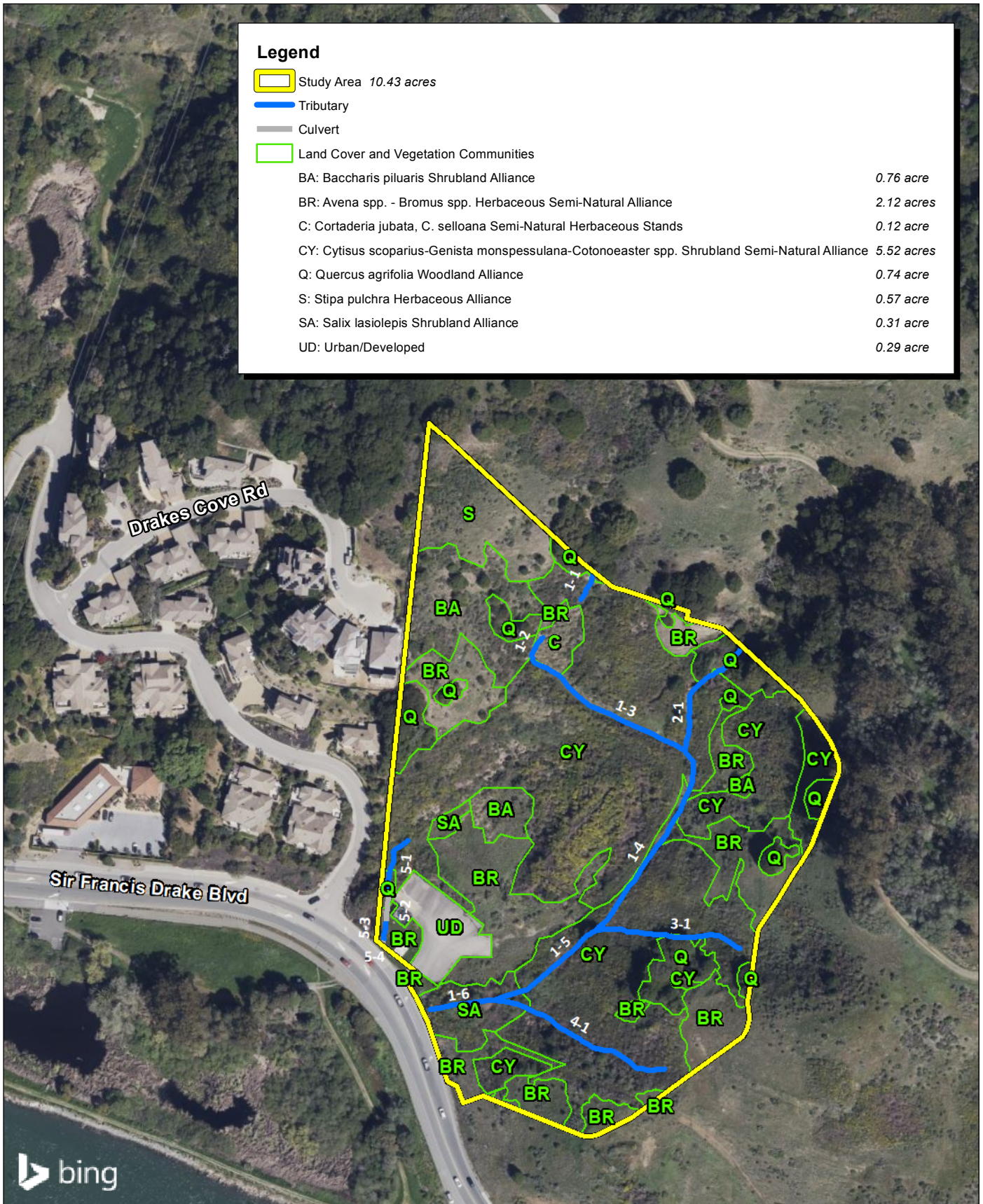


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Exhibit 3.3-2: CNDDDB Special-Status Species Occurrences (2-mile radius)

This exhibit contains sensitive information relating to biological resources and is not intended for public distribution pursuant to Public Resources Code Section 21082.3(C)(2). A copy of confidential Exhibit 3.3-2 is on file with California Department of General Services and is available to qualified professionals upon request.

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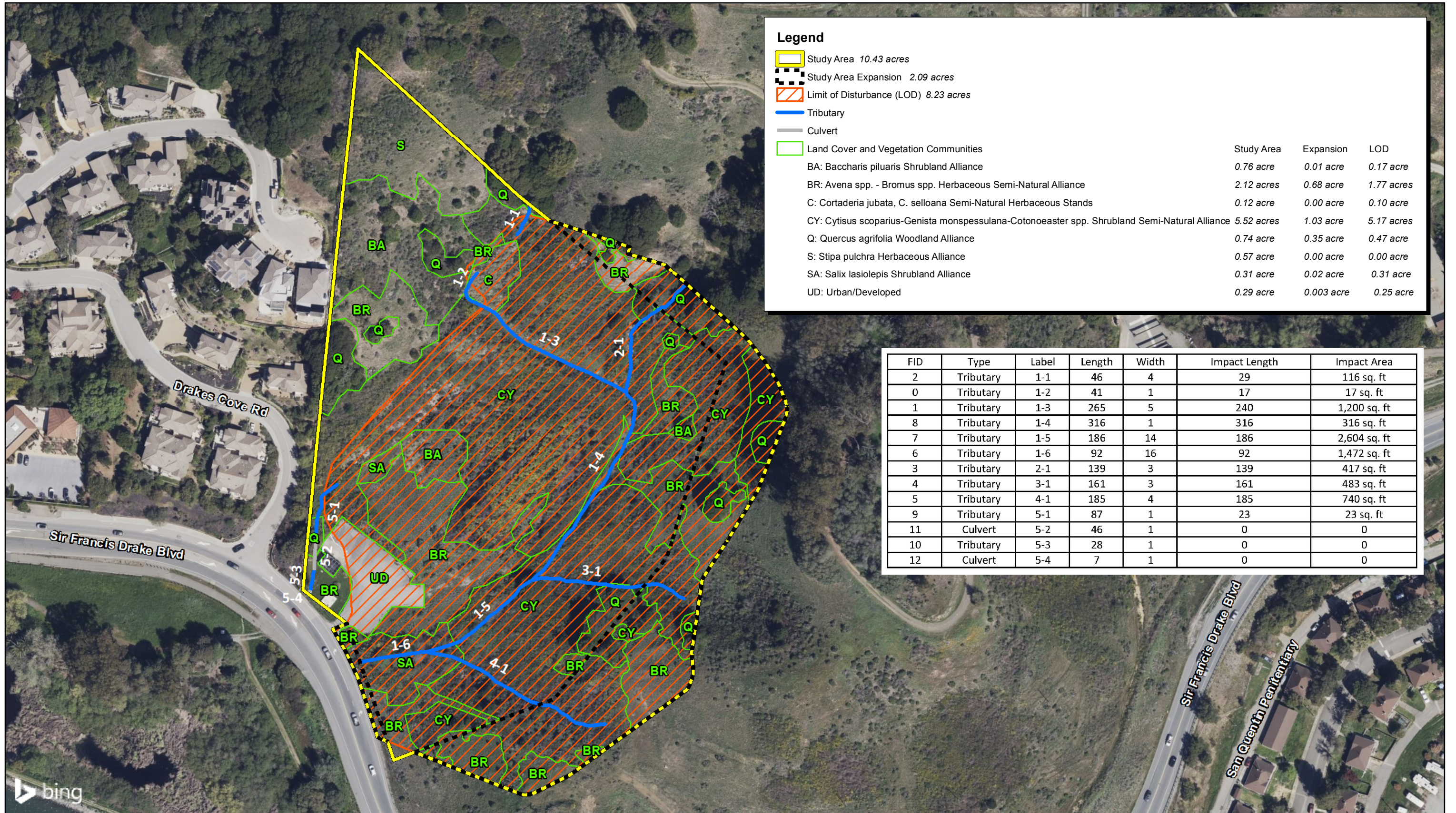
Source: Bing Aerial Imagery. Pinecrest Environmental Consulting.

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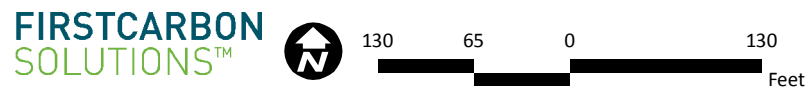


Exhibit 3.3-3
Land Cover and
Vegetation Communities

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Source: Bing Aerial Imagery. Pinecrest Environmental Consulting.



[View description of exhibit.](#)

Exhibit 3.3-4
Impacts on Biological Resources

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3.4 - Cultural Resources and Tribal Cultural Resources

3.4.1 - Introduction

This section describes the existing cultural and tribal cultural resources setting and potential effects that may result from project implementation on the site and its surrounding area. The descriptions and analysis in this section are based, in part, on a Phase I Cultural Resource Assessment (Phase I CRA) conducted by FirstCarbon Solutions (FCS) and a Built Environment Resource Assessment conducted by South Environmental. Additional information was obtained from the Native American Heritage Commission (NAHC), a records search conducted at the Northwest Information Center (NWIC), the current inventories of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historic Landmarks (CHL) list, the California Points of Historical Interest (CPHI) list, and the California Built Environment Resource Directory (BERD). Copies of non-confidential reports and records search results can be found in Appendix D.

During the Draft Environmental Impact Report (Draft EIR) scoping period, five public comments were received related to cultural resources and tribal cultural resources.

- The Draft EIR should evaluate significant impacts to cultural resources.
- The Draft EIR should analyze the proposed project’s consistency with Assembly Bill (AB) 52 and Senate Bill (SB) 18.
- The Draft EIR should consult with applicable California Native American tribes.
- The Draft EIR should prepare a Cultural Resources Assessment.
- The Draft EIR should require that a comprehensive soils and geological survey be completed for the proposed project, specifically to determine whether there are any hazards and to determine whether there are historical artifacts.

3.4.2 - Environmental Setting

Overview

The term “cultural resources” encompasses historic, archaeological, tribal cultural resources, and burial sites containing human remains. Below is a brief summary of each component:

- **Historical Resources:** Historic resources are associated with the recent past. In California, historic resources are typically associated with the Spanish, Mexican, and American periods in the State’s history and are generally less than 200 years old. Under the California Environmental Quality Act (CEQA), “historical resources” is a defined legal term of art (CEQA Guidelines § 15064.5(a)). In practice, historic resources focus primarily on the built environment (i.e., historic-era buildings, structures, etc.)
- **Archaeological Resources:** Archaeology is the study of artifacts and material culture with the aim of understanding human activities and cultures in the past. Archaeological resources may be associated with prehistoric indigenous cultures as well as historic periods. By statute, CEQA is concerned with “unique archaeological resources,” a defined legal term of art (Public

Resources Code [PRC] § 21083.2[g]). The CEQA Guidelines are also concerned with “historical resource(s) of an archaeological nature” (CEQA Guidelines, § 15126.4(b)(3)).

- **Tribal Cultural Resources:** Tribal Cultural Resources (TCRs) include sites, features, places, or objects that are of cultural value to one or more California Native American tribes. Under CEQA, “tribal cultural resources” is also a legal term of art (PRC § 21074).
- **Burial Sites and Cemeteries:** Burial sites and cemeteries are formal or informal locations where human remains have been interred. Native American burial sites are also considered TCRs of cultural value to one or more California Native American tribe. Both Federal and California law deal with burial sites and cemeteries through a series of statutes and regulations detailed in Section 3.4.3.

Cultural Setting

The following is a brief overview of the prehistory, ethnography, and historic background, providing a context in which to understand the background and relevance of sites found in the general project area. This section is not intended to be a comprehensive review of the current resources available; rather, it serves as a general overview. Further details can be found in ethnographic studies, mission records, and major published sources. Unless otherwise stated, information contained in this section is drawn directly from the Phase I CRA conducted by FCS and the Built Environment Resource Assessment conducted by South Environmental.^{1,2}

Prehistoric Background

In general, archaeological research in the greater San Francisco Bay Area has focused on coastal areas, where large shell mounds were relatively easily identified on the landscape. This research and its chronological framework, however, is relevant to and has a bearing on our understanding of prehistory in areas adjacent to the San Francisco Bay, including modern Santa Clara County.

The San Francisco Bay Area supported a dense population of hunter-gatherers over thousands of years, leaving a rich a varied archaeological record. The Bay Area was a place of incredible language diversity, with seven languages spoken at the time of Spanish settlement in 1776. The diverse ecosystem of the San Francisco Bay and surrounding lands supported an average of three to five persons per square mile but reached 11 persons per square mile in the North Bay. At the time of Spanish contact, the people of the Bay Area were organized into local tribelets that defended fixed territories under independent leaders. Typically, individual Bay Area tribelets included 200 to 400 people distributed among three to five semi-permanent villages, within territories measuring approximately 10 to 12 miles in diameter.

Native American occupation and use of the greater Bay Area, including the regions comprising Concord and Oakley, extended over 5,000-7,000 years and may be longer. Early archaeological investigations in Central California were conducted at sites located in the Sacramento-San Joaquin Delta region. The first published account documents investigations in the Lodi and Stockton area.

¹ FirstCarbon Solutions (FCS). 2022. California Department of General Services—Oak Hill Apartments Project Section 106 Cultural Resources Assessment.

² South Environmental. 2022. Built Environment Resource Assessment for the San Quentin Firing Range.

The initial archaeological reports typically contained descriptive narratives, with more systematic approaches sponsored by Sacramento Junior College in the 1930s. At the same time, University of California at Berkeley excavated several sites in the lower Sacramento Valley and Delta region, which resulted in recognizing archaeological site patterns based on a variation of intersite assemblages. Research during the 1930s identified temporal periods in Central California prehistory and provided an initial chronological sequence. In 1939, researcher Jeremiah Lillard of Sacramento Junior College noted that each cultural period led directly to the next and that influences spread from the Delta region to their regions in Central California. In the late 1940s and early 1950s, researcher Richard Beardsley of the University of California Berkeley documented similarities in artifacts among sites in the San Francisco Bay region and the Delta and refined his findings into a cultural model that ultimately became known as the Central California Taxonomic System (CCTS). This system proposed a uniform, linear sequence of cultural succession.

To address some of the flaws in the CCTS system, D.A. Fredrickson introduced a revision that incorporated a system of spatial and cultural integrative units. Fredrickson separated cultural, temporal, and spatial units from each other and assigned them to six chronological periods: Paleo-Indian (12,000 to 8000 years Before Present [BP]; Lower, Middle, and Upper Archaic [8000 to 1500 BP], and Emergent [Upper and Lower, 1500 to 250 BP]). The suggested temporal ranges are similar to earlier horizons, which are broad cultural units that can be arranged in a temporal sequence. In addition, Fredrickson defined several patterns—a general way of life shared within a specific geographical region. These patterns include:

- Windmill Pattern or Early Horizon (4500 to 3500 BP)
- Berkeley Pattern or Middle Horizon (3500 to 1500 BP)
- Augustine Pattern or Late Horizon (1500 to 250 BP)

Brief descriptions of these temporal ranges and their unique characteristics follow.

Windmill Pattern or Early Horizon (5000 to 3000 BP)

Characterized by the Windmill Pattern, the Early Horizon was centered in the Cosumnes district of the Delta and emphasized hunting rather than gathering, as evidenced by the abundance of projectile points in relation to plant processing tools. Additionally, atlatl, dart, and spear technologies typically included stemmed projectile points of slate and chert but minimal obsidian. The large variety of projectile point types and faunal remains suggests exploitation of numerous types of terrestrial and aquatic species. Burials occurred in cemeteries and intra-village graves. These burials typically were ventrally extended, although some dorsal extensions are known with a westerly orientation and a high number of grave goods. Trade networks focused on acquisition of ornamental and ceremonial objects in finished form rather than on raw material. The presence of artifacts made of exotic materials such as quartz, obsidian, and shell indicate an extensive trade network that may represent the arrival of Utian populations into Central California. Also indicative of this period are rectangular *Haliotis* and *Olivella* shell beads, and charmstones that usually were perforated.

Berkeley Pattern or Middle Horizon (3000 to 1500 BP)

The Middle Horizon is characterized by the Berkeley Pattern, which displays considerable changes from the Early Horizon. This period exhibited a strong milling technology represented by minimally shaped cobble mortars and pestles, although metates and manos were still used. Dart and atlatl technologies during this period were characterized by non-stemmed projectile points made primarily of obsidian. Fredrickson suggests that the Berkeley Pattern marked the eastward expansion of Miwok groups from the San Francisco Bay Area. Compared with the Early Horizon, there is a higher proportion of grinding implements at this time, implying an emphasis on plant resources rather than on hunting. Typical burials occurred within the village with flexed positions, variable cardinal orientation, and some cremations. As noted by Lillard, the practice of spreading ground ochre over the burial was common at this time. Grave goods during this period are generally sparse and typically include only utilitarian items and a few ornamental objects. However, objects such as charmstones, quartz crystals, and bone whistles occasionally were present, which suggest the religious or ceremonial significance of the individual. During this period, larger populations are suggested by the number and depth of sites compared with the Windmiller Pattern. According to Fredrickson, the Berkeley Pattern reflects gradual expansion or assimilation of different populations rather than sudden population replacement and a gradual shift in economic emphasis.

Augustine Pattern or Late Horizon (1500 BP to Historic Period)

The Late Horizon is characterized by the Augustine Pattern, which represents a shift in the general subsistence pattern. Changes include the introduction of bow and arrow technology; and most importantly, acorns became the predominant food resource. Trade systems expanded to include raw resources as well as finished products. There are more baked clay artifacts and extensive use of Haliotis ornaments of many elaborate shapes and forms. Burial patterns retained the use of flexed burials with variable orientation, but there was a reduction in the use of ochre and widespread evidence of cremation. Judging from the number and types of grave goods associated with the two types of burials, cremation seems to have been reserved for individuals of higher status, whereas other individuals were buried in flexed positions. Research indicates that Augustine Pattern represents expansion of the Wintuan population from the north, which resulted in combining new traits with those established during the Berkeley Pattern.

Central California research has expanded from an emphasis on defining chronological and cultural units to a more comprehensive look at settlement and subsistence systems. This shift is illustrated by the early use of burials to identify mortuary assemblages and more recent research using osteological data to determine the health of prehistoric populations. Although debate continues over a single model or sequence for Central California, the general framework consisting of three temporal/cultural units is generally accepted, although the identification of regional and local variation is a major goal of current archaeological research.

Ethnographic Background

The Coast Miwok

The San Francisco Bay Area consisted of several independent tribal territories during the prehistoric and early historic periods. Native Peoples largely spoke dialects of five distinct languages: Costanoan (Ohlone), Bay Miwok, Plains Miwok, Patwin, and Wappo. For over 10,000 years, the Coast Miwok

occupied the shoreline and hills of the Marin peninsula and sections of modern Sonoma County prior to arrival of white settlers. The Coast Miwok were hunter-gatherers whose shell mounds, artifacts, and burial middens still reside in the vicinity of the project site. Miwok is a California Penutian language that consists of several continuous and discrete groups. The project area is located within the traditional territory of the Tamal Aguasto group of Coast Miwok situated on the western shore of the San Pablo Bay, and were centered around the village of Awani-wi, just to the southeast of modern-day San Rafael.

A Chief headed each large Coast Miwok village, and the position was not hereditary. The Chief was tasked with taking care of people, offering counsel, and addressing the tribal members. There was also a woman Chief in the village whose task was to oversee certain traditional dances, such as the Acorn Dance. A second woman oversaw the women's ceremonial house, and as such played an important cultural role. Old dancers among the tribe were also looked to for healing rituals during times of illness. The Miwok social scheme is described as having divided the people into balanced halves or moieties, which are totemic, and adherence to which is hereditary. Descent was patrilineal, and marriage was preferential among relatives of the opposite moiety.

The Coast Miwok believed in Animism—a religious belief in which objects, places, and creatures, all possess a distinct spirit. One form of this belief was practiced as the Kuksu religion or Kuksu Cult; it involved acting, ceremonial dancing, feather dress costumes, singing, ritual fasting, offerings, and prayer. The deceased were either cremated or interred in a flexed position in the earth; cremation appears to be more common than flexed burial. Mourning ceremonies included wailing and dancing. The ceremony was completed with a ritualistic washing of the mourners by people of the opposite totemic moiety. Mourners may have also cut their hair off in demonstration of grief and thrown it in the water; after which, speaking the name of the deceased became taboo.

The Coast Miwok economy was based upon hunting, fishing, and gathering that supplied the tribal groups with a reliable sustenance year-round. The land provided abundant and diverse resources from marine foods along the waterways, to deer, bear, rabbit, woodrats, gophers, squirrels, terrestrial birds, and waterfowl. Acorns were a staple food, the leached meal was boiled with hot stones to create a mush, which was consumed in a bowl or made into cakes and bread. Buckeye fruits were also leached and prepared into a mush that was eaten with salt. Dried acorns, seeds, and tubers, as well as salmon runs, mud hens, and migratory birds, such as late winter geese would have sustained the Coast Miwok through winter and spring. Marine resources represented a large portion of the diet of the Coast Miwok, and included steelhead trout, salmon, and shellfish, such as mussels and clams.

Coast Miwok dwellings were conical and grass-covered and erected on a frame of two forked interlocking poles of willow or driftwood, against which additional poles leaned and were woven together to form a frame. Grass, rushes, or tule reeds were tied together with lupine root rush to form a shingle-like exterior. Dwellings likely had a slightly excavated hearth in the center below the smoke hole. Dwellings could accommodate six to 10 individuals. Large villages had a circular sweathouse, which was placed about 4-5 feet deep in the ground. Forked posts were laid around the perimeter, with their top level to the surface and were connected by poles to a large, forked post in the center of the pit. Transverse sticks covered with brush, grass, and earth formed the exterior. The

entrance is described as “gallery like, with a drop.” Sweathouses were larger structures and served as a social and work center for men. Some larger Coast Miwok villages contained a ceremonial chamber or dance house, which had a similar construction to the sweathouses. The ceremonial chambers that included both sexes measured approximately 15 feet in diameter and were excavated about 2 feet deep. The chambers used for women, were smaller and had grass or tule roofs, without an earthen covering.

Charms for hunting and fishing were constructed from polished stones, including obsidian and green chaledony. Stones were used to make a variety of lithics included projectile points used as utility knives, and butchering knives. The primary weapon and hunting tool of the Coast Miwok was the bow and arrow. The bow was backed with sinew, often from the wing of a brown pelican, which had been reshaped. From wood, the Coast Miwok hollowed log foot drums, double-bladed balsa paddles, and utensils. Boulders were used to create mortars. The Coast Miwok made cordage from lupine root (*Lupinus chamissonis*), and by twining the cordage together made a three-ply rope. Nets were also made from twine. Primarily women made baskets for various purposes from willow and the techniques were both coiled and twined. Baskets included mush bowls, cooking baskets, storage baskets, hopper and parching trays, and burden baskets.

Regional Historic Background

The history of Northern California can be divided into several periods of influence; pertinent historic periods are briefly summarized below.

Spanish Period

The Eastern Miwok first came into contact with European explorers during the sixteenth century beginning with Sir Francis Drake’s expedition in 1579, followed by Sebastián Rodriquez Cermeño in 1595. It is not until the later part of the eighteenth century that Europeans (primarily the Spanish) return to the region. Spanish colonial policy from 1769-1821 was directed at the founding of presidios, missions, and secular towns, with the land held by the Crown. The establishment of the Spanish Mission system brought drastic and permanent changes to the Coast Miwok way of life. By the early 1800s, the mission fathers began a process of cultural change that brought the majority of the local Native Americans into the missions. At the expense of traditional skills, the neophytes were taught the pastoral and horticultural skills of the Hispanic tradition. Spanish missionaries traveled into the Valley to recapture escaped neophytes and recruit inland Native Americans for coastal missions, such as nearby Mission San Rafael, which was established in 1817. In 1834, the Mission system was officially secularized, and the majority of the mission Native American population dispersed to local ranches, villages, or nearby pueblos. Following the collapse of the mission system, many of the local Native Americans returned to Northern California, bringing with them language and agricultural practices learned from the Spanish. During the latter half of the nineteenth century, the size of all Coast Miwok populations dwindled dramatically, due to the spread of European settlements and the diseases the Europeans brought with them.

Mexican Period

With the declaration of Mexican independence in 1821, Spanish control of Alta California ended, although little change actually occurred. Political change did not take place until mission

secularization in 1834, when Native Americans were released from missionary control and the mission lands were granted to private individuals. Mission secularization removed the social protection and support on which Native Americans had come to rely. It exposed them to further exploitation by outside interests, often forcing them into a marginal existence as laborers for large ranchos. Following mission secularization, the Mexican population grew as the native population continued to decline. Anglo-American settlers began to arrive in Alta California during this period and often married into Mexican families, becoming Mexican citizens, which made them eligible to receive land grants. In 1846, on the eve of the U.S.-Mexican War (1846 to 1848), the estimated population of Alta California was 8,000 non-natives and 10,000 natives. However, these estimates have been debated. Researchers believe the Native American population was 100,000 in 1850; the U.S. Census of 1880 reports the Native American population as 20,385.

American Period

In 1848, as a result of the Treaty of Guadalupe Hidalgo, California became a United States territory. Also in 1848, John Marshall found gold at Sutter's Mill, which marked the start of the Gold Rush. The influx of miners and entrepreneurs increased the population of California, not including Native Californians, from 14,000 to 224,000 in just 4 years.

Local Historic Background

History of Marin County

Home to the Costanoan Ohlone and Coast Miwok, the first European to land in the area was the Englishman, Francis Drake, and his crew in 1579. Sailing on behalf of the Spanish Crown, Sebastián Vizcaíno sailed along the coast and made landing in what is now Drake's Bay on the Pacific coastline of Marin County. While both Drake and Vizcaíno made landfall in the area, they did not establish any lasting settlement. The first Europeans to inhabit the area were the Spanish. On December 4, 1817, Jose Vicente de Sarría founded Mission San Rafael Arcángel in what is now modern-day downtown San Rafael. Designated as an *asistencia* or sub-mission to Mission San Francisco de Asís, Mission San Rafael Arcángel's aim was to provide medical care to Native Americans. Within a year, it had over 300 patients and was given full Mission status in 1822. In subsequent years, the area surrounding Mission San Rafael Arcángel grew with ranches for livestock, orchards, and a nascent boat-building industry.

Following the Mexican-American War and adoption of the California Constitution in 1849, General Mariano Vallejo, who headed a committee to name California's counties, suggested that the area be named "Marin" after a Coast Miwok Native American converted to Christianity and took the name "Marino" at the age of 20. Vallejo mistakenly believed that Marino, whom he called "Chief Marin," was a great Chief who waged war against the Spanish. He also served as overseer of Mission San Rafael Arcángel. Vallejo convinced the committee and Marin County was established on February 18, 1850, as one of the original 27 counties in California.

The fertile land and temperate climate of Marin County made it ideal for agriculture. In subsequent decades, agricultural farms focused on fruit orchards were established inland while livestock, particularly cattle ranching, predominated the coastal area. In addition, the cold currents off Drake's Bay provided ample fish and shellfish for the region's burgeoning fisheries. The extension of the San Francisco and North Pacific Railroad to San Rafael in 1879 brought further migration and tourists to the area.

During World War II, the southern portion of Marin County near the Marin Headlands served as the site of the construction of military bunkers and artillery in preparation for a potential military invasion of the West Coast from Japan. In the postwar period, Marin County became a local innovative center for entertainment industry. George Lucas established Lucafirms, known for the *Star Wars* and *Indiana Jones* movies, in the area in 1971. Other studios were established in the area including Brøderbund Software and Visual Concepts.

With its coastal influences and stark hills, Marin County contains a high level of biodiversity. Various State and national parks have been established in the area including Golden Gate National Recreation Area, Marin Islands National Wildlife Refuge, Muir Woods National Monument, and Point Reyes National Seashore. These along with other parks bring tourists from the San Francisco Bay Area and those outside the area to Marin County. Tourism along with agriculture continue to play an important role in the County. As of the 2020 census, Marin County is home to over 262,231 individuals.

History of San Quentin

The area of San Quentin began as a remote coastal point outside the lands of the Mission San Rafael Arcángel, which was established as an “asistencia” (sub-mission) in 1817, located in present day San Rafael. The area of San Quentin was originally named “Puente de Quentin” after the Native American Chief Quentin, a Miwok Indian who resided nearby, in the area now called Petaluma, and was known for his resistance against the Spanish at Mission San Rafael Arcángel.

Following the independence of Mexico from Spain in 1834, the Missions were secularized, and the land parceled out and granted to various settlers. The Puente de Quentin land grant included the entire peninsula, a portion of the valley at the base of Mount Tamalpa located to the west of the peninsula, and the southern salt marshes, totaling over 13,000 acres.

The land would change hands multiple times over the next couple of decades, and by 1850, ended up as the property of Benjamin Buckelew, an immigrant who traveled from New Jersey to California in 1846. Buckelew bought the entire land grant for \$32,500. This was also the year when the peninsula was officially named Point San Quentin by the U.S. Coast Survey Team of 1850.

During the late 1840s and early 1850s, California experienced an increase in crime due to a large influx of fortune seekers arriving in the area beginning with those from the eastern and southern United States, and coming all the way from Asia, Latin America, Europe, and as far Australia as a part of the California Gold Rush. Establishing a new prison was the State’s primary response to dealing with the rampant crime. In 1852, Buckelew solicited the State Prison Commission to consider his land at San Quentin for this prison, resulting in the sale of 20 acres of land on the south side of the Point to the Commissioners. This began a major period of development on the peninsula. The San Francisco Manufacturing Company also bought 16 acres of land from Buckelew adjacent to the prison to establish a steam brickyard that would supply the bricks to build the prison. Prior to the construction of San Quentin as the State’s first prison, men who were jailed during the Gold Rush were held on a ship called the *Waban* that was stationed in the San Francisco Bay. The ship was re-docked near Point San Quentin and the prisoners were used as labor to construct the prison, beginning in 1852. The cell blocks were completed in 1854, containing 48 windowless cells that were designed to hold 250 inmates, both men and women. The prison housed female prisoners until 1933.

Within the next few years, San Quentin Prison would gather a reputation for being a corrupt and dangerous place. Due to the prison initially being privately managed, prisoners could be hired out for labor, which resulted in rampant abuse and mistreatment. Inhumane living conditions, extreme overcrowding, brutal punishments, and insufficient security contributed to many escape attempts. In the prison's first year of operation in 1854, more than 80 prisoners broke out. In 1858, the State used force to try to reclaim control of the prison, and finally gained full control in 1860, instituting reform and creating new programs to improve the San Quentin.

Over the next couple of decades, the prison and the small settlement around it continued to expand. A small residential village that would become known as San Quentin Village developed directly east of the prison grounds, with a variety of single-family homes constructed to house employees and their families at the prison. Architectural styles of the homes consisted of simple Victorian era designs and later Craftsman bungalows after the turn of the twentieth century, reaching a total of about 40 homes overlooking the Bay.³ Transportation to and from the area increased when Martha Buckelew, widow of the man who sold the land for use as a prison, built a wharf and ferry terminal in 1860 at the spot where the Richmond-San Rafael Bridge now enters the peninsula. This became the main terminal for San Francisco to San Rafael traffic.

During the 1880s, the prison underwent multiple renovations and expansions, including the construction of factory buildings and a second hospital, and a new wall that surrounded the entire complex. The growing prison population required additional cells in the early twentieth century, and in the 1920s and 1930s, four additional multi-tiered cell blocks were built. The grounds eventually expanded to cover over 400 acres. The official designation of Highway 101 in 1926 brought travelers past the western side of the peninsula, with access to the Point and the western gate of the prison via Sir Francis Drake Boulevard. However, the western side of the point and prison remained largely undeveloped throughout the early twentieth century, with only a cemetery and unpaved roads developed by the 1930s.

By the midcentury, the area of San Quentin continued to develop due to the building of the Richmond to San Rafael Bridge in 1956. Just 4 years later, Interstate 580 was constructed, becoming the main link between regional traffic in the northern and southern bay areas. The 1950s and 1960s also marked the beginning of extensive dredging on the northeastern side of the peninsula to increase the land area. Prior to this, Francisco Boulevard, which connected San Quentin to San Rafael, ran along the edge of the Bay, connecting to the ferry and Main Street in the San Quentin Village. Expansion of the fringes of San Rafael stretched southeast, closer to the peninsula during these two decades. Through the 1980s, 1990s, and early 2000s, the new land surface was developed with commercial shopping centers and residential neighborhoods. The prison remains active in the present day.

Records Searches and Pedestrian Survey to Identify Existing Cultural Resources

Northwest Information Center

On August 8, 2021, a records search for the project site and a 0.5-mile radius beyond the project site boundary was conducted at the NWIC located at Sonoma State University in Rohnert Park, California.

³ South Environmental. 2022. Built Environment Resource Assessment for the San Quentin Firing Range.

The current inventories of the NRHP, the CRHR, the CHL list, the CPHI list, and the BERD for the County of Marin were also reviewed to determine the existence of previously documented local historical resources.

The results of the records search indicate that there are no recorded cultural resources within the project site. There are four prehistoric archaeological resources and three historic resources within a 0.5-mile radius of the project area (Table 3.4-1). In addition, 23 survey reports (Table 3.4-3) are on file with the NWIC for a 0.5-mile search radius beyond the project site. Only one of these previous reports (Table 3.4-2) overlaps with the current project site, and only a small portion of the southern boundary. This indicates that the majority of the project site has not been previously surveyed for cultural resources.

Table 3.4-1: Cultural Resources Within a 0.5-mile Radius of the Project Site

Resource No.	Resource Description	Date Recorded
P-21-000458	Resource Name—CA-MRN-000525—Prehistoric Lithic Scatter and Habitation Debris	1982
P-21-000529	Resource Name—CA-MRN-000603—Prehistoric Lithic Scatter and Habitation Debris	1982
P-21-000536	Resource Name—CA-MRN-000079, Nelson No. 79—Habitation Debris	1907
P-21-000541	Resource Name—CA-MRN- 000541—Shell Mound and Habitation Debris	1955
P-21-001157	Resource Name—Superintendent's House (for Remillard Brick Kiln); OHP Property Number—001072;OHP PRN—4939-0013-0000; OTIS Resource Number—404128	1977
P-21-001158	Resource Name—Green Brae Brick Yard; Resource Name—Green Brae Brick Kiln; OHP Property Number—001073; OHP PRN—NPS-78000704—0000 1S; OHP PRN—4939-0014-00001S; CHL—SHL-0917-0000 1CL; Resource Name—Green Brae Brick House; OHP Property Number—001127; OHP PRN—4939-0022-00001S;Voided—P-21-001212; Resource Name—Remillard Brick Kiln	1973
P-21-002831	Resource Name—Greenbrae Boardwalk	2013

Source: Northwest Information Center (NWIC) Records Search. August 8, 2021.

Table 3.4-2: Previous Investigations Within the Project Site

Report No.	Report Title/Project Focus	Author	Date
S-025255	Archaeological Field Inspection of the Proposed Development of Lot 41, San Quentin Point, Larkspur, Marin County, California	Miley Paul Holman	2000

Source: Northwest Information Center (NWIC) Records Search. August 8, 2021.

Table 3.4-3: Previous Investigations Within a 0.5-mile Radius of the Project Site

Report No.	Report Title/Project Focus	Author	Date
S-001165	Pipeline and Water Treatment Plant Facilities, Marin County	Cindy Desgrandchamp and Matthew Clark	1978
S-001668	A Cultural Resources Reconnaissance Within the East San Rafael Baylands	Mark Rudo	1979
S-002076	Final Report—Archaeological Evaluation of the Former Remillard Brick Kiln (Ca-Mrn-255), Larkspur	William Roop and Steven O'Brien	1980
S-002301	Archaeological Resources on Point San Quentin	No Author	1980
S-002860	Proposed Roadway Extension Project on Andersen Drive	David Chavez	1982
S-006424	Archaeological Resources Evaluation for the Central Marin Sanitation Wastewater Transportation Facilities Improvement Project—Phase II, Marin County, California (EPA Project No. C-06-2467-21)	Cindy Desgrandchamp and David Chavez	1984
S-012801	Cultural Resources Technical Report, Municipal Water District Water Supply Project	No Author	1991
S-012945	The Examination of Indian Shell mounds Within San Francisco Bay with Reference to the Possible 1579 Landfall of Sir Francis Drake	Adan E. Treganza	1957
S-013070	Archaeological Report for Green Brae Brickyard, 125 East Sir Francis Drake Boulevard, Larkspur, California	No Author	1975
S-013102	Evaluation of a Buried Archaeological Site on the Central Marin Wastewater Management Treatment Plant Site, Clean Water Grant C-06-2467-110	No Author	1982
S-015337	Archaeological monitoring of soil boring at Remillard Brick Kiln/Restaurant	Stephen Bryne	1993
S-016949	A Cultural Resources Evaluation of a Proposed Reclaimed Water Pipeline in the San Quentin Point, Corte Madera, Larkspur, Kentfield and San Rafael Areas	William Roop	1991
S-017570	An archaeological reconnaissance of the proposed additions for the Ross Valley Sewage Treatment Plant on Sir Francis Drake Boulevard	Stephen A. Dietz	1976
S-023626	Archaeological Investigations at CA-MRN-255/H, Larkspur, Marin County, California	David G. Bieling, Randall L. Dean, Kenneth Gobalet, Richard E. Hughes, Barry Miller, Randall Milliken, Alisa Reynolds, Nancy Valente, and Brian Wickstrom	2000

Report No.	Report Title/Project Focus	Author	Date
S-026317	An Evaluation of Archaeological Resources within the Ross Valley Sanitary District Parcel, 2000 Larkspur Landing Circle, Larkspur, California	William Roop	1995
S-026330	A Cultural Resources Evaluation of 135 East Sir Francis Drake Boulevard, Larkspur, Marin County, California (APN 018-171-05)	Lisa Pesnichak	2002
S-026993	Final Report: Monitoring of Construction Activities For the Reuse of the Former Remillard Brick Kiln, Larkspur Landing, City of Larkspur, California	William Roop	1989
S-037429	A Cultural Resources Evaluation of the Marin Sanitary Service Parcel, Jacoby Street, San Rafael, Marin County, California	William Roop	2010
S-037740	San Quentin Area Bike and Pedestrian Access Cultural and Paleontological Resources Constraints Study, near San Quentin State Prison, Marin County, California (LSA #ALT0903)	Theadora Fuerstenberg	2010
S-043710	Cultural Resources Study, Phase II Greenbrae Pipeline Replacement Project	Joshua Peabody	2013
S-044351	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	Emily Darko	2014
S-048942	Historic Property Survey Report for the Richmond-San Rafael Bridge Access Improvement Project, Contra Costa and Marin Counties, California; 04-MRN-580-PM 0.0/3.16, 04-CCO-580-PM 4.98/7.79, ID 0414000552; EA 04-2J6800	Adrian R. Whitaker	2016
Source: Northwest Information Center (NWIC) Records Search. August 8, 2021.			

Native American Heritage Commission Record Search

On August 23, 2021, FCS sent a letter to the NAHC in an effort to determine whether any sacred sites are listed on its Sacred Lands File for the project area. A response was received on September 2, 2021, indicating that the Sacred Lands File search produced a positive result for Native American cultural resources in the project area. To ensure Native American knowledge and concerns over potential unrecorded TCRs that may be affected by the proposed project, the NAHC included a list of four tribal representatives available for consultation. On October 22, 2021, FCS sent a letter containing project information and requesting any additional information to each tribal representative. These letters were for the sole purpose of soliciting additional information on potential TCRs for the Cultural Resources Assessment. No responses were received. Lead agency consultation pursuant to AB 52 was addressed by DGS, who did not identify any tribes that had requested consultation.

Cultural Resources Pedestrian Survey

On September 29, 2021, FCS Senior Archaeologist Dr. Dana DePietro, RPA, and FCS Archaeologist and Historian, Ti Ngo, conducted a pedestrian survey for unrecorded cultural resources in the project

site. The survey began in the southwest corner of the project site and moved north and east, using north–south transects spaced at 15-meter intervals. All areas of the project site were closely inspected for culturally modified soils or other indicators of potential historic or prehistoric resources. Because of the high level of vegetation across the project site, visibility of native soils was less than 5 percent. Native soils were most clearly visible in portions of the project site, where bioturbation had occurred or in areas of rocky granite outcroppings. The sections where native soils were visible were closely inspected using a hand trowel. Visible soils were largely composed of medium brown (10YR 6/4) silty clay soil, interspersed with quartz stones ranging from 3 to 5 centimeters. The project site lies on a steep gradient interspersed with granite outcroppings. The southern portion of the project site near Sir Francis Drake Road is hardscaped and contains imported fill.

Survey conditions were documented using digital photographs and field notes. During the survey, Dr. DePietro and Mr. Ngo examined all areas of the exposed ground surface for prehistoric artifacts (e.g., fire-affected rock, milling tools, flaked stone tools, tool-making debris, ceramics), soil discoloration and depressions that might indicate the presence of a cultural midden, faunal and human osteological remains, and features indicative of the former presence of structures or buildings (e.g., postholes, standing exterior walls, foundations) or historic debris (e.g., glass, metal, ceramics). No indications of prehistoric archaeological resources were found over the course of the pedestrian survey.

On September 9, 2022, Mr. Ngo conducted a second pedestrian survey of the project site to address the project’s expanded areas of proposed ground disturbance. Utilizing the same methodology of analysis outlined above, the survey began in the southwest corner of the project site and moved north and east, using north–south transects spaced at 15-meter intervals. Visibility of native soils was less than 5 percent due to the high level of vegetation. The sections where native soils were visible were closely inspected using a hand trowel. Visible soils were largely composed of medium brown (10YR 6/6) silty clay soil interspersed with granite and quartz stones ranging from 3 to 5 centimeters. No additional unrecorded archaeological or historical resources were found during the survey.

Over the course of the two surveys, Dr. DePietro and Mr. Ngo encountered the remnants of two structures within the project site, consisting of concrete walls used for a firing range. A bunker used for the hoisting of targets for the firing range lies immediately north of the project site and outside of the limits of disturbance of the project site. These structures appeared to be more than 45 years in age and had not been previously evaluated. Given that they may qualify as a historic resource under the CRHR or NRHP, Dr. DePietro and Mr. Ngo recommended that they be formally recorded and evaluated for potential historic significance.

On September 22, 2022, Dr. DePietro and Mr. Ngo conducted a third survey of the project site. From a record search request from the California Department of Corrections and Rehabilitation (CDCR), it was discovered that Boothill Cemetery, a cemetery used for the burial of inmates at San Quentin Prison, was located in the general vicinity of the project area. This cemetery was in operation from

1920 to 1959 and may contain the graves of up to 696 men.⁴ Using historical maps and GPS coordinates, Dr. DePietro and Mr. Ngo were able to locate the cemetery and map its recorded boundaries, which coincide with existing gates and fencing still present at the site. By comparing the GPS mapped boundaries of the cemetery with the boundaries of the projects proposed grading plan, they confirmed that the proposed zone of disturbance will not encroach on the mapped cemetery boundaries, which are in excess of 20 feet apart.

Architectural and Historic Resources Assessment

The historic significance of the firing range was evaluated on California Department of Parks and Recreation (DPR) Series 523 Forms.⁵ All structures associated with the firing range were evaluated relative to the four eligibility criteria under NRHP and CRHR. This included an evaluation of the property's potential significance in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and are either:

- A. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1).
- B. Associated with the lives of persons important to local, California, or national history (Criterion 2).
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values (Criterion 3).
- D. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4).

Building Description and NRHP/CRHR Evaluation

The following is a summary of the Built Environment Resource Assessment conducted by Architectural Historian, Samantha Murray MA, of South Environmental. While the CDCR could not provide information regarding the date of construction or years of operation of the firing range, a review of Historic Aerials shows that the range was built before 1931. The main distinguishable feature is the earth depression that holds the metal target hoist equipment. Also in 1931, a small reservoir was located directly adjacent to the east side of the range at the location of what is now the current shooting range. This reservoir was infilled by 2014. A 1956 aerial image shows what appears to be additional firing range development at the southern end of the property, which is no longer extant. This open grassy field and building were completely gone by the early 21st century. Aerial images throughout the late twentieth century indicate that the field continued to fill in with vegetation. The property is currently vacant and overgrown with vegetation. The extant of the firing range consists of a bunker that was utilized to raise targets. This bunker lies outside of the project site. Two sections of walls for the firing range and a foundation remain on-site.⁶

⁴ South Environmental. 2022. Built Environment Resource Assessment for the San Quentin Firing Range.

⁵ Ibid.

⁶ Ibid.

Criterion 1: While San Quentin is well known as a prison that historically held some of the nation’s most notorious and dangerous criminals, the firing range does not reflect any important aspects of the prison’s history or events. Constructed prior to 1931, it was used a training facility for prison staff and local law enforcement. In addition, the firing range’s lack of integrity negatively impacts the site’s interpretation. Therefore, it is not eligible under NRHP or CRHR Criterion 1.

Criterion 2: The firing range is a utilitarian structure and used as a means of training prison guards and law enforcement personnel. It is not associated with the lives of persons important in our past. Therefore, it is not eligible under NRHP or CRHR Criterion 2.

Criterion 3: The subject property is an early twentieth century firing range that was constructed for utilitarian use. It has no formal design and consists of basic concrete construction with steel equipment and rudimentary walls. The structure does not embody any distinctive characteristics and does not possess the characteristics of an outstanding example of a period, style, architectural movement, or construction, and is not a notable work of a significant architect, designer, or master builder. Furthermore, the original walls of the firing range have been partially removed and lack their original historical integrity and sense of historical feeling. Therefore, it is not eligible under NRHP or CRHR Criterion 3.

Criterion 4: The historical integrity and historical feeling of the firing range has been compromised due to decades of elemental exposure. The walls of the firing range are collapsed with some parts removed. The bunker, which is not located within the project site but outside of it, was used for hoisting targets and is the most well-preserved structure but contains rusted and decaying machinery. The lack of character-defining features and historical associations make it insignificant within its resource type. It is not the first, last, nor most significant firing range in California. It is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, it is not eligible under NRHP or CRHR Criterion 4.

In summary, the firing range does not appear to qualify under any of the above criteria. Therefore, it is not considered a historic resource under CEQA for the purposes of listing on the NRHP, CRHR, or any local listings.

3.4.3 - Regulatory Framework

Federal

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA), as amended, established the NRHP, which contains an inventory of the nation’s significant prehistoric and historic properties. Under 36 Code of Federal Regulations 60, a property is recommended for possible inclusion on the NRHP if it is at least 50 years old, has integrity, and meets one of the following criteria:

- It is associated with significant events in history, or broad patterns of events;
- It is associated with significant people in the past;

- It embodies the distinctive characteristics of an architectural type, period, or method of construction; or it is the work of a master or possesses high artistic value; or it represents a significant and distinguishable entity whose components may lack individual distinction; or
- It has yielded, or may yield, information important in history or prehistory.

Certain types of properties are usually excluded from consideration for listing in the NRHP, but they can be considered if they meet special requirements in addition to meeting the criteria listed above. Such properties include religious sites, relocated properties, graves and cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (ARPA) amended the Antiquities Act of 1906 (16 United States Code [USC] §§ 431–433) and set a broad policy that archaeological resources are important to the nation and should be protected and required special permits before the excavation or removal of archaeological resources from public or Native American lands. The purpose of the ARPA was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act (AIRFA) established federal policy to protect and preserve the inherent rights of freedom for Native American groups to believe, express, and exercise their traditional religions. These rights include but are not limited to access to sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

State

CEQA Guidelines Section 15064.5(a)—CEQA Definition of Historical Resources

CEQA Guidelines Section 15064.5(a), in Title 14 of the California Code of Regulations, defines a “historical resource” as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, 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.
3. Any object, building, structure, site, area, place, record, or manuscript which 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 on the California Register of Historical Resources.
4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

Therefore, under the CEQA Guidelines, even if a resource is not included on any local, State, or federal register, or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical resource for the purposes of CEQA if there is substantial evidence supporting such a determination. A lead agency must consider a resource to be historically significant if it finds that the resource meets the criteria for listing in the CRHR. Archaeological and historical sites are protected pursuant to a wide variety of State policies and regulations, as enumerated in the Public Resources Code. Cultural resources are recognized as nonrenewable resources and receive additional protection under the Public Resources Code and CEQA.

CEQA Guidelines Section 15064.5(a)(3)—California Register of Historical Resources Criteria

As defined by CEQA Guidelines, Section 15064.5(a)(3)(A-D), a resource shall be considered historically significant if the resource meets the criteria for listing on the CRHR. The CRHR and many local preservation ordinances have employed the criteria for eligibility to the NRHP as a model (see criteria described above under the description of the NHPA), since the NHPA provides the highest standard for evaluating the significance of historic resources. A resource that meets NRHP criteria is clearly significant. In addition, a resource that does not meet NRHP standards may still be considered historically significant at a local or State level.

California Public Resources Code Section 5024.1—California Register of Historical Resources

Section 5024.1 of the Public Resources Code states that the CRHR is a guide to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate

what properties are to be protected from substantial adverse change. Administration of the CRHR is to be overseen by the NAHC. Section 5024.1 indicates that the register shall include historical resources determined by the NAHC, according to adopted procedures, to be significant and to meet the criteria in subdivision (c).

CEQA Guidelines 15064.5(c)—Effects on Archaeological Resources

CEQA Guidelines state that a resource need not be listed on any register to be found historically significant. CEQA Guidelines direct lead agencies to evaluate archaeological sites to determine whether they meet the criteria for listing in the CRHR. If an archaeological site is a historical resource, in that it is listed or eligible for listing in the CRHR, potential adverse impacts to it must be considered. If an archaeological site is considered not to be a historical resource but meets the definition of a “unique archaeological resource” as defined in Public Resources Code Section 21083.2, then it would be treated in accordance with the provisions of that section.

CEQA Guidelines Section 15064.5(d)—Effects on Human Remains

Native American human remains and associated burial items may be significant to descendant communities and/or may be scientifically important for their informational value. They may be significant to descendant communities for patrimonial, cultural, lineage, and religious reasons. Human remains may also be important to the scientific community, such as prehistorians, epidemiologists, and physical anthropologists. The specific stake of some descendant groups in ancestral burials is a matter of law for some groups, such as Native Americans (CEQA Guidelines § 15064.5(d); PRC § 5097.98). CEQA and other State regulations regarding Native American human remains provide the following procedural requirements to assist in avoiding potential adverse effects on human remains within the contexts of their value to both descendant communities and the scientific community:

- When an initial study identifies the existence or probable likelihood that a project would affect Native American human remains, the lead agency is to contact and work with the appropriate Native American representatives identified through the NAHC to develop an agreement for the treatment and disposal of the human remains and any associated burial items (CEQA Guidelines § 15064.5(d); PRC § 5097.98).
- If human remains are accidentally discovered, the County Coroner must be contacted. If the County Coroner determines that the human remains are Native American, the Coroner must contact the NAHC within 24 hours. The NAHC must identify the Most Likely Descendant (MLD) to provide the opportunity to make recommendations for the treatment and disposal of human remains and associated burial items.
- If the MLD fails to make recommendations within 24 hours of notification or the project applicant rejects the recommendations of the MLD, the Native American human remains and associated burial items must be reburied in a location not subject to future disturbance within the project site (PRC § 5097.98).
- If potentially affected human remains or a burial site may have scientific significance, whether or not it has significance to Native Americans or other descendant communities, then under CEQA, the appropriate mitigation of effect may require the recovery of the scientific

information of the remains/burial through identification, evaluation, data recovery, analysis, and interpretation (CEQA Guidelines § 15064.5(c)(2)).

California Public Resources Code Section 5097.91—Native American Heritage Commission

Section 5097.91 of the Public Resources Code established the NAHC, whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.91 of the Public Resources Code, a State policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.98 of the Public Resources Code specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a County Coroner. Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

California Senate Bill 18—Protection of Tribal Cultural Places

SB 18 (Government Code § 65352.3) incorporates the protection of California traditional tribal cultural places into land use planning for cities, counties, and agencies by establishing responsibilities for local governments to contact, refer plans to, and consult with California Native American tribes as part of the adoption or amendment of any general or specific plan proposed on or after March 1, 2005. SB 18 requires public notice to be sent to tribes listed on the NAHC SB 18 Tribal Consultation list within the geographical areas affected by the proposed changes. Tribes must respond to a local government notice within 90 days (unless a shorter time frame has been agreed upon by the tribe), indicating whether they want to consult with the local government. Consultations are for the purpose of preserving or mitigating impacts to places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code that may be affected by the proposed adoption or amendment to a general or specific plan.

California Assembly Bill 52—Effects on Tribal Cultural Resources

AB 52 was signed into law on September 25, 2014, and provides that any public or private “project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment.” TCRs include “[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the CR or included in a local register of historical resources.” Under prior law, TCRs were typically addressed under the umbrella of “cultural resources,” as discussed above. AB 52 formally added the category of “tribal cultural resources” to CEQA and extends the consultation and confidentiality requirements to all projects, rather than just projects subject to SB 18 as discussed above.

The parties must consult in good faith, and consultation is deemed concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect on a TCR (if such a significant effect exists); or (2) when a party concludes that mutual agreement cannot be reached. Mitigation measures agreed upon during consultation must be recommended for inclusion in the

environmental document. AB 52 also identifies mitigation measures that may be considered to avoid significant impacts if there is no agreement on appropriate mitigation. Recommended measures include:

- Preservation in place
- Protecting the cultural character and integrity of the resource
- Protecting the traditional use of the resource
- Protecting the confidentiality of the resource
- Permanent conservation easements with culturally appropriate management criteria

California Public Resources Code Section 21074—Effects on Tribal Cultural Resources

AB 52 amended CEQA to identify an additional category of resource to be considered under CEQA, called “tribal cultural resources,” and added Public Resources Code Section 21074, which defines “tribal cultural resources” as follows:

- (a) “Tribal cultural resources” are either of the following:
 - (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - (A) Included or determined to be eligible for inclusion in the CRHR.
 - (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
 - (2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- (c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Health and Safety Code Section 7050.5 (Treatment of Human Remains)

Section 7050.5 of the California Health and Safety Code sets forth provisions related to the treatment of human remains. As the Code states, “every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor” except under circumstances as provided in Section 5097.99 of the Public Resources Code. The regulations also provide guidelines for the treatment of human remains found in locations other than a dedicated cemetery, including responsibilities of the Coroner.

Public Resources Code Section 5097.98 (Discovery of Human Remains)

Section 5097.98 provides protocol for the discovery of human remains. It states that “when the commission receives notification of a discovery of Native American human remains from a County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify persons believed to be most likely descended from the deceased Native American.” It also sets forth provisions for descendants’ preferences for treatment of the human remains and what should be done if the commission is unable to identify a descendant.

3.4.4 - Approach to Analysis

The project site is owned by the State of California and the proposed project would develop the property for State use. As such the proposed project is not required to conform to existing local land use regulation under the principles of State Sovereignty.

This evaluation focuses on whether implementation of the proposed project would impact historic, architectural, archaeological resources, or human remains.

The proposed project may have an impact on a historical resource if construction of the proposed project would impair a resource’s eligibility for inclusion in the CRHR. Analysis is based on information collected from record searches at the NWIC, additional archival research, pedestrian surveys, and information from historic architectural assessment of existing properties more than 45 years in age located within the project boundaries. If an identified impact would leave a resource no longer able to convey its significance, meaning that the resource would no longer be eligible for listing in the CRHR, then the proposed project’s impact would be considered a significant adverse change. According to Public Resources Code Section 15126.4(b)(1) (CEQA Guidelines), if a project adheres to the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, then the project’s impact “shall generally be considered mitigated below a level of significance and thus is not significant.”

Both direct and indirect effects of project implementation were considered for this analysis. Direct impacts are typically associated with construction and/or ground-disturbing activities, and have the potential to immediately alter, diminish, or destroy all or part of the character and quality of archaeological resources and/or historic architecture, human remains, or eligible TCRs. Indirect impacts are typically associated with post-project implementation conditions that have the potential to alter or diminish the historical setting of a cultural resource (generally historic architecture) by introducing visual intrusions on existing historical structures that are considered undesirable.

3.4.5 - Thresholds of Significance

The lead agency utilizes the criteria in CEQA Guidelines Appendix G Environmental Checklist to determine whether cultural resources impacts resulting from the implementation of the proposed project would be considered significant if the project would:

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

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- c) Disturb any human remains, including those interred outside of formal cemeteries?
- d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
- e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

3.4.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the proposed project and provides mitigation measures where appropriate.

Historic Resources

Impact CUL-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

Impact Analysis

Historic resources in this context refer to the built environment, mainly buildings and structures over 45 years in age that may be eligible for inclusion on the CRHR or NRHP. The NWIC record search results indicate that there are three historic resources within a 0.5-mile radius of the project boundary, but none recorded within the project site itself. FCS conducted three pedestrian surveys of the project site and encountered a firing range that was constructed prior to 1931. As discussed in detail above, the Built Environmental Assessment of the firing range found that it does not qualify as a historic resource under CEQA for the purposes of listing on the NRHP, CRHR, or any local listings.

The nearby prisoner cemetery was re-mapped and determined to lie outside the proposed project's grading plan and zone of disturbance. Given that the aboveground remains of the adjacent cemetery are almost non-existent, consisting only of a broken gate, dilapidated wood and wire fencing and five surviving wooden grave markers, indirect visual impacts to the cemetery arising from the adjacent development are considered less than significant.

In the event project related grading and ground disturbance inadvertently extended into the cemetery, this would present a potentially significant impact related to a historic resource. Implementation of Mitigation Measure (MM) CUL-1, which requires the erection of environmentally

sensitive area fencing around the prisoner cemetery, as well as MM CUL-2, which provides cultural resources sensitivity training to construction staff would reduce direct and indirect impacts related to historic resources to a less than significant level.

Operation

Impacts related to a project's potential to cause a substantial adverse change in the significance of a historical resource are limited to construction impacts. No respective direct or indirect operational impacts related to historical resources would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM CUL-1 Environmentally Sensitive Area Fencing to Identify and Protect Adjacent Historic Era Resources

In order to protect the historic era prisoner cemetery adjacent to the site from inadvertent project related ground disturbance, environmentally sensitive area fencing shall be erected around the cemetery boundaries by a qualified Archaeologist prior to the initiation of construction activities. No construction activity or ground disturbance shall take place within 20 feet of the environmentally sensitive area fencing. The environmentally sensitive area fencing shall remain in place until all project-related ground disturbance is complete.

MM CUL-2 Worker Cultural Resources Sensitivity Training

Prior to the initiation of construction activities an Archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for archaeology shall provide Worker Environmental Awareness Program (WEAP) "tailgate" training for construction personnel conducting ground disturbance at the site or off-site improvements. The training shall include a handout, visual aids, and an overview of applicable laws, project mitigation measures, and procedures to be followed with regards to historical and/or archaeological resources that may be encountered over the course of the project. Any Native American Monitors or representatives consulting on the proposed project shall be invited to attend and participate in the training session.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Archaeological Resources

Impact CUL-2:	The proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
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Impact Analysis

The NWIC record research indicated that there are four prehistoric archaeological resources within a 0.5-mile radius of the project area, none of which are located in the project site itself. Three pedestrian surveys of the project site did not encounter any indications of prehistoric archaeological resources. The steep terrain of the project site limits the probability of finding evidence of prehistoric archaeological resources; however, the nature and location of historic-era resources in proximity to the site raises the potential for historic-era archaeological features to be present. With respect to historic resources of an archaeological nature, it is infeasible under the circumstances present to impose measures requiring preservation in place through, for instance, avoidance of resource sites, incorporation of sites within parks, greenspace, or other open space, covering sites with a layer of chemically stable soil before building facilities, or deed sites into a permanent conservation easement. The project site faces a number of constraints that include topography, habitat, and other resources, which would make movement of the project infeasible. The proposed project is an affordable housing development intended to address a housing crisis, and the loss of units upsets key project objectives and state policies intended to maximize housing opportunities. Moreover, it must be repeated that the project site is not known to contain any significant resources and, to the extent a significance determination is made, it conservatively contemplates the possibility of a discovery, however unlikely. Accordingly, resource recovery protocols, as contemplated in MM CUL-2 and MM CUL-3, constitute the only appropriate and feasible mitigation.

To this end, implementation of MM CUL-2, which requires cultural resources sensitivity training for construction staff and MM CUL-3, which requires the presence of qualified Archaeological Monitor during any grading or trenching, would reduce potential impacts to resources that may be inadvertently discovered during project construction. MM CUL-3 is also applicable to the off-site improvements that involve digging or trenching, including the installation of sidewalks, curbs, gutters, landscaping, storm drain lines, bioretention swales, and extension of waterlines. Implementation of MM CUL-3, which also includes provisions for the inadvertent discovery of archaeological resources, would further reduce potential impacts to archaeological resources that may be discovered during project construction to a less than significant level.

Operation

Impacts related to a project's potential to cause a substantial adverse change in the significance of an archaeological resource are limited to construction impacts. No respective direct or indirect operational impacts related to archaeological resource would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-2.

MM CUL-3 Archaeological Monitoring, and the Halting of Construction Upon Encountering Archaeological Materials

An Archaeologist who meets the Secretary of the Interior’s Professional Qualification Standards for archaeology shall be present to monitor all ground disturbance activities. In the event a potentially significant historical and/or archaeological resource is encountered during subsurface earthwork activities, all construction activities within a 50-foot radius of the find shall cease and workers shall avoid altering the materials until an Archaeologist has evaluated the situation. The applicant for the proposed project shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Potentially significant cultural resources consist of, but are not limited to, stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the Archaeologist identifies a resource, the resource shall be treated with the appropriate dignity, taking into account the resource’s historical or cultural value, meaning, and traditional use, as determined by the Archaeologist. Work may proceed on other parts of the project site while mitigation for cultural resources is carried out. All significant cultural materials recovered shall, at the discretion of the consulting professional, be subject to scientific analysis, professional museum curation, and documentation according to current professional standards. The Archaeologist must prepare a data recovery plan before any excavation of resources begins. Any previously undiscovered resources found during construction within the project site shall further be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and shall be submitted to Contra Costa County Department of Conservation and Development, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Human Remains

Impact CUL-3: The proposed project would not disturb human remains, including those interred outside of formal cemeteries.

Impact Analysis

Four prehistoric resources have been recorded within a 0.5 mile radius of the project site, none of which are associated with human remains. Boothill Cemetery, a historical cemetery for the interred inmates of San Quentin that was operational from 1920 to 1959, is located in the vicinity of the project area. A pedestrian survey to relocate the boundary of Boothill Cemetery found that it is located in close proximity to, but outside of, the project site and limits of proposed ground disturbance.

Given the overall steep terrain, the project site is unlikely to contain prehistoric burials. The historic cemetery is also situated well outside the project boundary. Nevertheless, activities associated with the proposed project, such as trenching and grading, could inadvertently encounter and potentially damage or destroy previously undiscovered human remains, which would represent a potentially significant impact related to human remains. The implementation of MM CUL-1 to establish environmentally sensitive area fencing that would provide a significant distance between the limits of ground disturbance and the boundaries of Boothill Cemetery would significantly reduce the possibility of disturbing human remains. The implementation of MM CUL-2 and MM CUL-3, which requires WEAP training for construction staff and that Archaeologist be present during all ground-disturbing activities and provides guidelines for the procedure to follow in the event human remains are uncovered, as well as MM CUL-4, which provides direction on steps that shall be followed in the event historic-era or pre-contact human remains are discovered, would reduce direct and indirect impacts to human remains to a less than significant level with mitigation.

Operation

Impacts related to a project's potential to disturb human remains are limited to construction impacts. No respective direct or indirect operational impacts related to human remains would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-1, MM CUL-2, and MM CUL-3.

MM CUL-4 Stop Construction Upon Encountering Human Remains

If during the course of project construction, there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. If the Coroner determines the remains to be Native American, the Coroner shall contact the NAHC within 24 hours, and the Native American Heritage Commission (NAHC) shall identify the person or persons it believes to be the Most Likely Descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resource Code Section 5097.98.
2. Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project site in a location not subject to further subsurface disturbance:

- The NAHC is unable to identify a most likely descendant, or the most likely descendant failed to make a recommendation within 48 hours after being notified by the commission.
- The MLD identified fails to make a recommendation.
- The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Listed or Eligible Tribal Cultural Resources

Impact CUL-4: **The proposed project would not cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).**

Construction

The NWIC record search indicated that there are four prehistoric resources within a 0.5-mile radius of the project site but none within the project site itself. FCS sent a letter to the NAHC in an effort to determine whether any sacred sites are listed on its Sacred Lands File for the project area. A response was received on September 2, 2021, indicating that the Sacred Lands File search produced a positive result for Native American cultural resources in the project area. To ensure Native American knowledge and concerns over potential unrecorded TCRs that may be affected by the project, the NAHC included a list of four tribal representatives available for consultation. On October 22, 2021, FCS sent a letter containing project information and requesting any additional information to each tribal representative. These letters were for the sole purpose of soliciting additional information on potential TCRs for the Cultural Resources Assessment. No responses were received. Lead agency consultation pursuant to AB 52 was addressed by DGS, who did not identify any tribes that had requested consultation.

While no listed or eligible TCRs have been identified within the project site, subsurface construction activities always have the possibility of uncovering TCRs. MM CUL-5a and MM CUL-5b, which detail procedures for the treatment and avoidance of TCRs, would reduce potential impacts to TCRs that may be discovered during project construction. If a potential resource is identified, construction would be required to stop until appropriate identification and treatment measures are implemented. Therefore, in conjunction with MM CUL-2, MM CUL-3, and MM CUL-4, direct and indirect impacts related to TCRs would be less than significant with mitigation.

Operation

Impacts related to a project’s potential to cause a substantial adverse change in the significance of a State listed or eligible tribal cultural resource are limited to construction impacts. No respective operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-2, MM CUL-3, and MM CUL-4.

MM CUL-5 Native American Construction Monitoring

(TBD based on final results of tribal consultation)

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Lead Agency Determined Tribal Cultural Resources

Impact CUL-5: The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

Construction

A letter was sent to the NAHC on August 23, 2021, in an effort to determine whether any sacred sites are listed on its Sacred Lands File for the project area. A response was received on September 2, 2021, indicating that the Sacred Lands File search produced a positive result for Native American cultural resources in the project area. The NAHC included a list of four tribal representatives available for consultation. Lead agency consultation pursuant to AB 52 was addressed by DGS, who did not identify any tribes that had requested consultation.

While the lead agency has not identified any TCRs meeting the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, undiscovered TCRs may be encountered and adversely impacted during project construction. Implementation of MM CUL-2, MM CUL-3, MM CUL-4, and MM CUL-5a, would reduce these potential impacts to a less than significant level.

Operation

Impacts related to a project’s potential to cause a substantial adverse change in the significance of a State listed or eligible tribal cultural resource is limited to construction impacts. No respective operational impacts would occur.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM CUL-2, MM CUL-3, MM CUL-4, and MM CUL-5.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

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3.5 - Energy

3.5.1 - Introduction

This section describes the existing energy setting in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to energy that could result from implementation of the project. Information in this section is based on project-specific energy calculation outputs included in Appendix B.

During the Draft Environmental Impact Report (Draft EIR) scoping period, three public comments were received related to energy:

- The Draft EIR should evaluate if the project could eliminate the use of natural gas by making the proposed project fully electric.
- The Draft EIR should evaluate whether the proposed project could include electric vehicle (EV) charging and electric bicycle charging infrastructure in the project's parking structure.
- The Draft EIR should explain why natural gas is needed for the proposed project and whether solar panels are being considered in the project design.

3.5.2 - Existing Setting

Energy Basics

Energy is generally transmitted either in the form of electricity, measured in kilowatts (kW)¹ or megawatts (MW),² or natural gas measured in British Thermal Units (BTU), or cubic feet.³ Fuel, such as gasoline or diesel, is measured in gallons or liters.

Electricity

Electricity is used primarily for lighting, appliances, and other uses associated with the project.

Natural Gas

Natural gas is used primarily for heating, water heating, and cooking purpose and is typically associated with commercial and residential uses.

Fuel

Fuel is used primarily for powering off-road equipment, trucks, and passenger vehicles. The typical fuel types used are diesel and gasoline.

¹ 1 kW = 1,000 watts; A watt is a derived unit of power that measure rate of energy conversion. 1 watt is equivalent to work being done at a rate of 1 joule of energy per second. In electrical terms, 1 watt is the power dissipated by a current of 1 ampere flowing across a resistance of 1 volt.

² 1 MW = 1 million watts

³ A unit for quantity of heat that equals 100,000 British thermal units. A British thermal unit is the quantity of heat required to raise the temperature of 1 pound of liquid water 1 degree Fahrenheit at a constant pressure of 1 atmosphere.

Electricity Generation, Distribution, and Use

State of California

In 2021, the State of California generated 277,764 gigawatt-hours (GWh), which is up 2 percent from year 2020. Total renewable energy reached 33.6 percent in 2021, up 3.5 percent from 2020 levels. California's non-CO₂ emitting electric generation categories (nuclear, large hydroelectric, and renewables) accounted for 49 percent of its in-state generation, compared to 51 percent in 2020. The change is attributable to the continued impacts from California's ongoing drought.⁴

According to the United States Energy Information Administration (EIA),⁵ in 2021, California ranked fourth in the nation in electricity production, fourth in conventional hydroelectric generation, and first as a producer of electricity from solar, geothermal, and biomass resources. California leads the nation in solar thermal electricity capacity and generation.

Electricity and natural gas are distributed through the various electric load-serving entities (LSEs) in California. These entities include investor-owned utilities (IOUs), publicly owned LSEs, rural electric cooperatives, community choice aggregators, and electric service providers.⁶

Marin County

Pacific Gas and Electric Company (PG&E) and Marin Clean Energy (MCE) provide electricity to Marin County (County). In 2020, approximately 700 GWh of electricity was consumed by residential users while approximately 630 GWh of consumption was from all other nonresidential users in Marin County.⁷

Project Site

The project site is currently vacant other than an existing sewage junction box, chemical dosing station, and an approximately 11,500-square-foot asphalt pad located in the southwestern corner of the project site. Therefore, electricity consumption from the project site is minimal.

Natural Gas Generation, Distribution, and Use

State of California

Natural gas is used for everything from generating electricity to cooking and space heating to alternative transportation fuel. Natural gas generation represented 11 percent of electric power generation in 1990 and increased over the 30-year period to represent 37.9 percent of electric

⁴ California Energy Commission (CEC). 2021 Total System Electric Generation. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation>. Accessed September 23, 2022.

⁵ United States Energy Information Administration (EIA). California State Profile and Energy Estimates. Website: <https://www.eia.gov/state/?sid=CA>. Accessed September 23, 2022.

⁶ California Energy Commission (CEC). 2022. Electricity Load-Serving Entities (LSEs) in California. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/electric-load-serving-entities-lses>. Accessed September 23, 2022.

⁷ California Energy Commission (CEC). 2021. Electricity Consumption by County. Website: <http://www.ecdms.energy.ca.gov/elecbycounty.aspx>. Accessed September 11, 2022.

power generation in 2021.⁸ In 2020, the State ranked 14 in natural gas marketed production, producing 170,579 million cubic feet of natural gas.⁹

Natural gas-fired generation has become the dominant source of electricity in California, as it currently accounts for approximately 45 percent of electricity consumption.¹⁰ Because natural gas is a dispatchable resource that provides load when the availability of hydroelectric power generation and/or other sources decrease, use varies greatly from year to year. The availability of hydroelectric resources, the emergence of renewable resources for electricity generation, and overall consumer demand are the variables that shape natural gas use in electric generation.

Marin County

The County consumes fossil fuels, natural gas, and gasoline for construction, lighting, heating, and cooling of residences and transportation of people within, to, and from the County.

Project Site

As stated previously, the project site is currently vacant other than an existing sewage junction box, chemical dosing station, and an approximately 11,500-square-foot asphalt pad located in the southwestern corner of the project site. Existing electricity use associated with the project site is minimal.

Fuel Use

State of California

California is one of the top producers of petroleum in the nation, with drilling operations occurring throughout the State. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay Area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay Area. Crude oil production in California and Alaska is in decline. According to the EIA, California's field production of crude oil has steadily declined since the mid-1980s, totaling approximately 4.427 million barrels in 2021.¹¹ At the same time, California refineries have become increasingly dependent on foreign imports.¹² Foreign suppliers provide approximately half of the crude oil refined in California.¹³

⁸ California Energy Commission (CEC). 2022. 2021 Total System Electric Generation. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation>. Accessed September 23, 2022.

⁹ United States Energy Information Administration (EIA). 2020. Rankings: Natural Gas Marketed Production, 2020. Website: <https://www.eia.gov/state/rankings/?sid=CA#series/47>. Accessed September 23, 2022.

¹⁰ California Energy Commission (CEC). 2021. Supply and Demand of Natural Gas in California. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california>. Accessed September 23, 2022.

¹¹ California Energy Commission (CEC). California Field Production of Crude Oil. Website: <https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA2&f=M>. Accessed August 10, 2022.

¹² California Energy Commission (CEC). 2020. Oil Supply Sources to California Refineries. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/oil-supply-sources-california-refineries>. Accessed August 10, 2022.

¹³ California Energy Commission (CEC). 2019. Foreign Sources of Crude Oil Imports to California 2020. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/foreign-sources-crude-oil-imports>. Accessed August 10, 2022.

According to the EIA, transportation accounted for nearly 39 percent of California’s total energy demand, amounting to approximately 3,058 trillion BTU in 2019 and 2,355.5 trillion BTU in 2020.¹⁴ California’s transportation sector, including rail and aviation, consumed roughly 565 million barrels of petroleum fuels in 2019 and 524 million barrels in 2020.¹⁵ The California Energy Commission (CEC) produces the California Annual Retail Fuel Outlet Report, which is a compilation of gasoline and diesel fuel sales data from across the State available at the county level. According to the CEC, California’s 2020 fuel sales totaled 12,572 million gallons of gasoline and 2,979 million gallons of diesel. Marin County’s 2020 fuel sales totaled 77 million gallons of gasoline and 4 million gallons of diesel.¹⁶

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various Statewide regulations and plans, such as the Low Carbon Fuel Standard (LCFS) and Senate Bill (SB) 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle, with transportation fuels including hydrogen, biodiesel, and electricity. Currently, 53 public hydrogen refueling stations exist in California; however, none are in the County.¹⁷ Currently, 21 public biodiesel refueling stations are in California, with none of them in the County.¹⁸

Electric Vehicles

Electricity can be used to power electric and plug-in hybrid EVs directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle’s batteries. Fuel cells are being explored to use electricity generated onboard the vehicle to power electric motors. Currently, California has 13,836 EV charging stations, including all charger types, and 35,662 EV supply equipment (EVSE) ports.¹⁹ Currently, 96 EV charging stations are located within the boundaries of the County, with several located within a mile of the project site.

3.5.3 - Regulatory Framework

Federal

Energy Independence and Security Act

The Energy Policy Act of 2005 created the Renewable Fuel Standard program. The Energy Independence and Security Act (EISA) of 2007 expanded this program by:

- Expanding the Renewable Fuel Standard program to include diesel in addition to gasoline;

¹⁴ United States Energy Information Administration (EIA). 2021. Profile Overview. Website: <https://www.eia.gov/state/?sid=CA#tabs-2>. Accessed September 23, 2022.

¹⁵ United States Energy Information Administration (EIA). 2020. Total Petroleum Consumption Estimates, 2020. Website: https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_use_pa.pdf. Accessed August 10, 2022.

¹⁶ California Energy Commission (CEC). 2022. California Retail Fuel Outlet Annual Report. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>. Accessed August 10, 2022.

¹⁷ United States Department of Energy. 2022. Alternative Fuels Data Center. Website: <https://afdc.energy.gov/stations/#/analyze?country=US®ion=US-CA&fuel=BD>. Accessed September 11, 2022.

¹⁸ Ibid.

¹⁹ Ibid.

- Increasing the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- Establishing new categories of renewable fuel and setting separate volume requirements for each one; and
- Requiring the United States Environmental Protection Agency (EPA) to apply lifecycle greenhouse gas (GHG) performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

This expanded Renewable Fuel Standard program lays the foundation for achieving substantial reductions of GHG emissions from the use of renewable fuels, reducing the use of imported petroleum, and encouraging the development and expansion of the nation’s renewable fuels sector.

Signed on December 19, 2007, the EISA aims to:

- Move the United States toward greater energy independence and security;
- Increase the production of clean renewable fuels;
- Protect consumers;
- Increase the efficiency of products, buildings, and vehicles;
- Promote research on and deploy GHG capture and storage options;
- Improve the energy performance of the federal government; and
- Increase United States energy security, develop renewable fuel production, and improve vehicle fuel economy.

EISA reinforces the energy reduction goals for federal agencies put forth in Executive Order 13423 and introduces more aggressive requirements. The three key provisions enacted are the Corporate Average Fuel Economy Standards, the Renewable Fuel Standard, and the appliance/lighting efficiency standards.

The EPA is committed to developing, implementing, and revising both regulations and voluntary programs under the following subtitles in EISA,²⁰ among others:

- Increased Corporate Average Fuel Economy Standards
- Federal Vehicle Fleets
- Renewable Fuel Standard
- Biofuels Infrastructure
- Carbon Capture and Sequestration

EPA and National Highway Traffic Safety Administration Light-Duty Vehicle GHG Emission Standards and Corporate Average Fuel Economy Standards Final Rule

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light-duty trucks. The law has become more stringent over time. On May 19, 2009,

²⁰ United States Environment Protection Agency (EPA). Summary of the Energy Independence and Security Act. Website: <https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act>. Accessed September 27, 2022.

former President Barack Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. It requires these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. These standards would cut CO₂ emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

The EPA and NHTSA issued final rules in a second phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025, in August 2012.²¹ The new standards apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles. These final standards are projected to result in an average industry-fleet-wide level of 163 grams/mile of CO₂ in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and NHTSA issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies proposed engine and vehicle standards that began in the 2014 model year and achieve up to a 20 percent reduction in CO₂ emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles, and a 15 percent reduction for diesel vehicles by the 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and CO₂ emissions from the 2014 to 2018 model years.

The State of California has received a waiver from the EPA to have separate, stricter Corporate Average Fuel Economy Standards. Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the incidental reduction of GHG emissions. In order to manage the State's energy needs and promote energy efficiency, Assembly Bill (AB) 1575 created the CEC in 1975.

²¹ United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: <https://www.nhtsa.gov/document/fact-sheet-epa-and-nhtsa-propose-standards-reduce-greenhouse-gas-emissions-and-improve>. Accessed September 27, 2022.

State

California AB 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the California Air Resources Board (ARB) to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.²²

The standards were phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards were expected to result in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards were expected to result in about a 30 percent reduction.

The second phase of the implementation for the Pavley Bill was incorporated into amendments to the Low Emission Vehicle (LEV) Program, referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will reduce pollutants from gasoline and diesel-powered cars and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EVs, and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.²³

California Code of Regulations Title 13: Motor Vehicles

California Code of Regulations, Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling²⁴ seeks to reduce public exposure to diesel particulate matter and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy-duty diesel engines and alternative idle-reduction technologies to limit the idling of diesel-fueled commercial motor vehicles. Any person who owns, operates, or causes to operate any diesel-fueled commercial motor vehicle must not allow a vehicle to idle for more than 5 consecutive minutes at any location or operate a diesel-fueled auxiliary power system for greater than 5 minutes at any location when within 100 feet of a restricted area.

California Code of Regulations, Title 13: Division 3, Chapter 9, Article 4.8, Section 2449: General Requirements for In-Use Off-Road Diesel-Fueled Fleets regulates oxides of nitrogen (NO_x), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. This measure also requires each fleet to meet fleet average requirements or to demonstrate that it has met “best available control technology” requirements. Additionally, this

²² California Legislative Information. 2002. Clean Car Standards—Pavley, Assembly Bill 1493. Website:

https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=200120020AB1493. Accessed September 27, 2022.

²³ California Air Resources Board (ARB). 2013. Final 2017 Scoping Plan and Appendices. Website: <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents>. Accessed September 27, 2022.

²⁴ California Code of Regulations. 2022. Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Accessed September 29, 2022.

measure requires medium and large fleets to have a written idling policy that is made available to operators of the vehicles informing them that idling is limited to 5 consecutive minutes or less.

California Senate Bill 100: California Renewables Portfolio Standard Program—Emissions of Greenhouse Gases

SB 100 requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include SB 1078, which is discussed below; SB 107, which changed the target date to 2010; and Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the California Air Resources Board (ARB) to adopt regulations by July 31, 2010, to enforce S-14-08. SB X1-2 codifies the 33 percent renewable energy requirement by 2020.

California Senate Bill 1020: Clean Energy, Jobs, and Affordability Act of 2022

SB 1020 requires all eligible renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to California end-use customers by December 31, 2035; 95 percent of all retail sales of electricity to California end-use customers by December 31, 2040; 100 percent of all retail sales of electricity to California end-use customers by December 31, 2045; and 100 percent of electricity procured to serve all State agencies by December 31, 2035.

California Senate Bill 1078: Renewable Electricity Standards

On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard (RPS) target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's LSEs to meet a 33 percent renewable energy target by 2020. The ARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23.

California SB 350: Clean Energy and Pollution Reduction Act

In 2015, the State legislature approved and the Governor signed SB 350 which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the bill due to opposition and concern that it would prevent the bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:²⁵

²⁵ California Legislative Information. 2015. Senate Bill 350 Clean Energy and Pollution Reduction Act of 2015. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed September 27, 2022.

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024 and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission, the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

California Code of Regulations Title 24

Part 6 (Energy Efficiency Standards for Residential and Nonresidential Buildings)

California Code of Regulations Title 24, Part 6 (California’s Energy Efficiency Standards for Residential and Nonresidential Buildings) was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 Building Energy Efficiency Standards became effective on January 1, 2020.²⁶ On August 11, 2021, the California Energy Commission (CEC) adopted the 2022 Building Energy Efficiency Standards. In December 2021, it was approved by the California Building Standards Commission for inclusion into the California Building Standards Code.²⁷ The 2022 Building Energy Efficiency Standards became effective on January 1, 2023.

Part 11 (California Green Building Standards Code)

California Code of Regulations Title 24, Part 11, is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The Code is updated on a regular basis; the 2019 California Green Building Code Standards became effective January 1, 2020,²⁸ and the 2022 California Green Building Standards Code became effective on January 1, 2023.²⁹

California Public Utilities Code

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to (1) assure California utility customers safe, reliable utility service at reasonable rates; (2) protect utility customers from fraud; and (3) promote a healthy California economy. The Public Utilities Code, adopted by the legislature, defines the jurisdiction of the CPUC.

²⁶ California Energy Commission (CEC). 2019. Building Energy Efficiency Standards. <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>. Accessed September 27, 2022.

²⁷ California Energy Commission (CEC). 2022. Building Energy Efficiency Standards. <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>. Accessed November 16, 2022.

²⁸ California Building Standards Commission (CBSC). 2019. California Green Building Standards. Website: <https://codes.iccsafe.org/content/CAGBSC2019/cover>. Accessed September 27, 2022.

²⁹ California Building Standards Commission (CBSC). 2022. California Green Building Standards. Website: <https://codes.iccsafe.org/content/CAGBSC2022P1>. Accessed November 16, 2022.

3.5.4 - Methodology

The project site is owned by the State of California and the proposed project would develop the property for State use. As such the project is not required to conform to existing local energy regulation under the principles of State Sovereignty. For the purposes of this Draft EIR, the approach to analysis for energy use is based on CEQA Guidelines Appendix F (Energy Conservation), which is focused on the goal of conserving energy through the wise and efficient use of energy. Estimates of energy consumption associated with the proposed project are based, in part, on information provided by the California Emissions Estimator Model (CalEEMod) output included in this Draft EIR as Appendix B. CalEEMod contains energy intensity rates for the various land uses selected; see Section 3.2, Air Quality, Approach to Analysis, and Section 3.7, Greenhouse Gas Emissions, Approach to Analysis, for detailed information regarding how project-specific energy estimates are determined.

Impact ENER-1: Wasteful, Inefficient, or Unnecessary Energy Consumption

The methodology employed under Impact ENER-1, which focuses on determining whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources, follows the guidance provided in Appendix F of the CEQA Guidelines as well as the analytical precedent set by *League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) 75 Cal.App.5th 63, 164-168.

According to Appendix F of the CEQA Guidelines, the goal of conserving energy is translated to include decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources.

The proposed project would be considered to result in a potentially significant impact if it would result in wasteful, inefficient, or unnecessary consumption of energy resources. The proposed project would be considered to result in wasteful, inefficient, or unnecessary consumption of energy resources if it would conflict with the following energy conservation goals:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas, or oil; and
- Increasing reliance on renewable energy sources.

Impact ENER-2: Renewable Energy and Energy Efficiency Plan Consistency

The proposed project is assessed principally for whether it would conflict with or obstruct a State plan for renewable energy or energy efficiency. The proposed project is assessed for its consistency with State goals and plans related to energy efficiency and renewable energy.

3.5.5 - Thresholds of Significance

Pursuant to Section 21166 of the Public Resources Code as well as Sections 15162 and 15163 of the CEQA Guidelines, the Draft EIR need only contain the information necessary to analyze the proposed project. Utilizing the guidance in the CEQA Guidelines Appendix G Environmental Checklist, to determine whether the proposed project's impacts to energy would be significant environmental effects, the following questions are analyzed and evaluated. Would the proposed project:

- a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (Impact ENER-1)?
- b) Conflict with or obstruct a State plan for renewable energy or energy efficiency (Impact ENER-2)?

3.5.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Energy Use

Impact ENER-1: **The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.**

Impact Analysis

Construction

For the purposes of this analysis, construction of the proposed project was assumed to begin in the third quarter of 2023 and be completed by the third quarter of 2025, taking approximately 30 months to complete. If the anticipated construction schedule moves to later years, construction energy demand would likely decrease because of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment. Therefore, the schedule presented in this Draft EIR provides a conservative estimate of energy usage.

Construction of the proposed project would require site preparation, grading, building construction, architectural coating, and paving activities, which would require energy for the manufacture and transportation of building materials, preparation of the site (e.g., site clearing, and grading), and the actual construction of buildings. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these tasks. The types of on-site equipment used during the proposed project's construction could include gasoline- and diesel-powered construction and transportation equipment, including trucks, bulldozers, graders, excavators, front-end loaders, forklifts, and cranes. Construction equipment is estimated to consume a total of approximately 49,844 gallons of diesel fuel over the entire construction duration (Appendix B).

Fuel use associated with construction vehicle trips generated by the proposed project was also estimated; trips include construction worker trips, haul truck trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the project site was based on (1) the projected number of trips the proposed project would generate during construction, (2) average trip distances by trip type, and (3) fuel efficiencies estimated in the ARB Emissions Factors (EMFAC) mobile source emission model. The specific parameters used to estimate fuel usage are included in Appendix B. In total, the proposed project is estimated to consume a combined 111,157 gallons of gasoline and diesel for vehicle travel during construction.

Other equipment could include construction lighting, field services (office trailers), and electrically driven equipment such as pumps and other tools. Singlewide mobile office trailers, commonly used in construction staging areas, generally range in size from 160 square feet to 720 square feet. A typical 720-square-foot office trailer would consume approximately 14,366 kilowatt-hour (kWh) during the 27-month construction phase (Appendix B).

The proposed project’s construction is not anticipated to result in unusually high energy use. Limitations on idling of vehicles and equipment and requirements that equipment be properly maintained, as required by ARB On-Road and Off-Road Vehicle Regulations, would result in fuel savings. ARB regulations moreover govern the accelerated retrofiting, repowering, or replacement of heavy-duty diesel equipment. Similarly, compliance with State regulations and the required Bay Area Air Quality Management District (BAAQMD) construction Best Management Practice (BMP) measures, which are included as MM AIR-2 in Section 3.2, Air Quality, would limit idling from both on-road and off-road diesel-powered equipment. In addition, as stated by the project applicant, the project is anticipated to utilize Tier 4 Interim construction equipment.³⁰

Because of the temporary nature of construction and the financial incentives for developers and contractors to use energy-consuming resources in an efficient manner, the construction phase of the project would not result in wasteful, inefficient, and unnecessary consumption of energy. Therefore, the construction-related impacts related to electricity and fuel consumption would be less than significant.

Operation

The proposed project would consume energy as part of building operations and transportation activities.

Project energy consumption, as calculated in the CalEEMod modeling for Section 3.2, Air Quality, and Section 3.7, Greenhouse Gas Emissions, is summarized in Table 3.5-1. It should be noted that the proposed project is to utilize natural gas for water heating and electricity is to be utilized for heating, cooking, lighting, and power needs. Although natural gas is anticipated to only be utilized for water heating, to be conservative, the modeling utilized CalEEMod default electricity and natural gas consumption information.³¹

Table 3.5-1: Annual Project Energy Consumption

Energy Resource	Annual Consumption
Electricity	1,303,927 kWh
Natural Gas	2,807,773 kBtu
Vehicle Fuel	122,616 gallons

³⁰ Use of Tier 4 Interim construction equipment is shown in the CalEEMod modeling under the mitigated scenario; however, as stated previously, this analysis uses the unmitigated CalEEMod output in its calculations.

³¹ Electricity for the operation of the proposed project will be serviced by Marin Clean Energy, unless the Project owner chooses to opt-out, in which case the Project would be serviced by Pacific Gas and Electric Company (PG&E). The CAIEEMod modeling conducted for Section 3.2, Air Quality, and Section 3.7, Greenhouse Gas Emissions, used PG&E as the electricity provider to provide more conservative electricity consumption estimates.

Energy Resource	Annual Consumption
Notes: kBTU = kilo-British Thermal Unit kWh = kilowatt-hour Source: Appendix B	

As illustrated in Table 3.5-1, operation of the proposed project is estimated to consume approximately 1.3 GWh of electricity, 2,807 BTU of natural gas, and an estimated 122,616 gallons of vehicle fuel annually under unmitigated conditions. As previously discussed, the proposed project would be considered to result in a potentially significant impact if it would result in wasteful, inefficient, or unnecessary consumption of energy resources. The proposed project would be considered to result in wasteful, inefficient, or unnecessary consumption of energy resources if it would conflict with the following energy conservation goals:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas, or oil; and
- Increasing reliance on renewable energy sources.

Decreasing Overall Per Capita Energy Consumption

Project-related vehicle trips would consume fuel throughout the life of the proposed project due to project employee vehicles, delivery vehicles, and heavy-duty trucks. As discussed in Traffic Impact Study (TIS) prepared by W-Trans, dated March 17, 2022 (Appendix I), the proposed project would screen out of potentially significant Vehicle Miles Traveled (VMT) impacts because the project is located within an area with residential VMT that is less than 85 percent of the Countywide average. Furthermore, the TIS identifies that the nearest transit stops are within 0.5 to 0.9 miles from the project site. The project location is ideally situated in light of State land use planning initiatives that seek to minimize the carbon footprints of development by situating them within walking distance of transit. Using information generated by ARB’s 2021 EMFAC model and the trip generation and vehicle miles traveled (VMT) data provided for Section 3.2, Air Quality, and Section 3.7, Greenhouse Gas Emissions, the project would be anticipated to consume approximately 122,616 gallons of fuel per year (See Appendix B for calculations details). The CalEEMod output estimates the total population of the project as 600 residents; therefore, the project is anticipated to result in a fuel use of approximately 204 gallons per service population per year. The State of California consumed approximately 3.1 billion gallons of diesel and 13.1 billion gallons of gasoline in 2021.^{32,33} As of July 2021, the State had a population of approximately 39,237,836 people, resulting in a consumption of approximately 413 gallons of fuel per person per year.³⁴ Therefore, the proposed project would be anticipated to reduce per service population fuel consumption. As such, the proposed project would place future residents and employees within close proximity to existing transit facilities lowering the

³² Website: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics>.
³³ Website: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics>.
³⁴ California State population for 2021 obtained at: <https://www.census.gov/quickfacts/fact/table/CA/PST045221>.

amount of fuel consumed which would result in an overall decrease in per capita transportation energy consumption when compared with State averages.

In addition, the proposed project's buildings would be designed and constructed in accordance with Tier 2 CALGreen energy efficiency standards of Title 24. Title 24 standards include a broad set of energy conservation requirements that apply to the structural, mechanical, electrical, and plumbing systems in a building. For example, the Title 24 Lighting Power Density requirements define the maximum wattage of lighting that can be used in a building based on its square footage. Title 24 standards, widely regarded as the most advanced energy efficiency standards, would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation. Furthermore, as 2022 CALGreen Standards are anticipated to become effective before the proposed project is anticipated to even be constructed, the proposed project would be required to comply with an updated regulations identified in this version. As shown in Table 3.5-1 above, the estimated electricity demand for the proposed project is approximately 1,303,927 kWh per year. In 2021, the residential sector of the County of Marin consumed approximately 718 million kWh of electricity.³⁵ In addition, the estimated natural gas consumption for the proposed project is approximately 2,807,773 kBtu per year. In 2021, the residential sector of the County of Marin consumed approximately 50 million therms of gas.³⁶ As stated above, the proposed project is estimated to have approximately 600 residents resulting in an estimated electricity consumption of approximately 2,173 kWh per service population per year and an estimated natural gas consumption of approximately 4,679 kBtu per service population per year. The County had a population of approximately 262,206 people in 2021 resulting in an estimated electricity consumption of approximately 2,737 kWh per service population per year and an estimated natural gas consumption of approximately 19,060 kBtu per service population per year.³⁷ Therefore, as provided in these calculations, with reductions from compliance with current CALGreen Standards, the proposed project would be anticipated to reduce per service population energy consumption in comparison to the County's energy consumption.

Therefore, the proposed project would not conflict with the goal of decreasing overall per capita energy consumption.

Decreasing Reliance on Fossil Fuels

The proposed project would be considered to conflict with this criterion if it did not take steps to decrease the reliance on fossil fuels. The proposed project would be required to comply with the current CALGreen and Building Energy Efficiency standards with respect to building energy efficiency design, supply of EV charging stations, and supply of preferential parking for clean air and high occupancy vehicles. The inclusion of these features would contribute to an acceleration of EV adoption and facilitate an increase in EV and clean air and high occupancy vehicle use by residents, employees, and visitors of the proposed project, though they cannot guarantee a reduction in energy usage. As demonstrated above, under Decreasing Overall Per Capita Energy Consumption, the fuel consumption estimated for the project would result in an overall decrease in per capita transportation energy consumption when compared with State averages. This is in part due to the

³⁵ California Energy Commission, Electricity Consumption by County. <https://ecdms.energy.ca.gov/electbycounty.aspx>

³⁶ California Energy Commission, Gas Consumption by County. <http://ecdms.energy.ca.gov/gasbycounty.aspx>

³⁷ Marin County 2021 population obtained from <https://www.census.gov/quickfacts/marincountycalifornia>.

proposed project's compliance with current CALGreen and Building Energy Efficiency standards as well as the location of the project site and its proximity to transit facilities. In addition, the Traffic Impact Study (TIS) prepared by W-Trans, dated March 17, 2022 (Appendix I), states that the proposed project would screen out of potentially significant Vehicle Miles Traveled (VMT) impacts because the proposed project is located within an area with residential VMT that is less than 85 percent of the Countywide average. Moreover, as discussed in Section 3.7, Greenhouse Gas Emissions, the proposed project is to include natural gas use for only water heating with the use of electricity for heating, cooking, lighting, and power needs, decreasing the proposed project's reliance on natural gas. Therefore, the proposed project would not conflict with the goal of decreasing reliance on fossil fuels.

Increasing Reliance on Renewable Energy Sources

As previously discussed, the proposed project would utilize natural gas for only water heating and electricity for heating, cooking, lighting, and power needs. This project design feature would reduce the use of natural gas, allowing the proposed project to utilize renewable energy sources as its energy supply. In addition, the proposed project would be required to comply with the current CALGreen and Building Energy Efficiency standards with respect to building energy efficiency design, supply of EV charging stations, and supply of preferential parking for clean air and high occupancy vehicles, which would accelerate the region's and proposed project's adoption of EVs and allow the future transportation energy supply necessary for residents, employees, and visitors to be substituted with renewable energy sources. As such, the proposed project would facilitate use of renewable energy sources for building and transportation energy demands and increased independence from nonrenewable energy sources. Therefore, the proposed project would not conflict with the goal of increasing reliance on renewable energy sources.

Overall

As discussed above, the proposed project's energy consumption would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. The construction-related and operation-related impacts relative to electricity, natural gas, and fuel consumption would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

Energy Efficiency and Renewable Energy Standards Consistency

Impact ENER-2: The proposed project would not conflict with or obstruct a State plan for renewable energy or energy efficiency.

As discussed under Impact ENER-1, the proposed project would be designed in accordance with the current Title 24 CALGreen and Building Energy Efficiency standards. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g.,

heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting. 2022 Title 24 CALGreen and Building Energy Efficiency standards are to come into effect in early January 2023, the project would be designed in accordance with these standards. The 2022 Building Energy Efficiency standards encourage efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Incorporating these standards into the proposed project's design would ensure that the proposed project would not result in the use of energy in a wasteful manner. Furthermore, the proposed project would use energy efficient models and systems whenever possible and incorporate new technologies as they become available. Compliance with these aforementioned mandatory measures would ensure that the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Lastly, electricity for the operation of the proposed project is anticipated to be serviced by Marin Clean Energy, unless the project owner chooses to opt-out, in which case the proposed project would be serviced by Pacific Gas and Electric Company (PG&E).³⁸ As stated by MCE, standard service, as of 2017, is at least 60 percent renewable and is expected to be 85 percent renewable by 2029.³⁹ Regardless of electricity service provider, the proposed project's use of energy would not conflict with any Statewide renewable portfolio standard. Therefore, the proposed project would not conflict with applicable plans, policies or regulations adopted for renewable energy and energy efficiency, and this impact would be less than significant.

Level of Significance

Less than significant impact.

Mitigation Measures

None required.

³⁸ Please note the CalEEMod modeling conducted for Section 3.2, Air Quality, and Section 3.7, Greenhouse Gas Emissions, used PG&E as the electricity provider to provide more conservative electricity consumption estimates.

³⁹ Marin Clean Energy (MCE). Website: <https://www.mcecleanenergy.org/>.

3.6 - Geology and Soils

3.6.1 - Introduction

This section describes existing conditions related to geology and soils in the region and project area as well as the relevant regulatory framework that applies to the proposed project. This section also evaluates the possible impacts related to geology and soils that could result from implementation of the proposed project. Information included in this section is based on the Geotechnical Feasibility Evaluation prepared by Miller Pacific Engineering Group (Miller Pacific) on August 19, 2022, as well as a Paleontological Records Search prepared by Dr. Kenneth L. Finger, PhD, both of which are included in Appendix E. FirstCarbon Solutions (FCS) also reviewed the 2002 Geology, Mineral Resources, and Hazardous Materials Technical Background Report for the Marin Countywide Plan and the various resources from the United States Geological Survey (USGS), including the Hazard Exposure Report and Analytics mapping tool. During the Environmental Impact Report (EIR) scoping period, two comments were received related to geology and soils.

- The Draft EIR should include a comprehensive soils and geological survey.
- The Draft EIR should assess the feasibility of adding heavy structures to a parcel that is close to the San Francisco Bay.

3.6.2 - Environmental Setting

Geologic Setting

Marin County

Marin County (County) is situated in the Coast Range Geomorphic Province of California. The regional bedrock geology consists of complexly folded, faulted, sheared, and altered sedimentary, igneous, and metamorphic rock of the Jurassic-Cretaceous age (65 to 190 million years ago). The regional topography is characterized by northwest-southeast trending mountain ridges and intervening valleys that were formed as a result of tectonic activity between the North American Plate and the Pacific Plate. Extensive faulting during the Pliocene Age (1.8 to 7 million years ago) formed the uneven depression that is now the San Francisco Bay. The more recent tectonic activity within the Coast Range Geomorphic Province is concentrated along the San Andreas Fault zone, a complex group of generally parallel faults.¹

Plate tectonics provide a broad mechanical framework for presenting and understanding the geology and geologic hazards present in the County. The upper crust of the earth consists of rigid plates that move relative to each other and interact dynamically with each other at their boundaries. The geology of California has been dominated by the interaction of the Pacific and North American plates.²

¹ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

² Ibid.

Project Site

The project site is generally located within a south-trending drainage and is flanked by relatively steep slopes to the north, east, and west that all slope down toward the center of the site. Site elevations range from a minimum of about 22 feet above mean sea level (amsl) along Sir Francis Drake Boulevard at the south end of the site to about 315-feet amsl at the ridgeline to the north.³

The project site is underlain by the debris field of extensive debris-flow landslides emanating from the slopes surrounding the site. The higher-elevation ridgelines surrounding the project site to the north, east, and west are mapped as Franciscan mélange bedrock. Colluvial soil (Map Symbol, Qc) is mapped just south of the project site and artificial fill/bay mud (Map Symbol, Qaf/Qm) is mapped just south of Sir Francis Drake Boulevard, across from the project site.⁴

Existing Soils

Corrosive soils are a geologic hazard because they react with concrete and ferrous metals, which can cause damage to foundations and buried pipelines. Expansive soils are a geologic hazard because an increase in soil volume can exert forces on structures and thus damage building foundations, walls, and floors. In general, areas are susceptible to differential settlement if underlain by compressible sediments such as poorly engineered artificial fill or loose unconsolidated alluvial sediments. When these soils dry out and shrink, structural damage can occur.

Marin County

Many of the soils present in the County have moderate to high expansion potential. Such soils generally are cohesive, have a high clay content, and shrink when dried. Thick soil accumulations of expansive soils are responsible for the numerous earth flows that are present throughout the hillsides of the County, particularly in areas underlain by Franciscan mélange. The thickness and depth to an expansive soil layer influences the degree of shrinking and swelling that could take place. On a hillside, expansive soils are adversely affected by gravity and tend to cyclically creep downhill. This type of creep movement typically occurs during the drying cycle.⁵

Collapsible soils are present in Marin County and are generally located in the low-lying flatland deposits in valley basins and along bays. The most susceptible areas are those underlain by young Holocene unconsolidated alluvial and colluvial sediments and estuarine muds, especially younger bay muds.⁶

Project Site

Based on previous subsurface exploration and site geologic mapping (as referenced in the Geotechnical Feasibility Evaluation [Appendix E]), the project site is known to be underlain primarily by graywacke sandstone and shale bedrock of the Franciscan Complex. The graywacke is typically hard, strong, slightly to moderately weathered, and typically moderately fractured, although local

³ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

⁴ Ibid.

⁵ The Marin County Community Development Agency, Planning Division. 2005. Geology Mineral Resources and Hazardous Materials Technical Background Report.

⁶ Ibid.

zones of intensely fractured to crushed rock are indicated on reference boring logs, included in the Geotechnical Feasibility Evaluation (Appendix E).⁷ Shale is typically friable to weak and locally sheared.⁸

While Franciscan rocks are exposed at or near the ground surface on slopes and ridgelines around the perimeter of the site, they are overlain by layers of artificial fill and native colluvium/residual soils that generally thicken to a maximum of about 26 feet near the south end of the site. Fill soils are predominantly clayey to gravelly, locally plastic, and are probably composed, at least in part, of bay mud. Colluvial and residual soils typically consist of clayey gravel that may locally be moderately plastic and expansive.⁹

Bay Mud deposits and fill soils in areas immediately proximal to the saltwater body of San Francisco Bay are typically high in soluble salts. Elsewhere, colluvial/residual soils and Franciscan sandstone and shale bedrock are most often non- to slightly-corrosive.¹⁰

A majority of the study area (10.08 acres), which includes the project site and the areas just outside the site that will be disturbed during construction, is made up of Tocaloma-Saurin association and steep soils, and a small portion of the project site (0.35-acre) adjacent to Sir Francis Drake Boulevard is Xerorthents fill.¹¹ Tocaloma-Saurin soils are fine-loamy, mixed soils derived from sandstone and shale. They consist of moderately deep, well drained soils on uplands and steep areas. Xerorthents fill consists of soil, gravel, broken cement, asphalt, rock, bay mud, and other material from urban construction. The properties of Xerorthents are highly variable.¹²

Seismicity

The term seismicity describes the effects of seismic waves that are radiated from an earthquake fault in motion. While most of the energy released during an earthquake results in the permanent displacement of the ground, as much as 10 percent of the energy may dissipate immediately in the form of seismic waves. Seismicity can result in seismic-related hazards such as fault rupture, ground shaking, and liquefaction faults form in rocks when stresses overcome the internal strength of the rock, and fault rupture occurs when movement on a fault breaks through to the surface and can result in damage to infrastructure and persons. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. Strong ground shaking from an earthquake can result in damage, with buildings shifted off their foundations and underground pipes broken. Liquefaction occurs when an earthquake's ground shaking causes saturated soil to lose shear strength, deform, and act like a

⁷ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

⁸ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Bing Aerial Imagery. Pinecrest Environmental Consulting. BKF Engineers, August 2022. AECOM, 2020. USDA Soils Data Mart, Marin County.

¹² United States Department of Agriculture Soil Conservation Science. Soil Survey of Marin County California.

liquid. When liquefaction occurs, it can result in ground failure that can damage roads, pipelines, and buildings.

Marin County

The County is within an area of high seismicity; therefore, seismic risk is assumed by every occupant and developer in the County. The San Francisco Bay Region has been impacted by several significantly large and destructive earthquakes, the most recent being in 1838, 1868, 1906, and 1989.¹³

The California Geological Survey (previously known as the California Division of Mines and Geology) defines a “Holocene-active fault” as one that has exhibited surface displacement within Holocene time (the last 11,700 years). California Geological Survey (CGS) mapped various faults in the County region as part of their Fault Activity Map of California. Many of these faults are shown in relation to the project site in Exhibit 3.6-1. Earthquakes (magnitude 5.0 and greater) that have occurred in the San Francisco Bay Area between 1830 to present day have been plotted on a map shown in Exhibit 3.6-2.¹⁴

The Working Group on California Earthquake Probabilities (WGCEP) found that there is a 62 percent probability of at least one magnitude (M) 6.7 or greater ($M > 6.7$) earthquake before 2032 within the San Francisco Bay Region. This earthquake is likely to occur on one of the seven major fault systems in the Bay Area. The San Andreas and the Hayward-Rodgers Creek fault systems could have the greatest impacts on the County because of their proximity to population centers within the County and the fact that they have the highest probability of rupture in the San Francisco Bay Region. The WGCEP found a 21 percent probability for the San Andreas Fault system and a 27 percent probability on the Hayward-Rodgers Creek fault system for an $M > 6.7$ before 2032. The WGCEP also estimates an 80 percent probability for a M6.0 to M6.7 earthquake event in the San Francisco Bay Region.¹⁵

Project Site

The project site is located within the seismically active San Francisco Bay Area and will therefore experience the effects of future earthquakes. The nearest known Holocene-active faults to the project site are the San Andreas, San Gregorio, and Hayward Faults. The Hayward and San Andreas Faults are the nearest known active faults to the project site and are located about 8.3 miles northeast and 9.3 miles southwest, respectively.¹⁶ The San Gregorio Fault is located just west of the San Andreas Fault, approximately 10 miles southwest of the project site.

¹³ The Marin County Community Development Agency, Planning Division. 2005. Geology Mineral Resources and Hazardous Materials Technical Background Report.

¹⁴ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

¹⁵ The Marin County Community Development Agency, Planning Division. 2005. Geology Mineral Resources and Hazardous Materials Technical Background Report.

¹⁶ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

Under the Alquist-Priolo Earthquake Fault Zoning Act, CGS maps showing all known active faults and defining zones within which special fault studies are required. Based on currently available published geologic information, the project site is not located within an Alquist-Priolo Earthquake Fault Zone.¹⁷

Slope Disturbance

Slope disturbance from long-term geologic cycle of uplift, mass wasting, intense precipitation or wind, and gravity can result in slope failure in the form of mudslides and rock fall. The project area is seismically active with known faults; however, the project area does not contain active faults that would cause geologic uplifting. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides, and rock fall—processes that are commonly triggered by intense precipitation or wind, which varies according to climactic shifts. Often, various forms of mass wasting are grouped together as landslides, which are generally used to describe the downhill movement of rock and soil. Soil creep is a long-term, gradual downhill migration of soil under the influence of gravity and is generally on the order of a fraction of an inch per year. These soils can creep away downslope sides of foundations and reduce lateral support.

Marin County

Landslides, especially debris flows and debris avalanches, have been widespread and common in the County during times of heavy intense rainfall. Following the January 3–5, 1982, storm, 4,600 debris flows were mapped just within the County.¹⁸ Mapping of these landslides found several associations of debris flows and the natural landscape:

- Steep slopes (80 percent occurred on slopes steeper than 27.5 degrees),
- Granular soil mantle,
- Granular soil mantle with both bedrock contacts and materials that have contrasts in permeability,
- Drainages, and
- Intense rainstorms.

Reconnaissance landslide mapping has been performed in the County several times following periods of intense rainfall. The first published map by the USGS was performed following the 1968-69 winter season. Above average rainfall occurred that season and 66 landslides were recorded. Another published map, for the 1972-73 winter season, shows that 153 landslides were reported in the County, with a high concentration in Mill Valley and the Fairfax-San Anselmo area.¹⁹

Project Site

The Geotechnical Feasibility Evaluation studied previous regional geologic mapping, which indicates that the project site is underlain by the debris fields of large debris-flow landslides originating near

¹⁷ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

¹⁸ The Marin County Community Development Agency, Planning Division. 2005. Geology Mineral Resources and Hazardous Materials Technical Background Report.

¹⁹ Ibid.

the ridgelines north and east of the site. Notably, previous site-specific mapping from 1981 does not indicate any significant landslides. During site reconnaissance, Miller Pacific observed steeply inclined slopes north, west, and east of the project site that are typically underlain by relatively thin layers of loose silty to sandy residual soils over relatively shallow Franciscan bedrock. No significant evidence of recent developing slope instability was observed, aside from one apparent older debris-flow landslide in the southeast corner of the project site which appears to be a few feet deep and originating near a contact between chert and sandstone bedrock.²⁰

Prominent gullies north of the project site appear to be the result of downcutting and erosion along bedrock contacts or shear zones. It was determined that sloping portions of the project site are likely prone to localized shallow slumps and debris flows, particularly following heavy rains. There is a higher risk of more significant debris flows, possibly involving the upper few feet of sheared, weathered bedrock, under seismic conditions.²¹

3.6.3 - Regulatory Framework

Federal

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program (NEHRP) was established by the United States Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law 95–124. In establishing the NEHRP, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early warning systems, coordinated emergency preparedness plans, and public education and involvement programs. The four basic goals remain unchanged:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

Several key federal agencies contribute to earthquake mitigation efforts. There are four primary NEHRP agencies:

- National Institute of Standards and Technology of the Department of Commerce
- National Science Foundation
- United States Geological Survey of the Department of the Interior
- Federal Emergency Management Agency (FEMA) of the Department of Homeland Security

²⁰ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation Oak Hill at San Quentin Multi-Family Residential Development.

²¹ Ibid.

Implementation of NEHRP priorities is accomplished primarily through original research, publications, and recommendations to assist and guide State, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program, authorized by Section 402(p) of the federal Clean Water Act, controls water pollution by regulating point sources, such as construction sites and industrial operations that discharge pollutants into waters of the United States. A Storm Water Pollution Prevention Plan (SWPPP) is required to control discharges from a project site, including soil erosion, to protect waterways. A SWPPP describes the measures or practices to control discharges during both the construction and operational phases of the project. A SWPPP identifies project design features and structural and nonstructural Best Management Practices (BMPs) that will be used to control, prevent, remove, or reduce stormwater pollution from the site, including sediment from erosion.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] §§ 2621–2630) was passed in 1972 to provide a statewide mechanism for reducing the hazard of surface fault rupture to structures used for human occupancy. The main purpose of the Act is to prevent the siting of buildings used for human occupancy across the traces of active faults. It should be noted that the Act addresses the potential hazard of surface fault rupture and is not directed toward other earthquake hazards, such as seismically induced ground shaking or landslides.

The law requires the State Geologist to identify regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults and to depict these zones on topographic base maps, typically at a scale of 1 inch to 2,000 feet. Earthquake Fault Zones vary in width, although they are often 0.75 mile wide. Once published, the maps are distributed to the affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. With the exception of single-family wood-frame and steel-frame dwellings that are not part of a larger development (i.e., four units or more), local agencies are required to regulate development within the mapped zones. In general, construction within 50 feet of an active fault zone is prohibited.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (PRC §§ 2690–2699.6), which was passed in 1990, addresses earthquake hazards other than surface fault rupture. These hazards include strong ground shaking, earthquake-induced landslides, liquefaction, or other ground failures. Much like the Alquist-Priolo Earthquake Fault Zoning Act discussed above, these seismic hazard zones are mapped by the State Geologist to assist local government in the land use planning process. The Act states, “it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety.” Thus, the Act

mandates that cities and counties, prior to the approval of project in a seismic hazard zone, require a “geotechnical report defining and delineating any seismic hazard.”

California Building Code

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations [CCR], Title 24). Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls. The California Building Standards Code (CBC) applies to building design and construction in the State and is based on the federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The CBC has been modified for California conditions with more detailed and/or more stringent regulations.

The State earthquake protection law (California Health and Safety Code § 19100, *et seq.*) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

The CBC is updated every 3 years, and the current 2019 CBC took effect January 1, 2020.

California Department of General Services

Project Management and Development Branch

The Project Management and Development Branch (PMDB) provides architectural and engineering services; space planning and interior design; construction and construction inspection services; and energy and environmental services. PMDB would review the proposed project for compliance with the CBC.

3.6.4 - Methodology

Impacts related to geology and soils were determined by reviewing information contained in the Preliminary Geotechnical Report and Paleontological Records Search prepared for the project site, which is provided in Appendix E.

The Geotechnical Feasibility Evaluation for the proposed project was prepared for Miller Pacific on August 19, 2022. Miller Pacific reviewed materials from USGS, CGS, and Marin County as well as previous reports from Geotechnical Consultants, Inc., AECOM, and the Association of Bay Area Governments (ABAG) to determine seismic hazards, historic uses, and subsurface conditions. Miller Pacific conducted site reconnaissance to observe and document current conditions and map site geology, and subsequently conducted a probabilistic seismic hazard analysis to analyze all possible earthquake scenarios.

Impacts to paleontological resources were determined by reviewing the Paleontological Records Search prepared for the project site by Consulting Paleontologist, Dr. Kenneth Finger. Dr. Finger

performed a records search on the University of California Museum of Paleontology database for the project site.

3.6.5 - Thresholds of Significance

The lead agency utilizes the criteria in the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist as thresholds to determine whether impacts to geology and soils are significant environmental effects. Would the project:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:
 - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - ii. Strong seismic ground shaking?
 - iii. Seismic-related ground failure, including liquefaction?
 - iv. Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

3.6.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Earthquakes

Impact GEO-1:	The proposed project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving: <ol style="list-style-type: none">i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.ii) Strong seismic ground shaking.iii) Seismic-related ground failure, including liquefaction.iv) Landslides.
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Impact Analysis

The Geotechnical Feasibility Evaluation for the proposed project was prepared for Miller Pacific on August 19, 2022 (Appendix E). Overall, the Geotechnical Feasibility Evaluation concluded that the proposed project is feasible from a geotechnical standpoint. No severe geologic or soil-related concerns were identified that would preclude development of the project site for the proposed project. The primary geotechnical issues to be considered during project design include providing adequate seismic design, providing adequate settlement measures and uniform foundation support, providing adequate and effective site drainage, and providing adequate protection from potential debris-flow landslides originating on surrounding slopes.

The design and construction of the improvements at the project site would be subject to the mandatory requirements and standards of the CBC Title 24 (California Green Building Standards Code [CALGreen]), which identify site preparation and construction techniques to attenuate the effects of strong ground shaking and seismic-related ground failure. The CBC identifies seismic factors that must be considered in structural design. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC.

i) Surface Fault Rupture

Under the Alquist-Priolo Earthquake Fault Zoning Act, CGS produced maps showing all known active faults and defining zones within which special fault studies are required. Based on currently available published geologic information, the project site is not located within an Alquist-Priolo Earthquake Fault Zone. The Hayward Fault is the nearest known active fault, located about 9.3 miles northeast. According to the Geotechnical Feasibility Evaluation, no evidence indicative of active or historic faulting was observed during project site reconnaissance, either within or proximal to the project site. Therefore, the potential for fault surface rupture at the project site is considered low, and impacts would be less than significant.

ii) Strong Seismic Ground Shaking

As previously discussed, the San Francisco Bay Area is a seismically active region that has been subject to major earthquakes in the past. Thus, the project site will likely experience seismic ground shaking from future earthquakes in the San Francisco Bay Area. Earthquakes along any of several active faults in the region could cause moderate to strong ground shaking at the project site. The potential for strong seismic shaking at the project site is high. Because of its close proximity, the Hayward Fault (approximately 9.3 miles northeast of the site) presents the highest potential for strong ground shaking. The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements. Therefore, the project has the potential to expose people or structures to adverse effects associated with seismic events. However, the Geotechnical Feasibility Evaluation determined that with proper planning and design, these potential impacts could be limited. Implementation of Mitigation Measure (MM) GEO-1, which requires adherence to the implementation of site-specific engineering measures recommended by the Geological Feasibility Evaluation (Appendix E), would reduce potential impacts to less than significant. Part of the recommendations included in the Geotechnical Feasibility Evaluation are seismic design coefficients to be used during finalization of the project's design, which would help to

ensure the project buildings are resilient during seismic ground shaking. As previously discussed, the proposed project would also be required to comply with the most recent version of the CBC (2019). Also, the project would be overseen by the California Department of General Services (DGS) Project Management and Development Branch, which provides engineering, environmental, and construction inspection services that would confirm compliance with applicable regulations that reduce ground shaking impacts. With adherence to State building requirements and MM GEO-1, impacts would be less than significant with mitigation.

iii) Seismic-related Ground Failure, Including Liquefaction

Liquefaction refers to the sudden, temporary loss of soil shear strength during strong ground shaking. Liquefaction-related phenomena include liquefaction-induced settlement, flow failure, and lateral spreading. These phenomena can occur where there are saturated, loose, and/or granular deposits.

As shown on Exhibit 3.6-3, the project site lies within an area of “very low” liquefaction susceptibility. Fill and colluvial soils underlying the central and southern parts of the site are predominantly fine-grained and are unlikely to experience liquefaction, while the remainder of the site is essentially underlain by non-liquefiable bedrock.

As noted by the USGS, sensitivity to liquefaction hazards may increase in the San Francisco Bay Area due to sea-level rise as a result of climate change. Sea-level rise is predicted to lead to rising groundwater thereby increasing risk of soil liquefaction during earthquakes. However, increases in liquefaction potential as a result of sea level rise are limited to areas that already have high liquefaction susceptibility.²² Furthermore, as indicated by the USGS Hazard Exposure Reporting and Analytics map showing Impact of Sea Level Rise on Groundwater Hazards, the project site would not experience ground water levels at or above 16.4 feet deep even with a sea-level rise of 3.3 feet.²³ As such, sea-level rise would not be expected to exacerbate on-site risk of liquefaction.

Therefore, liquefaction and related phenomena are not anticipated to constitute a significant hazard at the project site. Impacts would be less than significant.

iv) Landslides

Slope instability generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. Regional geologic mapping indicates that the project site is underlain by the debris fields of large debris-flow landslides originating near the ridgelines north and east of the project site. Notably, previous site-specific mapping from 1981 does not indicate any significant landslides.

During project site reconnaissance, it was observed that steeply inclined slopes north, west, and east of the project site are typically underlain by relatively thin layers of loose silty to sandy residual soils over relatively shallow Franciscan bedrock. The project site reconnaissance found evidence of recent

²² United States Geological Survey (USGS). 2022. Liquefaction and Sea Level Rise Storymap. Website: <https://geonarrative.usgs.gov/liquefactionandsealevelrise/> Accessed October 25, 2022.

²³ Wood, N., Ng, P., Jones, J.M., Henry, K., Hou, C.Y., 2021, Hazard Exposure Reporting and Analytics—Coastal Groundwater Tool, USGS web application, <https://www.usgs.gov/apps/hera/groundwaterTool.php>. Accessed October 25, 2022.

or developing slope instability (such as fresh scarps, tension cracks, debris piles, toe bulges, etc.). One apparent older debris-flow landslide in the southeast corner of the project site was observed, which appears to be a few feet deep and to originate near a contact between chert and sandstone bedrock.

The prominent gullies to the north of the project site appear to be the result of downcutting and erosion. Under static conditions, sloping portions of the project site will likely be prone to localized shallow slumps and debris flows, especially during or following heavy rains. A higher risk of more significant debris flows is anticipated under seismic conditions, as well as a moderate to high risk of damage to improvements due to slope instability. These conditions would be a potentially significant impact.

New permanent cut and fill slopes are planned around the site. Preliminary plans indicate that, in most areas, new structures would be provided with some setback from the bottom of surrounding slopes by planned access roads and landscaping areas, which the Geotechnical Feasibility Evaluation determined was an appropriate setback distance from nearby slopes. In general, there is a low risk of instability affecting proposed site slopes provided they are designed in conformance with seismic design criteria recommended in the Geotechnical Feasibility Evaluation. Therefore, the proposed project would implement MM GEO-1, which would ensure that final site plans and grading plans would be evaluated to confirm the incorporation of appropriate structural protections. Thus, impacts would be less than significant with mitigation incorporated.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM GEO-1 Geotechnical Feasibility Evaluation Recommendations. The proposed project shall implement all applicable recommendations provided in the Geotechnical Feasibility Evaluation prepared for the proposed project by Miller Pacific Engineering Group, dated August 19, 2022. An outline of the applicable recommendations is listed below, and a detailed explanation of each item is provided in Section 5, Preliminary Conclusions and Recommendations, of the Geotechnical Feasibility Evaluation (Appendix E).

- Preliminary seismic design, including the provision of seismic design criteria to be used during the final design;
- Foundation types, including guidance for the implementation of either shallow foundations or deep foundations and their associated ground improvements;
- Site grading considerations, including guidance for hard rock excavation and excavation in areas underlain by undocumented fill soils as well as a limitation on new fill slopes of no steeper than 2:1 (horizontal and vertical);
- Retaining walls, including recommendations on the material uses, the location, and height for new retaining walls on the project site; and

- Site and foundation drainage, including, but not limited to developing a site drainage system to collect surface water and discharge it into an established storm drainage system.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Soil Erosion or Topsoil Loss

Impact GEO-2: The proposed project could result in substantial soil erosion or the loss of topsoil.

Impact Analysis

The proposed grading activities associated with the proposed project would temporarily expose underlying soils to water and air, which would increase erosion susceptibility while the soils are exposed. The project site would require approximately 50,000 cubic yards of grading due in part to the steep slopes surrounding the project site, which has a high potential for erosion. Accordingly, exposed soils would be subject to erosion during rainfall events or high winds due to the temporary exposure of these erodible materials to wind and water. Erosion by water would be greatest during the first rainy season after grading and before the proposed project's structure foundations are established and paving and landscaping occur. Erosion by wind would be highest during periods of high wind speeds when soils are exposed.

Sandy soils on moderate slopes or clayey soils on steep slopes are susceptible to erosion when exposed to concentrated water runoff. The risk of erosion would be increased where established vegetation is removed by grading or construction activity.

There are existing drainages on the northern and eastern sides of the project site that are deeply incised, with flanking slopes exposing relatively thin, silty to sandy soils over shallow bedrock. Given the combination of steeply inclined slopes and relatively cohesionless soils, there is a high risk of erosion in the sloping parts of the project site. However, with the implementation of MM GEO-1, which requires implementation of the recommendations contained in the Geotechnical Feasibility Evaluation, the proposed project would be required to develop a site drainage system to collect surface water and discharge it into an established storm drainage system. The proposed project would also be required to prepare an erosion control plan that would reduce the impacts related to soil erosion to a less than significant level.

As previously discussed, the proposed project would be required to obtain an NPDES permit for construction activities. As part of the NPDES requirements, preparation of a SWPPP that would address construction fencing, sandbags, and other erosion control features (including wind erosion) that would be implemented during the construction phase to reduce the site's potential for soil erosion, or the loss of topsoil would be required. In addition, construction activities associated with the proposed project would be required to comply with South Coast Air Quality Management District (SCAQMD) Rule 403, Fugitive Dust, which would preclude wind-related erosion hazards during construction activities. Mandatory compliance with the proposed project's NPDES permit and these regulatory requirements of SCAQMD Rule 403 would ensure that water and wind erosion

during the proposed project's construction activities would be minimized. Accordingly, construction-related impacts associated with soil erosion and loss of topsoil would be less than significant.

Following construction, wind and water erosion on the project site would be minimized as the areas disturbed during construction would be landscaped or covered with impervious surfaces such as building foundations and paved parking areas. Only nominal areas of exposed soil, if any, would occur in the project site's landscaped and/or constructed open space areas. The vast areas set aside for conservation would not be developed and would be protected against erosion by existing vegetation. The potential for erosion effects to occur during the proposed project's operation would be indirect effects from stormwater discharged from the project site or open space areas. However, with the implementation of MM GEO-1, which requires implementation of the recommendations contained in the Geotechnical Feasibility Evaluation, the proposed project would be required to develop a site drainage system to collect surface water and discharge it into an established storm drainage system. The drainage system would be designed to meet the County's hydraulic standards for its existing system, as well as the State's hydromodification standards to mitigate potential increase of downstream erosion. Design and construction of the project's drainage system would be overseen by the DGS's Project Management and Development Branch, which provides engineering, environmental, and inspection services and would confirm compliance with applicable regulations. Thus, runoff would be reduced and the potential for erosion would be decreased. Therefore, impacts would be less than significant with the incorporation of MM GEO-1.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM GEO-1.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Unstable Geologic Location

Impact GEO-3: **The proposed project could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.**

Impact Analysis

As described in Impact GEO-1, impacts related to lateral spreading and landslides would be less than significant and impacts related to landslides would be less than significant with incorporation of MM GEO-1. Additionally, the Geotechnical Feasibility Evaluation determined that the project site is located within an area of "very low" liquefaction susceptibility. It concludes that, due to the composition of the project site soil, liquefaction and related phenomena are not anticipated to constitute a significant hazard at the project site.

Significant settlement can occur when new development is built on top of sites due to consolidation of soft compressible clays (i.e., bay mud) or compression of loose granular soils. According to the Geotechnical Feasibility Investigation, subsurface site investigation indicates approximately 15 to 26 feet of fill and colluvial/alluvial soils consisting predominantly of gravelly clay and silt that underlie the relatively level central and southern portions of the project site. The Geotechnical Feasibility Investigation determined that excavations in areas underlain by fill or colluvial soils could be accomplished using “traditional” techniques and equipment, such as medium- to large-size dozers and excavators. Deeper excavations into Franciscan bedrock, either beneath the surface soils or where exposed around the site perimeter, could locally encounter zones of particularly hard rock that require special techniques or equipment, such as hoe-rams, heavy ripper shanks, or blasting, to excavate. Therefore, the proposed project would plan for the additional equipment needed for deeper excavation during the finalization of construction plans as required by MM GEO-1, which requires the implementation of the Geotechnical Feasibility Evaluation.

Based on review of historic air photos and previous exploration, it is unlikely that the project site is underlain by bay mud. However, given the extent and apparent thickness of existing undocumented fills, there is a moderate to high risk of “traditional” consolidation settlement under new loads. Additionally, there is a high risk of differential settlement where structures would span the transition between material of varying support capacity, such as from bedrock to compacted fill. This creates a potentially significant impact. However, the proposed project would implement the recommendations identified in the Geotechnical Feasibility Evaluation, as required by MM GEO-1. In addition to planning for deep excavations, the Geotechnical Investigation recommends that if old bay mud or other plastic or expansive clays exist, they would not be re-used as fill and should be removed from the site. Additionally, significant quantities of oversize bedrock may need to be removed and would require substantial processing for re-use as fill. The Geotechnical Feasibility Investigation also recommends that new fill slopes be no steeper than 2:1 and should be founded on keyways and benches in accordance with the current standard of geotechnical practice. Implementation of these recommendations via MM GEO-1 would ensure that the project site would be stable and support the development of the proposed project.

Additionally, while the proposed project is located approximately 450 feet from the San Francisco Bay, the proposed project is not located in an area susceptible to severe inundation due to sea level rise, flooding, or tsunami, as further discussed in Chapter 3.9, Hydrology and Water Quality. Thus, the project site’s proximity to the San Francisco Bay would not affect the stability of site.

Therefore, with implementation of MM GEO-1, impacts would be less than significant.

The cumulative context for geology and soils, meanwhile, includes any recent or near-future development in the project vicinity. However, geologic conditions within the San Francisco Bay Area and can vary widely, even among short distances. Therefore, seismic hazards related to recent and near-future development in the project vicinity are heavily influenced by site-specific features such as soil composition and slope, and do not have the potential to cumulate. Accordingly, adherence to the CBC and MM GEO-1 will ensure impacts are less than significant with mitigation under both individual and cumulative scenarios.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM GEO-1.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

Expansive Soil

Impact GEO-4: **The proposed project could 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.**

Impact Analysis

Expansive soils will shrink and swell with fluctuations in moisture content and may exert significant expansion pressures on building foundations, interior floor slabs, and exterior flatwork. Distress from expansive soil movement can include cracking of brittle wall coverings (stucco, plaster, drywall, etc.), racked door and/or window frames, and uneven floors and cracked slabs. Flatwork, pavements, and concrete slabs-on-grade are particularly vulnerable to distress due to their low bearing pressures.

Review of previous subsurface exploration indicates that much of the fill material underlying the southern and central parts of the project site is composed of moderately to highly plastic clays; on this basis, the risk of expansive soil affecting the proposed improvements appears low to moderate. Although evidence of expansive native soils was not observed, there is a moderate risk of damage where old bay mud or other expansive materials have been placed as fill. This creates a potentially significant impact.

Implementation of special engineering measures in MM GEO-1, which require the proposed project to implement applicable recommendations in the Geotechnical Feasibility Evaluation, including localized removal and replacement with non-expansive materials, design of thicker and/or internally reinforced pavement and flatwork sections, use of void forms or heavier foundation elements, or other options depending on the extents/depths of expansive soil deposits and project grading plans, would reduce impacts to less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement MM GEO-1.

Level of Significance After Mitigation

Less than significant with mitigation incorporated.

Wastewater Disposal Systems

Impact GEO-5: **The proposed project would not 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.**

Impact Analysis

The project does not propose the use of any septic tanks or alternative wastewater disposal system. Therefore, no impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Destruction of Paleontological Resource or Unique Geologic Feature

Impact GEO-6: **The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

Impact Analysis

The project specific paleontological report (Appendix E) concluded that the project site is located on Franciscan mélangé, which abuts Holocene artificial fill over marine and marsh deposits at its southwestern end. Franciscan mélangé has very low paleontological sensitivity and potential. No significant paleontological resources are known from Franciscan rocks in Northern California. Therefore, it is highly unlikely that the proposed project would uncover or disturb significant paleontological resources. However, disturbance or discovery of unknown paleontological resources is still possible, creating a potentially significant impact. In the event that any earth-disturbing construction-related activities uncover significant fossils (i.e., bones or teeth), adherence to the procedure outlined in MM GEO-2 would ensure that impacts are less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

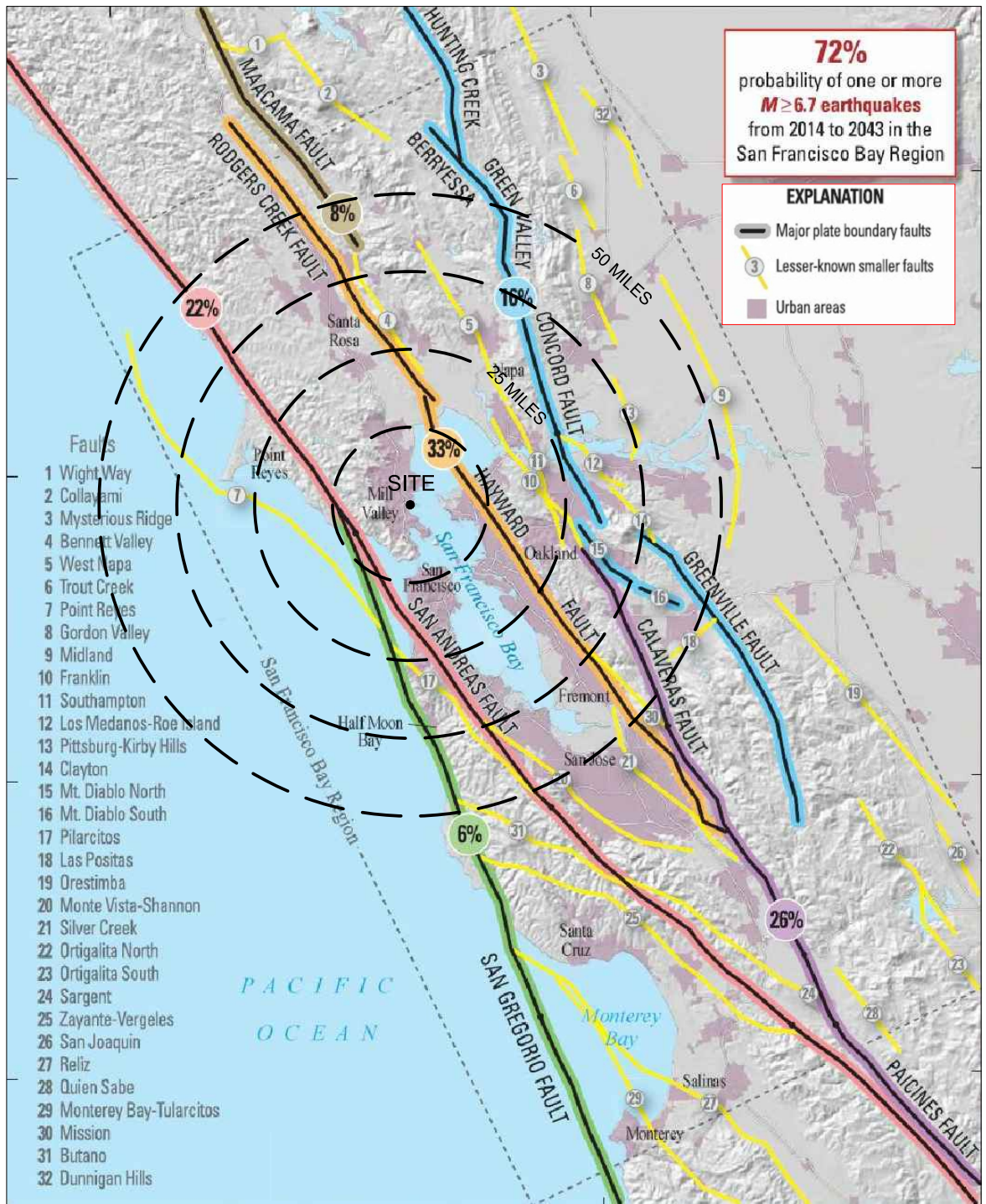
Mitigation Measures

MM GEO-2 In the event that earth-disturbing construction-related activities uncover any paleontological resources (i.e., bones or teeth), those activities shall be diverted at least 15 feet away from the discovery until a qualified paleontologist is brought on-site to assess the find for possible salvage. Construction workers shall not attempt to remove such finds as they could be quite fragile. The paleontologist shall document the discovery as needed and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the Paleontologist shall prepare

an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the Department of Conservation and Development, Community Development Division for review and approval prior to implementation. The applicant shall adhere to the recommendations in the approved plan.

Level of Significance After Mitigation

Less than significant impact.



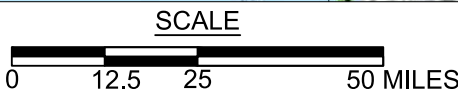
72%
probability of one or more
M ≥ 6.7 earthquakes
from 2014 to 2043 in the
San Francisco Bay Region

EXPLANATION

- Major plate boundary faults
- Lesser-known smaller faults
- Urban areas

- Faults
- 1 Wight Way
 - 2 Collayami
 - 3 Mysterious Ridge
 - 4 Bennett Valley
 - 5 West Napa
 - 6 Trout Creek
 - 7 Point Reyes
 - 8 Gordon Valley
 - 9 Midland
 - 10 Franklin
 - 11 Southampton
 - 12 Los Medanos-Roe Island
 - 13 Pittsburg-Kirby Hills
 - 14 Clayton
 - 15 Mt. Diablo North
 - 16 Mt. Diablo South
 - 17 Pilarcitos
 - 18 Las Positas
 - 19 Orestimba
 - 20 Monte Vista-Shannon
 - 21 Silver Creek
 - 22 Ortagalita North
 - 23 Ortagalita South
 - 24 Sargent
 - 25 Zayante-Vergeles
 - 26 San Joaquin
 - 27 Reliz
 - 28 Quien Sabe
 - 29 Monterey Bay-Tularcitos
 - 30 Mission
 - 31 Butano
 - 32 Dunnigan Hills

SITE COORDINATES
LAT. 37.94456°
LON. -122.50111°



DATA SOURCE:
1) U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1).

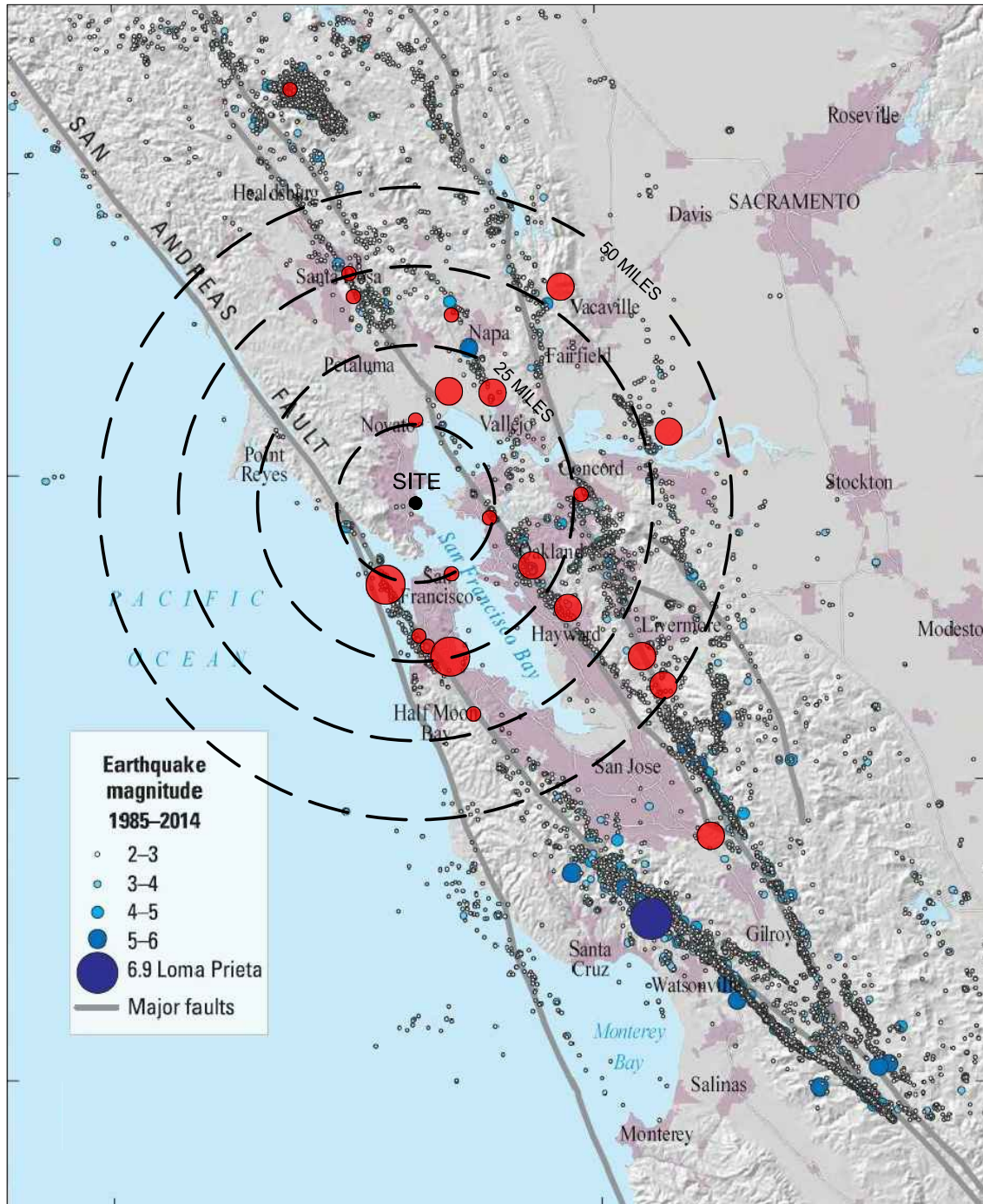
Source: Miller Pacific Engineering Group, 08/12/2022.



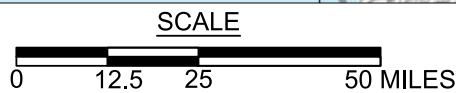
View description of exhibit.

**Exhibit 3.6-1
Active Fault Map**

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SITE COORDINATES
 LAT. 37.94456°
 LON. -122.50111°



LEGEND & DATA SOURCE:

- ● ● See legend above. U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1).
- ● ● Large circles indicate earthquakes $M > 7.0$, medium circles indicate $6.0 < M < 7.0$ and small circles indicate $5.0 < M < 6.0$. U.S. Geological Survey, Earthquake Catalog Search, <https://earthquake.usgs.gov/earthquakes/search/>. Earthquakes between 1830 and 2021.

Source: Miller Pacific Engineering Group, 08/12/2022.

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Source: Miller Pacific Engineering Group, 08/12/2022.

[View description of exhibit.](#)



Exhibit 3.6-3 Liquefaction Susceptibility Map

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3.7 - Greenhouse Gas Emissions

3.7.1 - Introduction

This section describes the existing greenhouse gas (GHG) emissions setting and potential effects from project implementation on the project site and its surrounding area. Information included in this section is based on project-specific GHG modeling results utilizing California Emissions Estimator Model (CalEEMod) Version 2022.1. Complete modeling output is provided in Appendix B.

During the Draft Environmental Impact Report (Draft EIR) scoping period, six public comments were received related to energy:

- The Draft EIR should discuss the importance of balancing job opportunities and residential growth and GHG emissions from trip generation.
- The Draft EIR should discuss how the proposed project would reduce GHG emissions due to reduced commute times.
- The Draft EIR should evaluate the potential for the proposed project to be all electric.
- The Draft EIR should generally evaluate GHG reductions related to the proposed project.
- The Draft EIR should evaluate GHG emissions during construction and the impacts on nearby single-family homes.
- The Draft EIR should evaluate recognized toxic environmental hazards on the project site, including lead dust that may be airborne during construction.

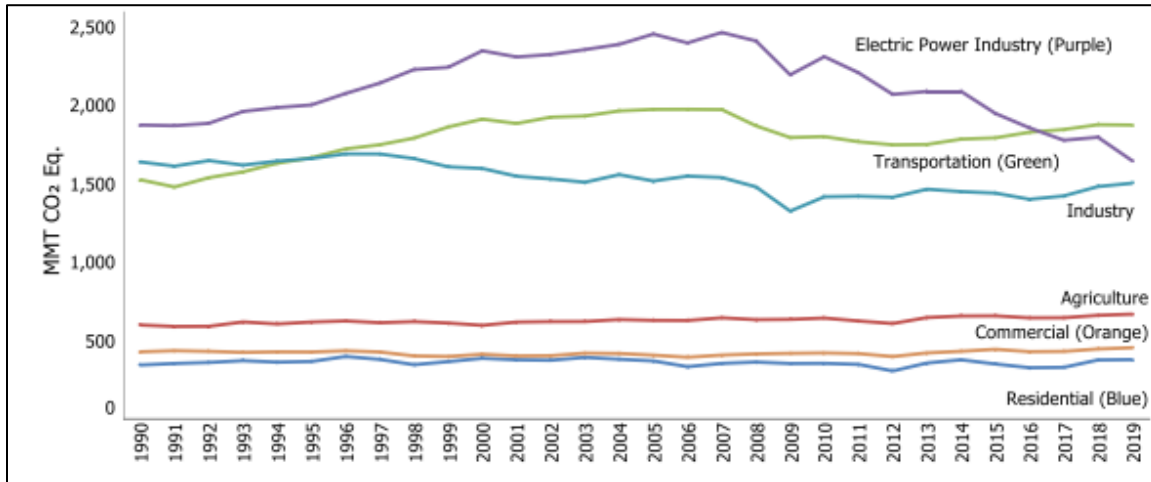
3.7.2 - Environmental Setting

Existing GHG Emissions

United States GHG Inventory

Total United States GHG emissions have increased by 1.8 percent from 1990 to 2019.¹ Figure 3.7-1 presents the trend in U.S. GHG emissions by economic sector from 1990 to 2019. Since 1990, U.S. emissions have increased at an average annual rate of 0.3 percent. Transportation emissions also increased because of an increase in Vehicle Miles Traveled (VMT). Within the United States, fossil fuel combustion accounted for 92.4 percent of carbon dioxide equivalent (CO₂e) emissions in 2019. Transportation was the largest emitter of CO₂e in 2019, accounting for 28.6 percent of emissions, followed by electric power generation, accounting for 25.1 percent.

¹ United States Environmental Protection Agency (EPA). 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019 – Executive Summary.



Note: Emissions shown do not include carbon sinks such as change in land uses and forestry.

Source: United States Environmental Protection Agency (EPA). 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019.

Figure 3.7-1: U.S. Greenhouse Gas Emissions Allocated to Economic Sectors (1990-2019)

In 2019, United States GHG emissions totaled 6,558 million metric tons (MMT) CO₂e. In 2020, U.S. GHG emissions totaled 5,222 MMT CO₂e after accounting for sequestration from the land sector. Emissions decreased from 2019 to 2020 by 11 percent (after accounting for sequestration from the land sector). The primary driver for the decrease was an 11 percent decline in CO₂ emissions from fossil fuel combustion, chiefly due to a 13 percent decrease in transportation emissions resulting from reduced demand due to the ongoing COVID-19 pandemic. GHG emissions in 2020 were 21 percent below 2005 levels.²

California GHG Inventory

As the second largest emitter of GHG emissions in the United States, California contributes a large quantity (418.2 MMT CO₂e in 2019) of GHG emissions to the atmosphere.^{3,4} Human-related emissions of CO₂e are largely byproducts of fossil fuel combustion and are attributable to transportation, industry/manufacturing, electricity generation, natural gas consumption, and agriculture processes. In California, the transportation sector is the largest emitter at 41 percent of GHG emissions, followed by industrial at 24 percent of GHG emissions.⁵

Bay Area Air Quality Management District GHG Inventory

The Bay Area Air Quality Management District (BAAQMD) prepared a GHG inventory for the San Francisco Bay Area (Bay Area) which provides an estimate of GHG emissions in the base year 2011 for all counties located in the jurisdiction of BAAQMD: Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Napa, and the southern portions of Solano and Sonoma.⁶ This GHG

² United States Environmental Protection Agency (EPA). 2022. Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020s.

³ World Resources Institute (WRI). 2022. US State Greenhouse Gas Emissions. Website: <https://www.wri.org/insights/8-charts-understand-us-state-greenhouse-gas-emissions>. Accessed September 23, 2022.

⁴ California Air Resources Board (ARB). 2022. Current California GHG Emission Inventory Data, 2000-2019 Trends Figure. Website: <https://ww2.arb.ca.gov/ghg-inventory-data>. Accessed September 23, 2022.

⁵ California Air Resources Board (ARB). 2021. California Greenhouse Gas Emissions for 2000 to 2019. July.

⁶ Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011. January.

inventory is based on the standards for criteria pollutant inventories and is intended to support BAAQMD’s climate protection activities.

Table 3.7-1 shows the 2011 breakdown of emissions by end-use sector for each county within the BAAQMD’s jurisdiction, the latest available region-wide GHG inventory information for the project region. The estimated GHG emissions are presented in CO₂e, which weights each GHG by its global warming potential (GWP). The GWPs used in the BAAQMD inventory are from the Second Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC).⁷

In 2011, GHG emissions from Marin County accounted for approximately 2.8 percent of the Bay Area’s total GHG emissions with 56.7 percent of the County’s total GHG emissions coming from the industrial/commercial land uses.⁸ Industrial/commercial is the largest GHG emissions sector in the County, followed by electricity generation and cogeneration and transportation.

Table 3.7-1: 2011 GHG Emissions by Sector and County (MMT CO₂e/Year)

Sector	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano	Sonoma
Industrial/Commercial	2.7	17.8	0.4	0.2	1.2	1.4	4.1	2.7	0.5
Residential Fuel	1.3	1.0	0.3	0.1	0.9	0.8	1.5	0.3	0.4
Electricity/Co-gen	0.9	7.2	0.1	0.1	0.5	0.4	2.2	0.4	0.2
Off-Road Equipment	0.2	0.2	0.0	0.0	0.2	0.1	0.4	0.0	0.1
Transportation	7.9	5.0	1.3	0.9	3.0	5.0	7.6	1.6	2.0
Agriculture/Farming	0.1	0.2	0.2	0.1	0.0	0.0	0.2	0.1	0.2
Total	13.2	31.4	2.4	1.5	5.7	7.7	16.0	5.1	3.5

Notes:
 BAAQMD = Bay Area Air Quality Management District
 CO₂e = carbon dioxide equivalent
 co-gen = cogeneration
 Solano and Sonoma Counties above only include the associated portion within BAAQMD jurisdiction.
 Source: Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases—Base Year 2011.

County of Marin GHG Inventory

In December of 2020, the County of Marin (County) adopted the Marin County Unincorporated Area Climate Action Plan 2030 (CAP).⁹ The CAP is not applicable to the project site due to principles of State Sovereignty, but the analysis in the plan provides useful information that is incorporated, where appropriate, into this analysis. As stated in the CAP, in 2020 the Marin Climate and Energy Partnership prepared a Greenhouse Gas Emissions Inventory for unincorporated community emissions for the years 2005 through 2018 consistent with the methodology used for other Marin

⁷ Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011. January.

⁸ Ibid.

⁹ Marin County. 2020. Marin County Unincorporated Climate Action Plan 2030. December.

cities and towns. As shown in the Greenhouse Gas Emissions Inventory, the County’s Community GHG emissions totaled 493,985 metric tons in 2005 and 380,318 metric tons in 2018, falling 23 percent, or 113,367 metric tons CO₂e. Table 3.7-2 provides the estimated 2005 to 2018 emissions for the County by sector.

Table 3.7-2: 2005-2018 Marin County Community GHG Emissions by Sector

Year	Built Env.- Electricity	Built Env.– Natural Gas	Transportation	Waste	Water	Wastewater	Off-Road	Agriculture	Total	% Change from 2005
2005	81,316	109,636	139,691	22,779	2,798	2,676	5,944	128,845	493,685	–
2006	74,822	108,696	142,504	22,447	2,541	2,619	6,131	139,634	499,393	1%
2007	105,080	107,441	144,114	20,061	2,903	2,948	7,232	132,541	522,320	6%
2008	111,578	105,739	140,721	16,677	2,811	2,989	6,107	129,096	515,719	4%
2009	104,750	105,741	139,458	14,364	2,850	2,800	5,447	119,528	494,937	0%
2010	71,263	107,256	129,370	14,027	1,553	2,399	5,169	123,860	454,896	-8%
2011	64,367	108,712	129,161	13,748	1,124	2,430	5,139	118,147	442,828	-10%
2012	63,786	102,534	130,097	14,115	1,178	2,484	5,085	110,834	430,113	-13%
2013	61,408	103,780	129,957	14,173	1,356	2,479	5,001	129,132	447,287	-9%
2014	53,518	84,937	128,039	14,360	1,199	2,345	4,922	113,862	403,181	-18%
2015	51,221	84,951	126,599	14,901	969	2,313	4,830	114,823	400,608	-19%
2016	41,631	89,928	122,449	17,444	676	2,210	4,725	117,950	397,011	-20%
2017	19,660	92,079	120,182	18,250	221	1,983	4,608	118,665	375,648	-24%
2018	22,843	91,280	117,767	19,536	118	1,933	4,471	122,371	380,318	-23%
2005-2018	-58,474	-18,356	-21,924	-3,243	-2,680	-743	-1,473	-6,474	-113,367	–
2005-2018	-72%	-17%	-16%	-14%	-96%	-28%	-25%	-5%	-23%	–

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The CAP also establishes targets that meet the State’s guidance for local jurisdictions and Drawdown Marin goals as shown in Table 3.7-3

Table 3.7-3: Marin GHG Emissions Targets

	2030 Mitigation Only Target	2030 Mitigation Plus Sequestration Target	2045
Target	40% below 1990 level	60% below 2005 level	Carbon Neutral
2030 Emissions limit to meet target (MT CO ₂ e)	251,779	197,474	0
Reference	SB32 Statewide Target	Drawdown Marin	Drawdown Marin
Measures Required to Achieve Target	Mitigation Only	Mitigation Plus Sequestration	Mitigation Plus Sequestration

Project Site

The project site is currently vacant other than an existing sewage junction box, a chemical dosing station, a force main (in a tunnel easement), and an approximately 11,500-square-foot asphalt pad located in the southwestern corner of the project site. Therefore, the existing GHG emissions associated with the existing uses on the project site are minimal.

3.7.3 - Regulatory Framework

International

International organizations such as the United Nations have made substantial efforts to reduce GHGs. Relevant agreements, including the Kyoto Protocol and the Paris Climate Change Agreement, serve to support the reduction of GHG emissions internationally and throughout California.

Federal Regulations

Prior to the last decade, there were no concrete federal regulations of GHGs or major planning for climate change adaptation. Since then, federal activity has increased. Relevant regulations that are continuing to reduce emissions in the country, including in the planning area, include the United States Consolidated Appropriations Act, which requires mandatory GHG reporting; the U.S. Clean Air Act permitting programs, which establishes new GHG source review requirements; and the Energy Independence and Security Act (EISA), which the United States Environmental Protection Agency (EPA) implements through increased Corporate Average Fuel Economy Standards, Renewable Fuel Standards, Biofuels Infrastructure, and Carbon Capture and Sequestration.¹⁰ EPA and the National Highway Traffic Safety Administration (NHTSA) regulations have established national standards for

¹⁰ United States Environment Protection Agency (EPA). Summary of the Energy Independence and Security Act. Website: <https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act>. Accessed February 3, 2022.

passenger vehicles, as well as for heavy-duty trucks and buses, which support ongoing reductions in fuel usage through increased fuel economy, and associated reductions in GHG emissions.¹¹

State

At the State level, legislation and executive orders have established policies and programs with the goal of reducing GHG emissions throughout California. The California Air Resources Board (ARB) is the main agency responsible for implementing climate change reduction programs at the State level. Key legislation, policies, and programs are further discussed in the following sections.

California Assembly Bill 32: Global Warming Solutions Act and Scoping Plan

The California State Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 required that GHGs emitted in California be reduced to 1990 levels by the year 2020. The ARB is the State agency charged with monitoring and regulating sources of GHGs. The State has made steady progress in implementing AB 32. The ARB's initial Climate Change Scoping Plan (Scoping Plan) contained measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32.¹² In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the ARB's Cap-and-Trade Program. The Cap-and-Trade Program remains a key element of the Scoping Plan. It sets a Statewide limit on sources responsible for 85 percent of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy.¹³

California Senate Bill 32

Former Governor Jerry Brown signed Senate Bill (SB) 32 in September of 2016, giving the ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. As such, SB 32 establishes a Statewide goal of reducing GHG emissions to at least 40 percent below the Statewide GHG emissions limit no later than December 31, 2030.

2017 Scoping Plan

The ARB's 2017 Scoping Plan, the 2017 Climate Change Scoping Plan Update, addresses the SB 32 targets and was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
 - Achieve 50 percent Renewables Portfolio Standard by 2030.
 - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard

¹¹ United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: <http://www.epa.gov/otaq/climate/documents/420f12051.pdf>. Accessed February 3, 2022.

¹² California Air Resources Board (ARB). 2008. Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed February 19, 2022.

¹³ California Air Resources Board (ARB). 2015. ARB Emissions Trading Program. Website: https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/guidance/cap_trade_overview.pdf. Accessed February 19, 2022.

- Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
 - Maintaining existing GHG standards for light- and heavy-duty vehicles.
 - Put 4.2 million Zero-Emission Vehicles (ZEVs) on the roads.
 - Increase ZEV buses and delivery and other trucks.
 4. Sustainable Freight Action Plan
 - Improve freight system efficiency.
 - Maximize use of near-ZEVs and equipment powered by renewable energy.
 - Deploy over 100,000 zero-emission trucks and equipment by 2030.
 5. Short-Lived Climate Pollutant Reduction Strategy
 - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
 - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
 6. SB 375 Sustainable Communities Strategies
 - Increased stringency of 2035 targets.
 7. Post-2020 Cap-and-Trade Program
 - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
 - The ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, the ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
 8. 20 percent reduction in GHG emissions from the refinery sector.
 9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

2022 Scoping Plan

In addition, the ARB adopted the 2022 Scoping Plan Update in November 2022. The 2022 Scoping Plan establishes a scenario by which the State may achieve carbon neutrality by 2045 or earlier, and it outlines a technologically feasible, cost-effective, and equity-focused path for achieving this climate target. The 2022 Scoping Plan addresses the latest climate-related legislation and direction from current Governor Gavin Newsom, who, by his signing of AB 1279, required the State to reduce statewide anthropogenic GHG emissions to at least 85 percent below 1990 levels by 2045 and to maintain net negative GHG emissions thereafter. The 2022 Scoping Plan relies on the aggressive reduction of fossil fuels in all statewide sectors and accelerating existing carbon reduction programs. Aspects of the 2022 Scoping Plan's scenario include:

- Rapidly moving to zero-emission transportation by electrifying cars, buses, trains, and trucks.
- Phasing out the use of fossil gas used for heating homes and buildings.

- Clamping down on chemicals, refrigerants, and other high global warming potential gases.
- Providing communities with sustainable options for walking, biking, and public transit to reduce reliance on cars.
- Continuing to develop solar arrays, wind turbine capacity, and other resources that provide clean, renewable energy.
- Scale up options such as renewable hydrogen and biomethane for end uses that are hard to electrify.

The ARB estimates that successfully achieving the outcomes called for by the 2022 Scoping Plan will reduce demand for liquid petroleum by 94 percent and total fossil fuel by 86 percent in 2045, relative to 2022. The 2022 Scoping Plan also emphasizes the role of natural and working lands and carbon capturing technologies to address residual emissions and achieve net negative emissions.

California Senate Bill 350: Clean Energy and Pollution Reduction Act

In 2015, the State Legislature approved, and the Governor signed, SB 350, which reaffirmed California’s commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the Renewables Portfolio Standard (RPS), higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for electric vehicle (EV) charging stations. SB 350 requires that the amount of electricity procured from renewable energy sources increase from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024 and 25 percent by 2027. The bill also requires the doubling of energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission, the California Energy Commission (CEC), and local publicly owned utilities.¹⁴

California Assembly Bill 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. The most recent phase of the implementation for the Pavley Bill was incorporated into Amendments to the Low-Emission Vehicle (LEV) Program, referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for passenger vehicle model years 2017 through 2025. The regulation is estimated to reduce GHGs from new cars by 34 percent from 2016 levels by 2025.¹⁵

California Senate Bill 375: Sustainable Communities and Climate Protection Act

SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. The statute directed ARB to develop GHG reduction targets for Metropolitan Planning Organizations (MPOs) across the State.

¹⁴ California Legislative Information (California Leginfo). 2015. Senate Bill 350 Clean Energy and Pollution Reduction Act of 2015. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed February 3, 2022.

¹⁵ California Air Resources Board (ARB). 2011. Status of Scoping Plan Recommended Measures.

California Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an Executive Order, the goals are not legally enforceable for local governments or the private sector.

California Executive Order S-01-07—Low Carbon Fuel Standard

The Governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a Statewide goal shall be established to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020. In particular, the Executive Order established a LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, ARB, University of California, and other agencies to develop and propose protocols for measuring the “lifecycle carbon intensity” of transportation fuels. The ARB adopted the LCFS on April 23, 2009.

The LCFS was subject to legal challenge in 2011. Ultimately, on August 8, 2013, the Fifth District Court of Appeal (California) ruled that the ARB failed to comply with CEQA and the Administrative Procedure Act when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal directed that Resolution 09-31 and two Executive Orders of the ARB approving LCFS regulations promulgated to reduce GHG emissions be set aside. However, the Court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while the ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, the ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing for the new LCFS regulation was held on September 24, 2015, and September 25, 2015, where the LCFS regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with the Office of Administrative Law (OAL) on October 2, 2015. The OAL approved the regulation on November 16, 2015.¹⁶

California Executive Order S-13-08

Executive Order S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural

¹⁶ California Air Resources Board (ARB). 2015. Low Carbon Fuel Standard Regulation. Website: <https://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm>. Accessed February 3, 2022.

resources.” Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy¹⁷ was adopted, which is the “. . . first Statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

California Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued an Executive Order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor’s Executive Order aligns California’s GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The Executive Order sets a new interim Statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MT CO₂e. The Executive Order also requires the State’s climate adaptation plan to be updated every 3 years and for the State to continue its climate change research program, among other provisions.

California Air Resources Board’s Truck and Bus Regulation

The latest amendments to the Truck and Bus Regulation became effective on December 31, 2014. The amended regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer, heavier trucks and buses were mandated to meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks were to be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.¹⁸

California Code of Regulations Title 24: Energy Efficiency Standards

Part 6 (Energy Efficiency Standards for Residential and Nonresidential Buildings)

California Code of Regulations Title 24 Part 6 (California’s Energy Efficiency Standards for Residential and Nonresidential Buildings) was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy-efficient technologies and methods. Energy-efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 Building Energy Efficiency Standards went into effect on January 1, 2020.

California Code of Regulations Title 24: California Green Building Standards Code

California Code of Regulations Title 24, Part 11, is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went into effect on January 1, 2011. The Code is updated on a regular basis, with the most recent update consisting of the 2019 California Green Building Standards Code (CALGreen) that became effective January 1, 2020. The State Building Code

¹⁷ California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. Website: https://cawaterlibrary.net/wp-content/uploads/2017/05/Statewide_Adaptation_Strategy.pdf. Accessed February 11, 2022.

¹⁸ California Air Resources Board (ARB). 2014. On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation.

provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

CALGreen (California Code of Regulations [CCR] Title 24, Part 11) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (§ 5.106.4.1.1).
- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (§ 5.106.4.1.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (§ 5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the deposit, storage, and collection of nonhazardous materials for recycling (§ 5.410.1).
- **Construction waste.** A minimum 65 percent diversion of construction and demolition waste from landfills. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks, and associated vegetation and soils resulting from land clearing shall be reused or recycled (§ 5.408.3).
- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
 1. The installation of water-conserving fixtures or
 2. Using nonpotable water systems (§ 5.303.4).
- **Water use savings.** 20 percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (§ 5.303.2, A5303.2.3 [nonresidential]).
- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (§ 5.303.1).
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas (§ 5.304.3).
- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (§ 5.404).
- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (§ 5.410.2).

California Senate Bill 97 and the California Environmental Quality Act Guidelines Update

Passed in August 2007, SB 97 required that the Office of Planning and Research develop guidelines for the mitigation of GHG emissions, including, but not limited to, effects associated with transportation or energy consumption. This bill resulted in updates to the California Environmental Quality Act (CEQA) Guidelines to require the analysis of GHG emissions impacts. Under CEQA Guidelines Section 15064.4(b), a lead agency should consider the following factors, among others, when determining the significance of impacts from GHG emissions on the environment:

- (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- (3) The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

CEQA Guidelines Section 15183.5 continues to permit programmatic GHG analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to Section 15183.5(b).

3.7.4 - Methodology

CalEEMod Version 2022.1 was developed in collaboration with the South Coast Air Quality Management District (SCAQMD) and other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential GHG emissions associated with construction and operation from various land uses. The modeling used to support this analysis follows BAAQMD guidance where applicable from its CEQA Air Quality Guidelines.

Construction-related GHG Emissions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from both on-site and off-site activities. On-site emissions consist of exhaust emissions from the activity levels of heavy-duty construction equipment and motor vehicle operation. Off-site emissions result from motor vehicle exhaust from hauling and vendor trucks and worker traffic.

Construction emissions are generally calculated as the product of an activity factor and an emission factor. The activity factor for construction equipment is a measure of how active a piece of equipment is and can be represented as the amount of material processed, elapsed time that a piece of equipment is in operation, horsepower of a piece of equipment used, or the amount of fuel consumed in a given amount of time. The emission factor relates the process activity to the amount of pollutant emitted. Examples of emission factors include grams of emissions per VMT and grams of emissions per horsepower-hour. The operation of a piece of equipment is tempered by its load

factor, which is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. This analysis uses the CalEEMod default load factors for off-road equipment.

For the purposes of this analysis, construction of the proposed project was assumed to begin in the first quarter of 2023 and be completed by the third quarter of 2025, taking approximately 30 months to complete.¹⁹ It is anticipated that site preparation (removal of existing pavement) is to take approximately 2 months, grading is to take approximately 6 months, and building construction (including building construction, paving, and architectural coating) is to take approximately 22 months. Architectural coating of the proposed project is anticipated to be concurrent with the second half of the 22-month building construction timeline, whereas paving and building construction will not overlap.

An estimated 11,500-square-foot asphalt pad could be demolished and removed from the site during project construction. As such, to incorporate the potential asphalt to be demolished and removed, a total of approximately 431 tons of debris is anticipated to be hauled off the project site during site preparation. Refer to the Demolition Debris Calculations sheet contained in Appendix B for more information. CalEEMod default values for trip lengths and vehicle fleets associated with demolition debris hauling trips were used for this analysis.

Approximately 5,000 cubic yards of contaminated soil is expected to be exported and replaced during project grading activities. The nearest facility which accepts contaminated soils is the Transfer/Process Facility (Solid Waste Information System [SWIS] Number 15-AA-0400) at 18613 Waterflood Road, Lost Hills, California 93249, approximately 260 miles from the project site. CalEEMod default values for vehicle fleets associated with soil hauling trips were used for this analysis.

CalEEMod default values include a worker trip length of 11.7 miles, a vendor trip length of 8.4 miles, and a hauling trip length of 20 miles. However, as stated above, the hauling trip length was changed to 260 miles to account for the export of contaminated soils to the nearest facility.²⁰

Operation-Related GHG Emissions

The operational-phase emissions are based on the development of the proposed project. The modeling accounts for the average daily vehicle trip rate, energy and water demand, and wastewater and solid waste generation.

¹⁹ This schedule represents a conservative assumption, because if construction moves to later years, construction emissions would likely decrease because of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment.

²⁰ The import of replacement soils is anticipated to come from a closer facility (similar to default CalEEMod distances) and would not travel the hauling distance of 260 miles to the facility in Lost Hills, California. However, as CalEEMod only provides for input of one hauling trip distance per grading phase, the analysis is conservative as both the export of contaminated soils as well as the import of replacement soils were assumed to travel a hauling distance of 260 miles.

Transportation

CalEEMod Version 2022.1 was utilized to quantify mobile-source emissions. According to the Traffic Impact Study (TIS) prepared by W-Trans, dated December 8, 2022 (Appendix I), the proposed project would generate an estimated 1,360 vehicle trips per day with a trip generation rate of 5.44 trips per dwelling unit per day.

Other Operational Emissions

Solid Waste Disposal

Indirect emissions from waste generation are based on the CalEEMod default solid waste generation rates, which are based on data from the California Department of Resources, Recycling, and Recovery (CalRecycle).

Water/Wastewater

GHG emissions from this sector are associated with the embodied energy used to supply water, treat water, distribute water, and then treat wastewater and fugitive GHG emissions from wastewater treatment. Indoor water consumption is based on CalEEMod default indoor water use rates.

Area Sources

Area sources are based on the CalEEMod defaults for use of consumer products and landscaping equipment.

Energy

Emissions associated with energy usage are from natural gas for water heating and electricity use for heating, cooking, lighting, and power needs.

Stationary Sources

Stationary sources are based on stationary source equipment, such as fire pumps or backup generators. Should any stationary source equipment or operation be used during future project operations, the project applicant would be required to apply for a permit with the BAAQMD, under Rule 2, Regulation 2 New Source Review, to ensure that any emissions generated by the new equipment or operation would not exceed BAAQMD's significance thresholds for criteria pollutants, ozone precursors, GHG emissions, or human health impacts.²¹

3.7.5 - Thresholds of Significance

Pursuant to Section 21166 of the Public Resources Code as well as Sections 15162 and 15163 of the CEQA Guidelines, the Draft EIR need only contain the information necessary to analyze the proposed project. Utilizing the guidance in the CEQA Guidelines Appendix G Environmental Checklist, to determine whether the project's impacts to GHG emissions would be significant environmental effects, the following questions are analyzed and evaluated. Would the proposed project:

²¹ Bay Area Air Quality Management District (BAAQMD). 2017. Regulation 2 Permits Rule 2 New Source Review. December 6.

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (Impact GHG-1)?
- b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases (Impact GHG-2)?

Specific Thresholds of Significance

Impact GHG-1: GHG Emissions Generation

The Department of General Services chooses to rely on the BAAQMD's subject matter expertise on GHG emissions and to utilize the advisory recommendations contained in their 2017 CEQA Air Quality Guidelines as well as their recently adopted GHG significance thresholds for land use development projects.²² The BAAQMD's 2022 significance thresholds for land use projects are listed below.

If a land use development project cannot demonstrate consistency with Criterion A or Criterion B, that project would result in a potentially significant impact related to GHG emissions.

- A. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b), or
- B. Projects must include, at a minimum, the following project design elements.
 - a. Buildings:
 - i. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
 - ii. 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.
 - b. Transportation:
 - i. Achieve compliance with EV requirements in the most recently adopted version of CALGreen Tier 2.
 - ii. Achieve a reduction in project-generated 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 SB 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:
 1. Residential projects: 15 percent below the existing VMT per capita.
 2. Office projects: 15 percent below the existing VMT per employee.
 3. Retail projects: no net increase in existing VMT.

Impact GHG-2: GHG Emissions Reduction Plan Consistency

While the above methodology employed under Impact GHG-1 focuses on the proposed project's direct and indirect generation of GHG emissions, the methodology for Impact GHG-2 for determining

²² Bay Area Air Quality Management District (BAAQMD). 2022. Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans. April.

whether a potentially significance impact would occur focuses on the proposed project’s consistency with the applicable plan adopted for the purpose of reducing GHG emissions. Consistent with the BAAQMD’s CEQA Air Quality Guidelines, for this impact to be less than significant, the proposed project must demonstrate consistency with the applicable GHG emissions reduction plan. As such, the proposed project would be determined to conflict with the applicable GHG emissions reduction plan if it would not adhere to applicable GHG reduction measures and policies included in the ARB’s 2017 and 2022 Scoping Plan.

If the proposed project is unable to meet the above significance thresholds, the proposed project would be considered to have a significant and unavoidable impact and would be cumulatively considerable.

3.7.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the project and provides mitigation measures where necessary.

Greenhouse Gas Emissions

Impact GHG-1: **The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.**

Impact Analysis

Both construction and operation activities have the potential to generate GHG emissions. The proposed project would generate GHG emissions during temporary (short-term) construction activities such as site grading, operation of construction equipment, operation of on-site heavy-duty construction vehicles, hauling of materials to and from the project site, asphalt paving, and construction worker vehicle trips. On-site construction activities would vary depending on the level of construction activity.

Long-term operational GHG emissions would result from project-generated vehicular traffic, utilization of any landscaping equipment, off-site generation of electrical power over the life of the proposed project, use of energy required to convey water to and wastewater from the project site, hauling and disposal of solid waste from the project site, any fugitive refrigerants from air conditioning or refrigerators, and operation of any proposed stationary sources such as backup generators.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough GHG emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, this section measures the proposed project’s incremental contribution to the cumulative environmental impact. Potential cumulative impacts are discussed in detail in Chapter 4, Cumulative Effects. The following is a discussion of the proposed project’s contribution to GHG emissions during both the construction and operation phases.

Construction

The BAAQMD does not have thresholds of significance for construction-related GHG emissions, which are short-term emissions and therefore would not significantly contribute to the long-term cumulative GHG emissions impacts of the proposed project. Nonetheless, the proposed project, as required by BAAQMD, would incorporate construction Best Management Practices (BMPs) that would reduce GHG emissions generated during project construction. As discussed in Section 3.2, Air Quality, the proposed project would be required to incorporate BAAQMD construction BMPs. While the primary function of the BAAQMD construction BMPs is to reduce fugitive dust emissions during project construction, some measures would also reduce GHG emissions, such as the restriction on engine idling times and the proper maintenance of construction equipment in accordance with manufacturer specifications. The incorporation of BAAQMD construction BMPs would contribute to reductions in GHG emissions during project construction and support the proposed project's contribution to its "fair share" in GHG emission reductions during construction toward the State's long-term climate goals.

Operation

The proposed project would contribute to global climate change through direct and indirect emissions of GHG from mobile sources (e.g., passenger vehicles, trucks), energy (e.g., purchased electricity), water use and wastewater generation, and solid waste generation. As discussed under Section 3.7.4, Thresholds of Significance, the BAAQMD has recently adopted new advisory recommendations for GHG significance thresholds which focus on the qualitative design of a project to determine impact significance based on the presence of legacy emission sources. As discussed in Section 3.2, Air Quality, the proposed project's emissions were calculated using CalEEMod based on factors including but not limited to trip generation rates, trip distances, building sizes and operations, energy consumption, water consumption, and waste generation. While this GHG impact discussion is qualitative by nature, modeling results and detailed calculations related to criteria air pollutant, ozone precursor, and GHG emissions are contained in Appendix B for informational purposes. According to the BAAQMD-recommended significance thresholds, if a project cannot demonstrate compliance with Criterion A or Criterion B, it would be considered to result in potentially significant impacts, resulting in the need for mitigation.

- A. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b), or
- B. Projects must include, at a minimum, the following project design elements.
 - a. Buildings:
 - i. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
 - ii. 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.
 - b. Transportation:
 - i. Achieve compliance with EV requirements in the most recently adopted version of CALGreen Tier 2.

- ii. Achieve a reduction in project-generated 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 SB 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:
 1. Residential projects: 15 percent below the existing VMT per capita.
 2. Office projects: 15 percent below the existing VMT per employee.
 3. Retail projects: no net increase in existing VMT.

The following discussion analyzes the proposed project with respect to compliance with these criteria.

Criterion A

Criterion A contemplates that projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). In December of 2020, the County adopted the Marin County Unincorporated Area Climate Action Plan (CAP) 2030. Appendix E, Qualified GHG Reduction Strategy, of the County’s CAP demonstrates that the CAP meets the requirements to be considered a qualified GHG reduction strategy capable of being tiered from under CEQA Guidelines Section 15183.5(b).

As discussed above, the CAP is not legally applicable to the project site due to principles of State Sovereignty. However, the CAP is a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b) and, given the proposed project is located within the geographical region addressed by the CAP (see Figure 1 of the plan, incorporated herein by this reference), this document provides a meaningful analytical framework under which the proposed project can be studied. Therefore, the proposed project’s consistency with the CAP provides the basis of a useful analysis under Criterion A of the BAAQMD-recommended significance thresholds. Accordingly, the proposed project’s GHG emissions have been evaluated below in accordance with the reduction measures identified in the County’s CAP.

As shown in Table 3.7-3 above, the County’s CAP sets reduction targets of 40 percent below 1990 levels by 2030 (mitigation only target) and 60 percent below 2005 levels by 2030 (mitigation + sequestration target). Furthermore, the County’s CAP includes a variety of regulatory, incentive-based, and market-based strategies that are expected to reduce emissions from both existing and new development in the County. The proposed project’s consistency with applicable strategies is provided in Table 3.7-4.

Table 3.7-4: Project Consistency with the Marin County Climate Action Plan

Actions		Consistency Analysis
Low Carbon Transportation		
LCT-C2: Bicycling and Micromobility	Encourage bicycling and micromobility as an alternative to vehicular travel.	Consistent. In the project area, there is a Class I multiuse path on the south side of East Sir Francis Drake Boulevard, Class II bike lanes on Andersen Drive, and a Class II bike lane on the south side of the East Sir Francis Drake

Actions		Consistency Analysis
		Boulevard that continues on to I-580 as a Class IV bikeway on the north side that connects to Francisco Boulevard East. In addition, the proposed project would provide approximately 16 short-term and 30 long-term bicycle parking spaces on-site. The proposed pedestrian crosswalk would also allow bicycles to connect from the project site to the Class I multiuse path on the south side of East Sir Francis Drake Boulevard. Therefore, the proposed project would encourage bicycling as an alternative to vehicular travel.
LCT-C3: Walking	Encourage walking as an alternative to vehicle use.	Consistent. The proposed project would include approximately 1,500 linear feet of pedestrian walkways throughout the project site and a pedestrian crosswalk that would allow pedestrians to access the Class I multiuse path on the south side of East Sir Francis Drake Boulevard. Therefore, the proposed project would encourage walking as an alternative vehicle use.
LCT-C5: Public Transit	Support and promote public transit by taking the following actions: <ol style="list-style-type: none"> 1. Work with Marin Transit and Golden Gate Transit to maximize ridership through expansion and/or improvement of transit routes, schedules, and services, such as Marin Transit Connect. 2. Work with the Transportation Authority of Marin (TAM), employers, and others to provide and promote first and last mile programs to maximize utilization of public transit. 3. In conjunction with LCT-C2 and C3, provide safe routes to the ferry landing and other transit facilities that encourage bicycle and pedestrian connections. 4. Support a “Yellow School Bus” program and student use of regular transit to reduce school traffic. 5. Encourage transit providers, including school buses, to use renewable diesel as a transition fuel and to purchase electric buses 	Consistent. While the actions included in LCT-C5 are primarily focused on actions that can be taken at the County level, the proposed project is consistent with this measure through the incorporation of pedestrian walkways that would provide safe routes to the ferry and to bus stops. Regional and local fixed-route bus transit service is provided by the County of Marin through Marin Transit, the Golden Gate Bridge, Highway and Transportation District through the Larkspur Ferry, and the Sonoma-Marín Rail Transit District (SMART). The nearest bus stop to the proposed project site for Marin Transit Routes 17 and 228 is at Larkspur Landing Circle/Lincoln Village Circle (approximately 0.5 miles from the project site). The nearest bus stop to the proposed project site for Marin Transit Route 29 is at East Sir Francis Drake Boulevard/Larkspur Landing Circle (approximately 0.6 miles from the project site). Ferry service is provided at the Larkspur Ferry Terminal (approximately 0.6 miles from the project site). As the proposed project is located nearby to transit stations and would incorporate design features that increase connectivity, the proposed project would promote the use of public transit.

Actions		Consistency Analysis
	whenever replacing existing buses.	
LCT-C6: SMART Train	Encourage residents, commuters, employees, and visitors to take the SMART train.	Consistent. Passenger rail service from the Larkspur SMART Station is located approximately 0.8 miles from the project site. Therefore, the proposed project would encourage the use of the SMART train.
LCT-C9: Smart Growth Development	Promote land use and development policies that prioritize infill housing and mixed-use development near commercial services and transit facilities.	Consistent. The proposed project is the development of the site with up to 250 multi-family residential uses in close proximity to existing commercial uses and transit facilities.
Renewable Energy and Electrification		
RE-C1: Renewable Energy Generation and Storage	Accelerate installation of solar and other renewable energy systems and energy storage systems.	Not Applicable. This action calls for the County to accelerate installation of renewable energy systems. The proposed project would not interfere with the acceleration of installation of renewable energy systems.
RE-C2: GHG-Free Electricity	Encourage residents and businesses to switch to 100 percent renewable electricity (Marin Clean Energy [MCE] Deep Green, MCE Local Sol, and Pacific Gas and Electric Company [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 2022.	Not Applicable. This action involves the County participating in engagement campaigns and partner agency incentives in order to encourage residents and businesses to switch to renewable electricity. The proposed project would not interfere with the County's ability to provide engagement campaigns and partner agency incentives to encourage residents and businesses to switch to 100 percent renewable electricity. Furthermore, the proposed project is anticipated to be serviced by Marin Clean Energy, unless the project owner chooses to opt-out. As stated by MCE, standard service, as of 2017, is at least 60 percent renewable and is anticipated to be approximately 95 percent GHG-free by 2023. ¹
RE-C3: Building and Appliance Electrification	Accelerate electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, ranges, and clothes dryers.	Consistent. This action pertains to existing building systems and appliances. The proposed project is that of new construction. The proposed project would not interfere with the acceleration of electrification of building systems and appliances of existing uses and would comply with all requirements of the 2022 update of the California Green Building Standards Code (Part 11, Title 24) regarding appliances and energy, including the requirement that all units be electric-appliance-ready.
Energy Efficiency		
EE-C1: Energy Efficiency	Promote and expand participation in residential and commercial energy efficiency programs.	Not Applicable. This action calls for the County to promote and expand residential and commercial participation in energy efficiency programs. The proposed

Actions		Consistency Analysis
		<p>project would not interfere with the County’s ability to promote these programs.</p> <p>The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, which are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. Furthermore, the 2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen) will become effective early January 2023 and includes additional mandatory measures regarding energy efficiency. The proposed project would be subject to these mandatory standards.</p>
EE-C3: Cool Pavements and Roofs	Use reflective, high albedo material for roadways, parking lots, and sidewalks and cool roofs to reduce the urban heat island effect and save energy.	Consistent. The proposed project would comply with current Title 24 prescriptive cool roof and reflective paving requirements to meet energy compliance.
EE-C4: Green Building Reach Code	<ol style="list-style-type: none"> 1. Continue to adopt a green building ordinance for new and remodeled commercial and residential projects that requires green building methods and energy efficiency savings above the State building and energy codes. 2. Prohibit the use of natural gas end uses in new residential buildings in the County’s green building ordinance that aligns with the 2022 California Building Standards Code update. Extend the same prohibition to new nonresidential buildings in the 2025 code cycle. 	<p>Consistent. This action calls for the County to adopt a green building ordinance that requires green building methods and energy efficiency savings above State building and energy codes as well as an inclusion in the code for natural gas regulations aligning with the 2022 California Building Standards Code update. The County is currently in the process of developing their 2022 Green Building Ordinance. The proposed project will not interfere with these ongoing County efforts.</p> <p>. The proposed project would fully comply with all applicable provisions of the 2022 California Buildings Standards Code update and will include all-electric cooking appliances and space heating.</p>

Actions	Consistency Analysis
Waste Reduction	
WR-C2: Residential Organic Waste	<p>Work with Zero Waste Marin, the County’s waste haulers and special districts, and other organizations to educate and motivate residents to utilize curbside collection services and home composting for food waste.</p> <p>Not Applicable. This measure calls for the County to educate residents on the available services to dispose of organic waste. The proposed project would not interfere with the County’s ability to provide this type of education. Furthermore, the waste service provider for the proposed project would be required to meet the AB 341, SB 939, and SB 1374 requirements that require waste to be recycled.</p>
WR-C3: Construction and Demolition Debris and Self-Haul Waste	<p>1. Require all loads of construction and demolition debris and self-haul waste to be processed for recovery of materials as feasible.</p> <p>2. 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.</p> <p>Consistent. The first part of this strategy requires all loads of construction and demolition debris to be processed for recovery of materials as feasible. Lead contamination was found on-site; therefore, during grading of the proposed project, contaminated soils would be exported and replaced. The export and disposal of these soils is to be done at a proper hazardous waste facility; therefore, this strategy is not a feasible option for the hauling debris associated with the proposed project.</p> <p>The second part of this strategy calls for the County to create an ordinance requiring deconstruction of building proposed for demolition when materials can be salvaged. The proposed project would not interfere with the County’s ability to create such an ordinance.</p>
WR-C4: Mandatory Waste Diversion	<p>Adopt an ordinance by January 1, 2022, requiring all commercial and residential accounts to subscribe to and fully participate in waste diversion activities, including recycling and organics collection provided by the County’s waste haulers. Consider including phased implementation of the ordinance, penalties, and practical enforcement mechanisms.</p> <p>Not Applicable. This action calls for the County to adopt an ordinance pertaining to waste diversion activities. The proposed project would not interfere with the County’s ability to adopt this ordinance and, if adopted, would be required to comply. Furthermore, the waste service provider for the proposed project would be required to meet the AB 341, SB 939 and SB 1374 requirements that require waste to be recycled.</p>
Water Conservation	
WC-C1: Community Water Use	<p>Reduce indoor and outdoor water use in residential and commercial buildings and landscaping.</p> <p>Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, which are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. Furthermore, the 2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen) will</p>

	Actions	Consistency Analysis
		become effective early January 2023 and includes additional mandatory measures regarding energy efficiency. The proposed project will be subject to these mandatory standards.
<p>Sources: Marin County Unincorporated Area Climate Action Plan 2030. December 2020. ¹ Marin Clean Energy (MCE). 2023. Website: https://www.mcecleanenergy.org/.</p>		

As shown in Table 3.7-4, the proposed project would be consistent with the applicable reduction strategies and actions identified in the County’s CAP. Because of this consistency, the proposed project satisfies Criterion A from the above GHG significance thresholds and does not need to demonstrate consistency with the provisions of Criterion B to determine a less than significant impact related to GHG emissions.

Stationary Sources

As recommended by the BAAQMD’s 2017 CEQA Air Quality Guidelines,²³ the proposed project’s stationary source GHG emissions are to be separated from the land use GHG emissions and analyzed independently against the BAAQMD’s stationary source GHG threshold of 10,000 metric tons (MT) CO₂e per year. A backup diesel generator for each proposed building was assumed to be included in the proposed project to provide a conservative analysis in case any emergency power systems are required during the entitlement process or after the commencement of project operation. The proposed backup diesel generator(s) was assumed to total 358 horsepower. The backup generator(s) were assumed to operate at the maximum 50 hours per year, as would be the maximum hours per year allowed under a stationary source permit issued by the BAAQMD for non-emergency operations and maintenance. Assuming this information, the proposed project’s stationary source equipment would generate an estimated 7 MT CO₂e annually, which is well below the BAAQMD threshold of 10,000 MT CO₂e per year for stationary source GHG emissions. Therefore, GHG emissions from the potential backup generator represent a less than significant impact.

Conclusion

The proposed project would generate GHG emissions during construction and operation. Neither BAAQMD nor the County have an emissions threshold for determining potentially significant impacts related to construction GHG emissions. Nonetheless, the proposed project would implement construction BMPs required by BAAQMD that would contribute to reductions in GHG emissions during project construction and support the proposed project’s contribution to its “fair share” in GHG emission reductions during construction toward the State’s long-term climate goals.

The proposed project would be consistent with the applicable actions of the County’s CAP. Therefore, the proposed project would not conflict with the BAAQMD’s recommended significance thresholds to determine whether the proposed project’s GHG emissions would be cumulatively considerable and conflict with the State’s long-term climate goals. As such, the proposed project’s

²³ Bay Area Air Quality Management District (BAAQMD). 2017. BAAQMD CEQA Air Quality Guidelines. May.

land use GHG emissions would not result in potentially significant impacts. Moreover, the proposed project’s speculative stationary source emissions would be well below BAAQMD’s recommended significance threshold for stationary sources. As such, the proposed project’s construction and operational GHG emissions impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Conflict with Plan, Policy, or Regulation that Reduces Emissions

Impact GHG-2: **The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.**

Impact Analysis

The following provides an analysis of the proposed project in the context of the 2017 and 2022 ARB Scoping Plan, ABAG’s Plan Bay Area 2050, and the County’s CAP to determine whether the proposed project would present a potential conflict with plans or policies adopted for the purpose of reducing emissions of GHGs.

2017 ARB Scoping Plan

The 2017 ARB Scoping Plan is the State’s strategy to achieve the GHG emissions reduction goals under AB 32 and SB 32 as well as a long-term strategy to achieve the State’s overall carbon neutrality goals for 2050 under Executive Order S-03-05. It is applicable to State agencies but is not directly applicable to individual projects). However, new regulations, such as those included in the California Green Building Standards Code Title 24, Part 11 (CALGreen) that pertain to energy-efficiency, renewable energy, water-efficiency, recycling, and waste reduction, adopted by the State agencies outlined in the Scoping Plan result in GHG emissions reductions. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other Statewide actions that affect a local jurisdiction’s emissions inventory from the top down. As such, due to the proposed project being required to comply with State regulations as they come into effect, the proposed project would not be considered to conflict with the ARB’s 2017 Scoping Plan.

2022 ARB Scoping Plan

As explained earlier, the 2022 Scoping Plan addresses the recent signing of AB 1279, which codified EO B-55-18’s target for California to achieve and maintain carbon net neutrality by 2045 (equivalent to a reduction in Statewide anthropogenic GHG emissions of 85 percent below 1990 levels). The 2022 Scoping Plan establishes a scenario by which the State may achieve this goal by 2045 or earlier.

The 2022 Scoping Plan reaffirms and clarifies the role of local governments in achieving the State’s climate goals, particularly as it concerns the approval of new land use development projects and their environmental review under CEQA. It recommends several distinct approaches that lead

agencies may choose from to evaluate the consistency of proposed plans and residential and mixed-use development projects with the State’s climate goals and the 2022 Scoping Plan. Per the 2022 Scoping Plan, a lead agency may determine that a project is consistent with the State’s climate goals and the 2022 Scoping Plan if:

- The project is consistent with a GHG reduction plan, such as a CEQA-qualified CAP; or
- In the event that consistency with a CEQA Qualified CAP cannot be shown, a lead agency may determine a project is consistent with state climate goals and the 2022 Scoping Plan if:
 - The project has a less than significant impact under a GHG threshold of significance recommended by the applicable air district, so long as the threshold is aligned with the State’s most recent GHG reduction goals;
 - The project would result in net-zero GHG emissions; or
 - The project is consistent with key project attributes outlined in the 2022 Scoping Plan that have been demonstrated to reduce operational GHG emissions while advancing fair housing goals.

As shown in Table 3.7-4, the proposed project would be consistent with the applicable reduction strategies and actions identified in the County’s CAP. Therefore, the proposed project would be consistent with the State’s climate goals, including the 2022 Scoping Plan, AB 1279, and the State’s goal to achieve and maintain carbon net neutrality by 2045. Furthermore, as discussed under Impact GHG-1, the proposed project’s land use GHG emissions would not result in potentially significant impacts under BAAQMD’s 2022 thresholds, which reflect the State’s goal of carbon net neutrality by 2045. For this separate and independent reason, the proposed project would be consistent with the State’s climate goals, including the 2022 Scoping Plan, AB 1279, and the State’s goal to achieve and maintain carbon net neutrality by 2045.

For informational purposes, the proposed project’s consistency with certain other statewide and local climate goals, plans, and policies is discussed below.

Transportation Sector

Passenger Vehicles

The proposed project’s principal operational GHG source would be vehicle operation, in large part due to the use of privately owned vehicles. Statewide strategies to reduce GHG emissions from passenger vehicles and the transportation sector in general include the Low Carbon Fuel Standard (LCFS) and changes in the Corporate Average Fuel Economy Standards (e.g., Pavley I and Pavley California Advanced Clean Cars program). New passenger vehicles and transportation fuels for passenger vehicles utilized during project operation would be required to meet these standards and would contribute to GHG emission reductions experienced by the proposed project due to these Statewide strategies.

Furthermore, as stated in the TIS prepared for the proposed project (Appendix I), the proposed project would screen out of potentially significant VMT impacts as the project is located within an area with residential VMT that is less than 85 percent of the countywide average. Furthermore, the nearest bus stop for Marin Transit Routes 17 and 228 is at Larkspur Landing Circle/Lincoln Village

Circle (0.3 mile from the project site); the nearest bus stop for Marin Transit Route 29 is at East Sir Francis Drake Boulevard/Larkspur Landing Circle (approximately 0.6 mile from the project site); ferry service is provided at the Larkspur Ferry Terminal (0.5 mile from the project site); and passenger rail service from the Larkspur SMART Station (0.8 mile from the project site).²⁴ The proposed project would also provide sidewalk facilities along the frontage of the project site and a pedestrian crosswalk that connects to the Class I multiuse trail along the south side of East Sir Francis Drake Boulevard. Therefore, the proposed project includes pedestrian passageways to the ferry service and bus stop to encourage safe routes to alternative transportation. As such, the proposed project would place future residents and employees near existing transit facilities and would result in an overall decrease in VMT consistent with State reduction targets. Thus, the proposed project would not conflict with Statewide strategies associated with passenger vehicles.

Energy/Commercial-Residential Sectors

The proposed project would be required to comply with the current CALGreen and Building Energy Efficiency standards with respect to building energy efficiency design, supply of EV charging stations, and supply of preferential parking for clean air and high occupancy vehicles. In addition, the proposed project would be designed with all-electric cooking appliances and space heating. As a result, the proposed project would be consistent with the State's goals for this sector.

Metropolitan Transportation Commission Plan Bay Area (Not Applicable to Proposed Project as Regulatory Document)

While policies in Plan Bay Area may not be applicable to the project owing to principles of State Sovereignty, it provides for an analytical framework that is helpful to understanding the project within a broader land use planning framework. As part of the implementing framework for Plan Bay Area 2050, local governments have identified planned development areas to focus growth. As shown on Map 1-1 Plan Bay Area 2050 Growth Geographies, the project site is located in close proximity to Priority Development Areas and Transit-Rich and High-Resource Areas, where these areas are identified for housing and job growth. Furthermore, the proposed project is that of a residential project in close proximity to transit stations, including the Larkspur Ferry, the Sonoma-Marin Rail Transit District (SMART), and local fixed-route bus transit service provided by the County of Marin through Marin Transit. The nearest bus stop for Marin Transit Routes 17 and 228 is at Larkspur Landing Circle/Lincoln Village Circle (0.3 mile from the project site). The nearest bus stop for Marin Transit Route 29 is at East Sir Francis Drake Boulevard/Larkspur Landing Circle (approximately 0.3 mile from the project site). Ferry service is provided at the Larkspur Ferry Terminal (0.5 mile from the project site) and passenger rail service from the Larkspur SMART Station (0.8 mile from the project site). Thus, the proposed project would be consistent with the overall goals of Plan Bay Area, which include concentrating new investment in areas that would encourage job growth. In addition, the proposed project would be developed in an area served by existing infrastructure. Therefore, assuming for the sake of the argument that Plan Bay Area policies were applicable, the proposed project would not conflict with the land use concept plan in Plan Bay Area 2050.

²⁴ W-Trans. 2022. Traffic Impact Study for the Village at Oak Hill Project. July.

Marin County Unincorporated Area Climate Action Plan 2030 (Not Applicable to Proposed Project as Regulatory Document)

Compliance with this plan is not required, as the Marin County Climate Action Plan (County's CAP) is not applicable to the Project owing to principles of state sovereignty. However, the County's CAP provides for an analytical framework that is helpful to understand the project's emissions and, as shown in Impact GHG-1 and Table 3.7-4 above, the proposed project would be consistent with the reduction strategies identified in the County's CAP.

Therefore, the proposed project would not conflict with applicable plans, policies, or regulations adopted for the purposes of reducing GHG emissions and this impact would be less than significant. No additional analysis is required, and impacts would remain less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

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3.8 - Hazards and Hazardous Materials

3.8.1 - Introduction

This section describes the existing hazards and hazardous materials setting and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on the Phase I Environmental Site Assessment (Phase I ESA) prepared by Cameron-Cole, LLC on July 10, 2022, and the Phase II ESA prepared by Cameron-Cole, LLC on September 29, 2022, included in this Draft Environmental Impact Report (Draft EIR) as Appendix F. During the Draft EIR scoping period, eight comments were received related to hazards and hazardous materials:

- The Draft EIR should evaluate hazards associated with the use of gas in project buildings, such as flammability and explosion potential, as they related to wildfire hazards.
- The Draft EIR should include a comprehensive soils survey.
- The Draft EIR should evaluate hazardous materials used during construction.
- The Draft EIR should evaluate wildfire risks associated with adding 250 housing units to the vacant project site.
- The Draft EIR should analyze potential lead contamination associated with a former shooting range.
- The Draft EIR should include a study to understand the health and ecological hazards that includes a review of lead dust that may be airborne during construction. The study should include a remediation plan.
- The Draft EIR should include a survey for toxicity and dangerous artifacts.
- The Draft EIR should evaluate noise from the San Quentin Shooting Range.

3.8.2 - Environmental Setting

Fundamentals

Hazards

This description of the environmental setting focuses on hazards from fire and overhead power lines, as well as hazardous materials and wastes. A hazard is a situation that poses a level of threat to life, health, property, or the environment. Hazards can be dormant or potential, with only a theoretical risk of harm. However, once a hazard becomes active, it can create an emergency. A hazardous situation that has already occurred is called an incident. Emergency response is action taken in response to an unexpected and dangerous occurrence in an attempt to mitigate its impact on people, structures, or the environment. Emergency situations can range from natural disasters to hazardous materials problems and transportation incidents.

Hazards Materials and Wastes

Hazardous materials include but are not limited to hazardous materials, hazardous substances, and hazardous wastes, as defined in Section 25501 and Section 25117, respectively, of the California

Health and Safety Code. A hazardous material is any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released and any material that a handler or an administering regulatory agency under Health and Safety Code Section 25501 has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment.

Various properties may cause a substance to be considered hazardous, including:

- Toxicity—causes human health effects;
- Ignitability—has the ability to burn;
- Corrosivity—causes severe burns or damage to materials; and
- Reactivity—causes explosions or generates toxic gases.

Hazardous waste is any hazardous material that is to be discarded, abandoned, or recycled. The criteria that define a material as hazardous also define a waste as hazardous. Specifically, materials and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable); corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). Soil or groundwater contaminated with hazardous materials above specified regulatory State or federal thresholds is considered hazardous waste if it is removed from a site for disposal. If handled, disposed, or otherwise handled improperly, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20-24 contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

Hazardous Building Materials

Many older buildings contain building materials that consist of hazardous materials. These materials include lead-based paint, asbestos-containing material, and polychlorinated biphenyls (PCBs).

Prior to the United States Environmental Protection Agency (EPA) ban in 1978, lead-based paint was commonly used on interior and exterior surfaces of buildings. Disturbances such as sanding and scraping activities, renovation work, gradual wear and tear, old peeling paint, and paint dust particulates have been found to contaminate surface soils or cause lead dust to migrate and affect indoor air quality. Exposure to residual lead can cause severe health effects, especially in children.

Asbestos is a naturally occurring fibrous material that was extensively used as a fireproofing and insulating agent in building construction materials before such uses were banned by the EPA in the 1970s. In addition, many types of electrical equipment contained PCBs as an insulator, including transformers and capacitors. After PCBs were determined to be a carcinogen in the mid to late 1970s, the EPA banned PCB use in new equipment and began a program to phase out certain existing PCB-containing equipment. For example, fluorescent lighting ballasts manufactured after January 1, 1978, do not contain PCBs and are required to have a label clearly stating that PCBs are not present in the unit.

Hazardous Substances

A hazardous substance can be any biological, natural, or chemical substance, whether solid, liquid, or gas, that may cause harm to human health. Hazardous substances are classified on the basis of their potential health effects, whether acute (immediate) or chronic (long-term). Dangerous goods are classified on the basis of immediate physical or chemical effects, such as fire, explosion, corrosion, and poisoning. An accident involving dangerous goods could seriously harm human health or damage property or the environment. Harm to human health may happen suddenly (acute), such as dizziness, nausea, and itchy eyes or skin, or it may happen gradually over years (chronic), such as dermatitis or cancer. Some people can be more susceptible than others. Hazardous substances and dangerous goods can include antiseptic used for a cut, paint for walls, a cleaning product for the bathroom, chlorine in a pool, carbon monoxide from a motor vehicle, fumes from welding, vapors from adhesives, or dust from cement, stone, or rubber operations. Such hazardous substances can make humans very sick if they are not used properly.

Hazardous Wastes

Hazardous waste is any hazardous material that is to be discarded, abandoned, or recycled. The criteria that define a material as hazardous also define a waste as hazardous. Specifically, materials and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable); corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). Soil or groundwater contaminated with hazardous materials above specified regulatory State or federal thresholds is considered hazardous waste if it is removed from a site for disposal. If handled, disposed, or otherwise handled improperly, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20-24 contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

Hazardous Materials Listing

The Cortese List is a list of known hazardous materials or hazardous waste facilities that meet one or more of the provisions of Government Code Section 65962.5, including:

- The list of hazardous waste and substances sites from the California Department of Toxic Substances Control (DTSC) EnviroStor database.¹ The project site is not located on the EnviroStor database.
- The list of leaking underground storage tank (LUST) sites by county and fiscal year from the California State Water Resources Control Board (State Water Board) GeoTracker database.² No LUST sites are listed in GeoTracker database for the project site.

¹ California Department of Toxic Substances Control (DTSC). "Cortese" list of DTSC's EnviroStor database list of Hazardous Waste and Substances sites. DTSC's Hazardous Waste and Substances Site List—Site Cleanup (Cortese List). Website: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm.

² California State Water Resources Control Board (State Water Board). "Cortese" List of Leaking Underground Storage Tank Sites by County (San Francisco County). Website: https://geotracker.waterboards.ca.gov/sites_by_county.

- The list of solid waste disposal sites identified by the State Water Board with waste constituents exceeding hazardous waste levels outside the waste management unit.³ No such disposal site exists within the vicinity of the project site.
- The list of active cease-and-desist orders and cleanup and abatement orders from the State Water Board.⁴ The project site is not on this list.
- The list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, as identified by the DTSC.⁵ The project site is not on this list.

Existing Fire-related Conditions and Presence of Hazardous Materials

The hazards in Marin County (County) and the project area discussed in this section are related primarily to fire hazards and hazardous materials. Fire hazards and hazards from hazardous materials are typically site-specific, so existing conditions related to fire hazards and the transport, use, and disposal of hazardous materials are discussed below under “Project Site.”

Marin County

Existing Fire-related Conditions

Fire hazards are present throughout the County, particularly in dry seasons, when grassland fires are easily ignited. These fires are relatively easily controlled if they can be reached by fire equipment; the burned slopes, however, are highly subject to erosion and gullying. While brushlands are naturally adapted to frequent light fires, fire protection in recent decades has resulted in heavy fuel accumulation on the ground. Wildfire is a serious hazard in undeveloped areas and on large lot home sites with extensive areas of unirrigated vegetation. Wildfire is a serious hazard in undeveloped areas, particularly near areas of natural vegetation and steep slopes since fires tend to burn more rapidly on steeper terrain. Wildfire is also a serious hazard in areas of high wind, given that fires will travel faster and farther geographically when winds are higher.

Marin County is home to 23 communities listed on the California Department of Forestry and Fire Protection (CAL FIRE’s) Communities at Risk list, with approximately 80 percent of the total land area in the County designated as having moderate to very high fire hazard severity ratings. The County has a long fire history with many large fires over the past decades. The most recent County fire that resulted in significant structure loss was the Vision Fire in 1995, which destroyed 48 structures in the community of Inverness.⁶

The mix of weather, diverse vegetation and fuel characteristics, complex topography, and land use and development patterns in the County are important contributors to the fire environment. Temperatures in the County can reach 100°F (degrees Fahrenheit) in the inland areas and even 80°F

³ California Environmental Protection Agency (Cal/EPA). “Cortese” list of solid waste disposal sites identified with waste constituents above hazardous waste levels outside the waste management unit. Website: <http://www.calepa.ca.gov/files/2016/10/SiteCleanup-CorteseList-CurrentList.pdf>.

⁴ California Environmental Protection Agency (Cal/EPA). “Cortese” list of California State Water Resources Control Board (State Water Board) sites with active Cease and Desist Orders or Cleanup Abatement Orders. Website: <http://www.calepa.ca.gov/files/2016/10/SiteCleanup-CorteseList-CDOCAOList.xlsx>.

⁵ California Environmental Protection Agency (Cal/EPA). “Cortese” list of sites subject to Corrective Action pursuant to Health and Safety Code 25187.5. Available: <https://www.calepa.ca.gov/sitecleanup/cortese/section-65962-5a/>.

⁶ Marin County. 2018. Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP).

at the coast, and relative humidity can be very low. In addition, wind speeds can be high (20 to 40 miles per hour [mph]) and gusty and are often much faster over the mountains and ridge tops such as Mt. Tamalpais, Loma Alta, and Mt. Burdell compared to low-lying areas. During high wind events, there is a higher potential for large, wind-driven fires should there be an ignition. The County is topographically diverse, with rolling hills, valleys and ridges that trend from northwest to southeast. Elevation throughout the County varies considerably.⁷

Fire protection in California is the responsibility of either the federal, State, or local government. On federally owned land, or Federal Responsibility Areas (FRAs), fire protection is provided by the federal government, and or in partnership with local agreements. In State Responsibility Areas (SRAs), CAL FIRE typically provides fire protection. However, in some counties CAL FIRE contracts with county fire departments to provide protection of the SRAs. This is the case in the County, where CAL FIRE contracts with Marin County Fire Department (MCFD). Local Responsibility Areas (LRA) include incorporated cities and cultivated agriculture lands, and fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government. CAL FIRE contracts with MCFD to provide wildland fire protection and associated fire prevention activities for lands designated by the State Board of Forestry as SRA.⁸

The California Building Standards Code (CBC)—Chapter 7A specifically—addresses the wildland fire threat to structures by requiring that structures located in State or locally designated Wildland Urban Interface (WUI) areas be built of fire-resistant materials. However, the requirements promulgated by the State only apply to new construction and do not address existing structures and additions and remodels to existing structures.⁹

Since most of the towns and cities in the County are “built-out,” most fire departments have applied the Chapter 7A standards to address home ignitability for both new and existing construction. Specifically, the County has extensively amended the 2003 International Urban-Wildland Interface Code.

The project site is under the jurisdiction of the Central Marin Fire Department (CMFD).

Presence of Hazardous Materials

The County is a relatively non-industrial county with few large users and producers of hazardous materials and waste. Much of the County is federal or State parkland. Jurisdictions that are near roadways that are frequently used for transporting hazardous materials and jurisdictions with industrial facilities that use, store, or dispose of such materials, all have increased potential for major mishaps.¹⁰

Hazardous materials incidents in the County would most likely occur on the accesses to and roadways along U.S. Highway 101 (US-101). Additionally, the other major roadways, such as Highway 1, Interstate 580 (I-580), State Route (SR) 37 and East Sir Francis Drake Boulevard, traverse the

⁷ Marin County. 2018. Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP).

⁸ Ibid.

⁹ Ibid.

¹⁰ Marin County Department of Public Works, Waste Management Division. 2011. Hazardous Materials Area Plan.

County, facilitating a smaller volume of traffic but more hazardous materials and higher traffic hazards due to the location of the various users of hazardous materials. Surface streets are used for the transportation of hazardous materials.¹¹

In the County, most facilities that store, use or handle hazardous materials are lower risk facilities such as gas stations, auto repair shops, dry cleaners and service-related businesses that could be found in any neighborhood. The types of incidents that generally occur at these facilities are small spills that usually can be handled by the business. Most are located near the US-101 corridor.¹²

The agricultural businesses in the County could also be a source of hazardous materials incidents. Accidental releases of pesticides, fertilizers and other agricultural chemicals may be harmful to public health, safety or the environment. The farms have mostly above ground storage tanks for fueling farm vehicles and propane tanks for heating and cooking needs. Most of western portion of the County uses propane for heating and cooking.¹³

For the purposes of the Marin County Area Plan, the Department of Public Works Waste Management Division has identified facilities that, in the event of a regional disaster, may pose the greatest risk to human health or the environment. These facilities are considered “target hazard facilities.” These target hazard facilities have the potential to pose an off-site risk to human health and the environment if the hazardous materials used, stored, or handled were accidentally released. This list includes all known facilities in the County that are subject to the California Accidental Release Program, a regulatory program for acutely hazardous materials. This also includes facilities that have explosion impact hazards. The closest facilities to the project site included on this list are the Golden Gate Ferry (located 0.9 mile from the project site) and the Central Marin Sanitation Agency (located 1.2 miles from the project site).¹⁴

Project Site

Fire Hazards

The project site is located in a Moderate Fire Hazard Severity Zone within an SRA.¹⁵ The project site is located adjacent to land identified as Moderate Fire Hazard Severity Zone within an SRA, as well as land identified as Non-Very High Fire Hazard Severity Zone (VHFHSZ) within an LRA.^{16,17} The nearest VHFHSZ is located approximately 2.2 miles to the southwest in the City of Larkspur. The project site is surrounded by features that provide fuel breaks in the event of a fire, such as East Sir Francis Drake Boulevard, Drakes Cove Road, and the San Francisco Bay. According to CAL FIRE, there have been two fire incidents reported within a 10-mile radius of the project site.¹⁸ The Mission Fire Incident burned

¹¹ Marin County Department of Public Works, Waste Management Division. 2011. Hazardous Materials Area Plan.

¹² Ibid.

¹³ Marin County. 2018. Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP).

¹⁴ Ibid.

¹⁵ California Department of Fire and Forestry Protection (CAL FIRE). 2007. Marin County Fire Hazard Severity Zones in SRA. Website: https://osfm.fire.ca.gov/media/6707/fhszs_map21.pdf. Accessed May 12, 2022.

¹⁶ Ibid.

¹⁷ California Department of Fire and Forestry Protection (CAL FIRE). 2008. Marin County Very High Fire Hazard Severity Zones in LRA. Website: https://osfm.fire.ca.gov/media/6709/fhszl_map21.pdf. Accessed May 12, 2022.

¹⁸ California Department of Fire and Forestry Protection (CAL FIRE). All Incident Data. Website: <https://www.fire.ca.gov/imapdata/mapdataall.csv>. Accessed May 20, 2022.

12 acres in 2018. The fire did not result in evacuation orders. The Lassen Fire Incident burned 44 acres in 2021. Evacuation orders were made but were then downgraded to evacuation warnings.

Phase I ESA

A Phase I ESA prepared by Cameron-Cole, LLC on July 10, 2022, is included in this Draft EIR as Appendix F.

As part of the preparation of the Phase I ESA, Cameron-Cole reviewed local, State, and federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps, and physical setting sources. Cameron-Cole also conducted a reconnaissance of the project site to review site use and current conditions to check for the storage, use, production, or disposal of hazardous or potentially hazardous materials and interviewed persons knowledgeable about current and past site use.

The goal of the Phase I ESA is to identify Recognized Environmental Conditions (RECs) in connection with the subject property consistent with American Society of Testing and Materials (ASTM) International Standard E1527-21. A REC is defined as “the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.”

The following environmental concern was identified as an REC:

- The historical use of the subject property was a gun range for San Quentin State Penitentiary. Lead ammunition is commonly used in firearms. No known remediation efforts have taken place on the subject property and it is assumed that lead is still present in the soil, which indicates a likely release to the environment.

Phase II ESA

A Phase II ESA was also prepared by Cameron-Cole, LLC on September 29, 2022. It is included in this Draft EIR as Appendix F.

As part of the Phase II ESA, Cameron-Cole collected on-site soil samples. A total of 11 soil borings were advanced to depths of approximately 2.5 feet below ground surface (BGS). Samples were collected at three up-range locations to establish background concentrations of lead in the soil. Along the northern side of the range, the assumed firing direction of the pistol ranges, samples were collected at eight locations.

Review of the results indicates that lead concentrations are detected in all sample locations. In general, the concentrations of lead were significantly higher in surface samples than in 2-foot samples, which is the expected pattern with lead fragments deposited at a firing range. Samples exceeded the Direct Exposure Human Health Risk Residential Environmental Screening Levels (ESLs) at several on-site sample locations.

Concentrations of nickel, arsenic, and vanadium in excess of the ESLs were observed in several samples across the site as well. However, concentrations in these metals were consistent with naturally occurring concentrations in background samples and are likely unrelated to the pistol range.

3.8.3 - Regulatory Framework

Federal

Occupational Health and Safety Act

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor is responsible for implementing and enforcing federal laws and regulations that address worker health and safety. OSHA requires specific training for hazardous materials users and handlers, provision of information (procedures for personal safety, hazardous materials storage and handling, and emergency response) to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets from materials manufacturers. Material safety data sheets describe the risks, as well as proper handling and procedures, related to particular hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures. Construction workers and operational employees at the project site would be subject to these requirements.

Code of Federal Regulations, Titles 29 and 40

Regulations in Code of Federal Regulations Title 29 include requirements to manage and control exposure to lead-based paint and asbestos-containing materials. In California, these requirements are implemented by the California Occupational Safety and Health Administration (Cal/OSHA) under California Code of Regulations Title 8 (see further discussion of California Code of Regulations Title 8 below). The removal and handling of asbestos-containing materials is governed primarily by EPA regulations under Code of Federal Regulations Title 40. The regulations require that the appropriate State agency be notified before any demolition, or before any renovations, of buildings that could contain asbestos or asbestos-containing materials above a specified threshold.

Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act

The EPA is responsible for implementing and enforcing federal laws and regulations pertaining to hazardous materials. The primary legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and the Emergency Planning and Community Right-to-Know Act (known as SARA Title III). RCRA and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and nonhazardous wastes and mandate that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment, including detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities. As permitted by RCRA, in 1992, the EPA approved California's program called the Hazardous Waste Control Law (HWCL), administered by the DTSC, to regulate hazardous wastes in California, as discussed further below. The purpose of CERCLA is to identify and clean up chemically contaminated sites that pose a significant environmental

health threat, and the Hazard Ranking System is used to determine whether a site should be placed on the National Priorities List for cleanup activities. SARA relates primarily to emergency management of accidental releases and requires annual reporting of continuous emissions and accidental releases of specified compounds that are compiled into a nationwide Toxics Release Inventory. Finally, SARA Title III requires formation of State and local emergency planning committees that are responsible for collecting material handling and transportation data for use as a basis for planning and provision of chemical inventory data to the community at large under the “right-to-know” provision of the law.

Hazardous Materials Transportation Act

Under the Hazardous Materials Transportation Act of 1975, the United States Department of Transportation (USDOT), Office of Hazardous Materials Safety regulates the transportation of hazardous materials on water, rail, highways, through air, or in pipelines and enforces guidelines created to protect human health and the environment and reduce potential impacts by creating hazardous material packaging and transportation requirements. It also includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation. The USDOT provides hazardous materials safety training programs and supervises activities involving hazardous materials. In addition, the USDOT develops and recommends regulations governing the multimodal transportation of hazardous materials.

Aboveground Petroleum Storage Act, and Spill Prevention, Control, and Countermeasure Rule

The Aboveground Petroleum Storage Act of 1990, and the Spill Prevention, Control, and Countermeasure (SPCC) Rule (amended 2010) of the Oil Pollution Prevention regulation (40 Code of Federal Regulations [CFR] 112) require the owner or operator of a tank facility with an aggregate storage capacity greater than 1,320 gallons to notify the local Certified Unified Program Agency (CUPA) and prepare an SPCC plan. The SPCC plan must identify appropriate spill containment measures and equipment for diverting spills from sensitive areas and must discuss facility-specific requirements for the storage system, inspections, recordkeeping, security, and training.

Clean Water Act

The Clean Water Act (CWA) (Title 33 § 1251, *et seq.* of the United States Code [33 USC 1251, *et seq.*]) is the major federal legislation governing water quality. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States (not including groundwater). The objective of the act is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA establishes the basic structure for regulating the discharge of pollutants into waters of the United States. Section 404 of the CWA regulates temporary and permanent fill and disturbance of waters of the United States, including wetlands. The United States Army Corps of Engineers (USACE) requires that a permit be obtained if a project proposes to place fill in navigable waters and/or to alter waters of the United States below the ordinary high-water mark in non-tidal waters. Section 401 of the CWA requires compliance with State water quality standards for actions within State waters. Compliance with the water quality standards required under Section 401 is a condition for issuance of a Section 404 permit. Under Section 401 of the CWA, every applicant for a permit or license for any activity that may result in a discharge to a water body must obtain a State

water quality certification from the Regional Water Quality Control Board (RWQCB) to demonstrate that the proposed activity would comply with State water quality standards.

State

California Hazardous Waste Control Law

The HWCL is the primary hazardous waste statute in the State of California and implements RCRA as a “cradle-to-grave” waste management system for handling hazardous wastes in a manner that protects human health and the environment and would reduce potential resulting impacts. The law specifies that generators have the primary duty to determine whether their waste is hazardous and to ensure proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous waste used or reused as raw materials. The law exceeds federal requirements by mandating source reduction planning, and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates a number of types of waste and waste management activities that are not covered by federal law.

California Health and Safety Code

The California Health and Safety Code (HSC § 25141) defines hazardous waste as a waste or combination of waste that may:

- . . . because of its quantity, concentration, or physical, chemical, or infection characteristics:
- (1) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitation-reversible illness.
 - (2) Pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of or otherwise managed.

These regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management practices for hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous waste that commonly would be disposed of in landfills.

Under both the RCRA and the HWCL, hazardous waste manifests must be retained by the generator for a minimum of 3 years. The generator must match copies of the manifests with copies of manifest receipts from the treatment, disposal, or recycling facility.

In accordance with Chapter 6.11 of the California Health and Safety Code (HSC § 25404, *et seq.*), local regulatory agencies enforce many federal and State regulatory programs through the CUPA program, including:

- Hazardous Materials Business Plans (HMBPs) (HSC § 25501, *et seq.*);

- State Uniform Fire Code (UFC) requirements (UFC § 80.103, as adopted by the State Fire Marshal pursuant to HSC § 13143.9);
- Underground storage tanks (USTs) (HSC § 25280, *et seq.*);
- Aboveground storage tanks (ASTs) (HSC § 25270.5[c]); and
- Hazardous waste generator requirements (HSC § 25100, *et seq.*).

California Code of Regulations, Title 8

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations. These regulations concern the use of hazardous materials in the workplace, including requirements for employee safety training; availability of safety equipment; accident and illness prevention programs; hazardous substance exposure warnings; and preparation of emergency action and fire prevention plans.

Cal/OSHA also enforces hazard communication program regulations, including procedures for identifying and labeling hazardous substances, and requires that safety data sheets (formerly known as material safety data sheets) be available for employee information and training programs. Cal/OSHA standards are generally more stringent than federal regulations. Construction workers and operational employees at the project site would be subject to these requirements.

California Code of Regulations, Title 8, Section 1529 authorizes Cal/OSHA to implement the survey requirements of Code of Federal Regulations Title 29 relating to asbestos. These federal and State regulations require facilities to take all necessary precautions to protect employees and the public from exposure to asbestos. Workers who conduct asbestos abatement must be trained in accordance with federal and State OSHA requirements. The Bay Area Air Quality Management District (BAAQMD) oversees the removal of regulated asbestos-containing materials (see “Asbestos Demolition, Renovation, and Manufacturing Rule” below).

California Code of Regulations, Title 8, Section 1532.1 includes requirements to manage and control exposure to lead-based paint. These regulations cover the demolition, removal, cleanup, transportation, storage, and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring, and compliance to ensure the safety of construction workers exposed to lead-based material. Loose and peeling lead-based paint must be disposed of as a State and/or federal hazardous waste if the concentration of lead equals or exceeds applicable hazardous waste thresholds. Federal and State OSHA regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where lead-based paint may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning of structures, where lead-based paint is present.

California Code of Regulations Title 22, Division 4.5

California Code of Regulations, Title 22, Division 4.5, contains the Environmental Health Standards for the Management of Hazardous Waste, which includes California waste identification and classification

regulations. California Code of Regulations, Title 22, Chapter 11, Article 3, “Soluble Threshold Limits Concentrations/Total Threshold Limits Concentration Regulatory Limits,” identifies the concentrations at which soil is determined to be a California hazardous waste. California’s Universal Waste Rule (22 California Code of Regulations [CCR] § 66273) provides an alternative set of management standards in lieu of regulation as hazardous wastes for certain common hazardous wastes, as defined in California Code of Regulations, Title 22, Section 66261.9. Universal wastes include fluorescent lamps, mercury thermostats, and other mercury-containing equipment. Existing structures may contain fluorescent light ballasts that could contain mercury or lead. The Alternative Management Standards for Treated Wood Waste (22 CCR § 67386) were developed by the DTSC to allow for disposal of treated wood as a nonhazardous waste, to simplify and facilitate the safe and economical disposal of such waste. Chemically treated wood can contain elevated levels of hazardous chemicals (e.g., arsenic, chromium, copper, pentachlorophenol, or creosote) that equal or exceed applicable hazardous waste thresholds. The Alternative Management Standards provide for less stringent storage requirements and extended accumulation periods, allow shipments without a hazardous waste manifest and a hazardous waste hauler, and allow disposal at specific nonhazardous waste landfills.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California’s statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect the State’s waters for the use and enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The RWQCBs are required to formulate and adopt water quality control plans (also known as basin plans) for all areas of the region and establish water quality objectives in the plans. The Porter-Cologne Act sets forth the obligations of State Water Board and RWQCBs to adopt and periodically update water quality control plans that recognize and reflect the differences in existing water quality, the beneficial uses of the region’s groundwater and surface water, and local water quality conditions and problems. It also authorizes the State Water Board and RWQCBs to issue and enforce waste discharge requirements and to implement programs for controlling pollution in State waters. Finally, the Porter-Cologne Act also authorizes the State Water Board and RWQCBs to oversee site investigation and cleanup for unauthorized releases of pollutants to soils and groundwater and in some cases to surface waters or sediments.

California Department of Transportation

The California Department of Transportation (Caltrans) has primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies. Caltrans manages more than 50,000 miles of California’s highway and freeway lanes, provides intercity rail services, permits more than 400 public use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on those highway and freeway lanes and intercity rail services.

California Highway Patrol

The California Highway Patrol (CHP) is responsible for assuring the safe, convenient, and efficient transportation of people and goods on the State highway system. The CHP implements the Commercial Vehicle Safety Program, which includes enforcement, education, and partnerships to

minimize the disastrous results from collisions involving commercial vehicles. CHP's Commercial Vehicle Section aids in safe operation and enforcement of commercial vehicles.

Common carriers are licensed by the CHP, pursuant to the California Vehicle Code, Section 32000. This section requires licensing every motor (common) carrier who transports, for a fee, more than 500 pounds of hazardous materials at one time and every carrier who carries more than 1,000 pounds of hazardous material of the type requiring placards. Common carriers conduct a large portion of the business in the delivery of hazardous materials.

Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP. The CHP conducts regular inspections of licensed transporters to assure regulatory compliance and responds to hazardous materials emergencies on roadways.

California Emergency Response Plan

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services, which coordinates the responses of other agencies. Emergency response team members respond and work with local fire and police agencies, emergency medical providers, the CHP, CAL FIRE, California Department of Fish and Wildlife (CDFW), and California Department of Transportation (Caltrans).

California Department of Forestry and Fire Protection

CAL FIRE has mapped fire threat potential throughout California. CAL FIRE maps fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The threat levels include no fire threat and moderate, high, and very high fire threat. Additionally, CAL FIRE produced a 2010 Strategic Fire Plan for California, which contains goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments. CAL FIRE's Office of the State Fire Marshal provides oversight of enforcement of the California Fire Code as well as overseeing hazardous liquid pipeline safety.

California Building Code

The State of California provided a minimum standard for building design through the 2022 CBC, which is located in Part 2 of Title 24 of the California Code of Regulations. The 2022 CBC is based on the 2018 International Building Code but has been modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all new high-rise buildings and residential buildings; the establishment of fire resistance standards for fire doors, building material; and particular types of construction.

California Public Resources Code

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors¹⁹ on construction equipment that use an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on-site for various types of work in fire-prone areas.

These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code [PRC] § 4442);
- Appropriate fire suppression equipment would be maintained during the highest fire danger period—from April 1 to December 1 (PRC § 4428);
- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain the appropriate fire suppression equipment (PRC § 4427); and
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (PRC § 4431).

Regional

BAAQMD Asbestos Demolition, Renovation, and Manufacturing Rule

The removal of building asbestos-containing material (ACM) is subject to the limitations of BAAQMD Regulation 11, Rule 2, “Hazardous Materials; Asbestos Demolition, Renovation, and Manufacturing.” This rule prohibits visible emissions to outside air from any operation involving the demolition of any structure containing asbestos and sets out requirements for demolition of such structures, including a pre-demolition survey conducted by a certified professional. All friable (i.e., crushable by hand) or non-friable ACMs that may be damaged must be abated before demolition in accordance with applicable requirements. Friable ACMs must be disposed of as asbestos waste at an approved facility. Non-friable ACMs may be disposed of as nonhazardous waste at landfills that accept such wastes.

Association of Bay Area Governments Hazard Mitigation Plan

The Association of Bay Area Governments (ABAG) multijurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area was updated in 2010 in partnership with the Bay Conservation and Development Commission’s Adapting to Rising Tides Program to support local governments in the regional plan for existing and future hazards of climate change. This detailed 5-year plan identifies potential natural and human-made hazards, assesses their potential risks, and includes mitigation

¹⁹ A spark arrestor is a device that prohibits exhaust gases from an internal combustion engine from passing through the impeller blades where they could cause a spark. A carbon trap is commonly used to retain carbon particles from the exhaust.

methods to reduce risks. The potential hazards identified in the plan include earthquakes and liquefaction, wildfires, floods, drought, solar storms, dam or levee failure, disease outbreak, freezes, wind, heat, thunder and lightning storms, siltation, tornadoes, hazardous materials, slope failure and mudflows, and other hazards. Similarly, mitigation measures include hazard event planning, emergency preparedness coordination, education, facility upgrades, and monitoring actions.

Local

As discussed throughout the Draft EIR, the proposed project is located on State land and the project's lead agency is the California Department of General Services. Thus, the proposed project is subject to State Sovereignty, and this Draft EIR does not utilize County policies to evaluate the project's impacts to the environment. However, the analysis contained in this section does evaluate impacts related to release and spills of hazardous materials that may occur off-site or spread off-site, which would be under the jurisdiction of Marin County and may require implementation of County-based response plans. Therefore, the following Marin Countywide Plan and County Municipal Code policies are considered in this evaluation.

Marin Countywide Plan

Natural Systems and Agriculture Element

Policy PS-4.d Prepare for Hazardous Materials Incidents. Plan for response to an emergency involving a major release of hazardous materials

Municipal Code

- Chapter 7.82 of the Municipal Code implements Division 20, Chapters 6.95 and 6.11 of the California Health and Safety Code and Title 19, Division 2, Chapter 4, Article 4 of the California Code of Regulations, which establishes standards and procedures regarding the reporting of the location, type, quantity, and health risks of hazardous materials handled, used, stored, or disposed of within the unincorporated area of Marin County and within the incorporated territory of each municipality within Marin County.

3.8.4 - Thresholds of Significance

The lead agency utilizes the criteria in the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist to determine whether hazards and hazardous materials impacts resulting from the implementation of the proposed project would be considered significant if the project would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working the project area?
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury, or death involving wildland fires?

3.8.5 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Routine Transport, Use, or Disposal of Hazardous Materials

Impact HAZ-1: **The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**

Impact Analysis

Construction activities would potentially require the routine transport, use, and disposal of small amounts of hazardous materials such as fuels, paints, or solvents, which are required during construction. Operational transport, use, or disposal of hazardous substances would be limited to small quantities for household uses. During construction and operation, the proposed project would be required to comply with all applicable State and federal safety codes and regulations related to transporting, using, or disposing hazardous materials, including RCRA; CERCLA; the federal Clean Air Act; and OSHA, that regulates worker safety hazards. Construction activities that involve hazardous materials would be governed by several agencies, including Cal/EPA, Caltrans, Cal/OSHA, and the DTSC. Hazardous waste material generated from construction would be subject to the HWCL, which specifies that the generator of any hazardous waste (in this case, the applicant) has the primary duty to ensure proper management. Additionally, County General Plan Policy PS-4.d requires the County to prepare for hazardous materials incidents and establish a plan for response to an emergency involving a major release of hazardous materials. The proposed project's compliance with relevant provisions of federal and State regulations, and the County's preparation for hazardous materials incidents pursuant to its Countywide Plan, would ensure that the routine transport, use, or disposal of hazardous materials does not create a significant hazard to the public. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Risk of Upset

Impact HAZ-2: **The proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.**

Impact Analysis

As discussed in Section 3.8.2 Environmental Setting, the project site has historically been used as a gun range. Because lead ammunition is commonly used in firearms, soil sampling was conducted on-site. Soil samples were collected at locations down-range within the footprint of the on-site gun range at locations where the greatest concentration of lead was expected (e.g., down-range in front of a berm where targets would have been erected). Samples also were collected at down-range locations where it is unlikely that pistols were fired and, thus where lead concentrations would not be expected, to serve as a control for purposes of comparison and identify naturally occurring background conditions.

Arsenic, nickel, and vanadium samples taken down-range exceeded Direct Exposure Human Health Risk Residential ESLs; however, the concentrations are consistent with the naturally occurring concentrations in the background samples and, therefore, do not create a potentially significant impact. Furthermore, background lead concentrations from up-range samples were within the range of background concentrations typically found in California soil and, therefore, do not create a potentially significant impact. However, lead concentrations in down-range locations exceeded background lead concentrations and the Direct Exposure Human Health Risk Residential ESLs at several on-site soil boring locations. Because disturbance of lead concentrations could create hazardous conditions during both construction and operation of the proposed project, this condition creates a potentially significant impact.

For down-range samples, the highest concentrations of lead were observed in the western-most and eastern-most soil boring locations. Because of the orientation and size of the pistol ranges, it is unlikely that lead contamination extends a significant distance from those boring locations. Prior to property development, it is recommended that a soil management plan be developed to properly segregate, test, and dispose of soil potentially contaminated with lead in the former pistol range target area. It is anticipated that lead concentrations equal to or less than these down-range areas would occur in the proposed excavation area, which is illustrated in Exhibit 3.8-1. Creation and execution of a soil management plan that will test, segregate, and dispose of all potentially contaminated soil is incorporated as MM HAZ-2 and would reduce impacts to a less than significant level.

Level of Significance Before Mitigation

Potentially Significant

Mitigation Measures

MM HAZ-2 Prior to issuance of grading and construction permits, the project applicant shall prepare a soil management plan and submit to the Bay Area Regional Water Quality Control Board (Bay Area RWQCB) for confirmation. The soil management plan shall be developed to properly segregate, test, and dispose of soil potentially contaminated with lead at the project site. The soil management plan shall also describe procedures for dust control during construction activities and procedures to follow if previously unidentified areas of contamination are uncovered during site development. Additionally, the plan shall describe excavation procedures for soil within the outlined contamination area in Figure 4 of the Phase II Environmental Site Assessment (Phase II ESA) (Exhibit 3.8-1 of this report). Soil within the outlined area shall be excavated to a depth of 2 feet below ground surface (BGS). Once the soil has been excavated, confirmation sampling shall be conducted in and around the excavation to confirm that soil with lead concentrations exceeding background levels and the residential Environmental Screening Level (ESL) for direct exposure has been removed. Further excavation and confirmation sampling may be necessary based on the initial confirmation results. Procedures for this additional excavation and confirmation sampling shall be provided in the soil management plan. Once the contaminated soil has been removed, it shall be stockpiled, sampled, profiled, and sent to an appropriate waste facility.

Level of Significance After Mitigation

Less than significant impact.

Hazardous Emissions Proximate to a School

Impact HAZ-3: The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Impact Analysis

Construction

Construction activity would be expected to involve the transport, use, and disposal of hazardous materials, such as diesel fuels, aerosols, and paints. However, the duration of these actions would only be temporary and limited to the period of construction. In addition, the use of these materials would be subject to the Hazardous Materials Transportation Act, California Public Resources Code, and other State and local regulations that would limit the use of hazardous materials and reduce the associated risks of exposure.

There are no schools located within 0.25 mile of the project site. The closest school to the project site is the Montessori School of Central Marin, located approximately 0.9 mile northwest of the project site. Therefore, no impact would occur.

Operation

As described above, the project site is not located within 0.25 mile of a school. In addition, the project would not be expected to include industrial or retail development that involves hazardous materials such as gas stations, paint stores, or auto parts stores. Unlike industrial or retail facilities, residential development does not involve the type or quantity of hazardous materials that could pose a significant environmental accident. Therefore, there would be no operational impacts related to hazardous emissions proximate to a school.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Government Code Section 65962.5 Sites

Impact HAZ-4: **The proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.**

Impact Analysis

The Phase I ESA evaluation included a search of federal, State, and local databases kept on hazardous material sites, including the State’s Cortese List, maintained in accordance with Government Code Section 65962.5. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.²⁰ Therefore, no impacts would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required

Proximity to Public Airport Safety Hazard

Impact HAZ-5: **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, the proposed project would not result in a safety hazard or excessive noise for people residing or working the project area.**

²⁰ Department of Toxic Substances Control (DTSC). Envirostor. 2021 Hazardous Waste and Substances Site List. Website: https://www.envirostor.dtsc.ca.gov/public/search.asp?page=1&cmd=search&business_name=&main_street_name=&city=&zip=&county=&status=ACT%2CBKLG%2CCOM&branch=&site_type=CSITES%2COPEN%2CFUDS%2CCLOSE&npl=&funding=&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST&reporttype=CORTESE&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&operating=&post_closure=&non_operating=&corrective_action=&tiered_permit=&evaluation=&spec_prog=&national_priority_list=&senate=&congress=&assembly=&critical_pol=&business_type=&case_type=&searchtype=&hwmp_site_type=&cleanup_type=&ocieerp=&hwmp=False&permitted=&pc_permitted=&inspections=&inspectionsother=&complaints=&censustrack=&cesdecile=&school_district=&orderby=upper%28business%5Fname%29. Accessed March 16, 2022.

Impact Analysis

Construction

Impacts related to exposure of people to safety hazards or excessive noise in proximity to an airport are limited to operational impacts. No respective construction impacts would occur.

Operation

The closest airport to the project site is the San Rafael Airport, which is located approximately 5 miles north of the project site. An airport land use plan has not been adopted for the San Rafael Airport. Therefore, no impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Emergency Response and Evacuation

Impact HAZ-6: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Impact Analysis

Construction

During construction, it is expected that construction equipment and vehicles would be accessing and leaving the project site, which in turn could potentially impede evacuation or emergency vehicle access. Construction vehicles would access the project site via the existing driveway paved area along Sir Francis Drake Boulevard at the southern end of the project site. Furthermore, as discussed under Impact TRANS-5 in Section 3.12, Transportation, the proposed project would result in a less than significant impact with respect to emergency vehicle access. Therefore, construction impacts related to emergency response and evacuation would be less than significant.

Operation

The project site is located nearby major highways that serve as evacuation routes out of Marin County. US-101 is located approximately 3,350 feet west of the project site and I-580 is located approximately 2,290 feet east of the project site. As described in Section 4, Effects Found not to be Significant, the proposed project would be adequately served by both the police and fire departments. The proposed project would not create a permanent increase in population unaccounted for in the Marin Countywide Plan that would lead to an overwhelming number of calls for service. In addition, as described in Impact TRANS-4 in Section 3.12, Transportation, Municipal Code Section 16.16.010 requires a fire access road that is at least 20 feet wide and has a vertical clearance of at least 15 feet for all buildings over 30 feet tall. While the proposed project is not subject to the Municipal Code, the proposed project would include an apparatus access road, identified as a fire lane on Chapter 2, Project Description, Exhibit 2-6, which would be at least 20 feet wide throughout the site and at least 26 feet wide adjacent to the proposed project, no closer than

15 feet and no further than 30 feet from the building exterior. Required fire access to the building will be provided via the perimeter fire lane with hydrants provided as required along its length.

While the California Fire Code requires 13.5 feet of vertical clearance, the County Municipal Code requires 15 feet for gates. While County Municipal Code requirements do not apply, the project as designed will afford 15 feet of vertical clearance along all fire accesses. Furthermore, the Traffic Impact Analysis (TIA) determined that that the proposed project would have a less than significant impact on emergency response times.

Lastly, the County created the Mt. Tamalpais Mutual Threat Zone Plan (MTZ Plan) for wildland urban interfaces fires on and around Mt. Tamalpais. However, the project site is not located within any of the MTZ Plan areas.²¹ As such the proposed project would not conflict with the MTZ Plan.

Therefore, impacts to the emergency response and evacuation would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Wildland Fires

Impact HAZ-7: The proposed project would not expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.

Impact Analysis

Construction

Impacts related to wildland fire hazard risks are limited to operational impacts. No respective construction impacts would occur.

Operation

The project site is located in a Moderate Fire Hazard Severity Zone within an SRA.²² The project site is located adjacent to land identified as Moderate Fire Hazard Severity Zone within an SRA, as well as land identified as Non-VHFHS within an LRA.^{23,24} The nearest VHFHS is located approximately 2.2 miles to the southwest in the City of Larkspur. The project site is surrounded by features that provide fuel breaks in the event of a fire, such as East Sir Francis Drake Boulevard, Drakes Cove Road, and the San Francisco Bay. According to CAL FIRE, there have been two fire incidents reported within a 10-

²¹ County of Marin, Bureau of Land Management, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS. Marin MTZ Map. Website: <https://www.arcgis.com/apps/View/index.html?appid=ef76624d887d4271814f78f96fb5adf4>. Accessed November 4, 2022.

²² California Department of Fire and Forestry Protection (CAL FIRE). 2007. Marin County Fire Hazard Severity Zones in SRA. Website: https://osfm.fire.ca.gov/media/6707/fhszs_map21.pdf. Accessed May 12, 2022.

²³ California Fire Department of Fire and Forestry Protection (CAL FIRE). 2007. Marin County Fire Hazard Severity Zone in SRA. Website: https://osfm.fire.ca.gov/media/6707/fhszs_map21.pdf. Accessed May 12, 2022.

²⁴ California Department of Fire and Forestry Protection (CAL FIRE). 2008. Marin County Very High Fire Hazard Severity Zones in LRA. Website: https://osfm.fire.ca.gov/media/6709/fhszl_map21.pdf. Accessed May 12, 2022.

mile radius of the project site.²⁵ The Mission Fire Incident burned 12 acres in 2018. The fire did not result in evacuation orders. The Lassen Fire Incident burned 44 acres in 2021. Evacuation orders were made but were then downgraded to evacuation warnings.

The CBC—Chapter 7A specifically—addresses the wildland fire threat to structures by requiring that structures located in State or locally designated WUI areas be built of fire-resistant materials. The project site is not marked as being in a WUI.²⁶

The proposed project would not exacerbate any wildfire risks. The proposed project would replace currently uncurated open space with landscaped defensible space, including modern buildings compliant with the fire code and equipped with fire sprinklers. The proposed project would remove some existing vegetation and trees from the project site that would reduce the site's existing fuel load. Additionally, the proposed project would include irrigated landscaping that would further reduce risks. As described in Impact HAZ-6 and Impact TRANS-5, the proposed project would not have a significant impact on emergency response, emergency access, or emergency evacuation. Therefore, impacts to wildfire hazards would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

²⁵ California Department of Fire and Forestry Protection. All Incident Data. Website: <https://www.fire.ca.gov/imapdata/mapdataall.csv>. Accessed May 20, 2022.

²⁶ County of Marin. MarinMap Map Viewer. Website: <https://www.marinmap.org/Html5Viewer/Index.html?viewer=smmdataviewer>. Accessed November 4, 2022.



Source: Bing Aerial Imagery. Pinecrest Environmental Consulting. BKF Engineers. August 2022. AECOM, 2020.



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3.9 - Hydrology and Water Quality

3.9.1 - Introduction

This section describes the existing hydrology and water quality setting and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the Marin Countywide Plan, the Marin Watershed Program, Marin County Multi-Jurisdictional Local Hazard Mitigation Plan, a Geotechnical Feasibility Evaluation prepared for the proposed project by Miller Pacific Engineering Group (Appendix E), and the Preliminary Stormwater Control Plan (Appendix G). During the Environmental Impact Report (EIR) scoping period, one public comment was received related to the project's potential hydrologic impacts:

- The Draft EIR should evaluate construction-related hydrological impacts.

3.9.2 - Environmental Setting

Surface Hydrology

Marin County

In Marin County (County), the Marin Watershed Program, in combination with the Marin County Flood Control and Water Conservation District, designates watershed boundaries. A watershed is an area of land where all streams and the rain drain into a common outlet, such as a reservoir or mouth of a bay. Generally, a watershed consists of surface water (lakes, streams, reservoirs, and wetlands) and all the underlying groundwater.¹ The County consists of 15 different watersheds.

Project Site

The project site is located in the Ross Valley Watershed, which extends from the Fairfax area to the San Quentin and Corte Madera areas.²

Surface Water Quality

Marin County

Surface water quality in Marin County is monitored by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB) and Marin County. The San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan) outlines the beneficial water uses that the California State Water Resources Control Board (State Water Board) will protect and the water quality objectives and strategies for achieving these objectives.³

¹ United States Geological Survey (USGS). The USGS Water Science School. Website: <https://www.usgs.gov/special-topic/water-science-school>. Accessed September 9, 2022.

² Marin Watershed Program. Creeks and Watersheds. Interactive Map. Website: <https://www.marinwatersheds.org/creeks-watersheds/interactive-map>. Accessed September 9, 2022.

³ San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB). 2017. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).

Project Site

The project site is located in Marin County and may be subject to applicable regulations imposed by the San Francisco Bay RWQCB.

Groundwater Basin Hydrology

Marin County

The Marin Municipal Water District (Marin Water) does not pump groundwater directly. However, it does receive water from the Sonoma County Water Agency (Sonoma Water). A small portion of Sonoma Water’s water supply (i.e., less than 2 percent) consists of groundwater from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin. The Santa Rosa Plain Subbasin is categorized as a medium priority basin and is not in a condition of critical overdraft. As a medium priority basin, it is subject to the requirements of the Sustainable Groundwater Management Act (SGMA), including the requirement to be covered by one or more Groundwater Sustainability Agencies (GSAs) and to prepare a Groundwater Sustainability Plan (GSP) by 2022.⁴

Project Site

The project site does not contain active groundwater wells. As previously discussed, the project site is located in the Ross Valley Groundwater Basin.

Stormwater Runoff

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn runoff from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm that produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminants in the low flowing stream. Such conditions are most frequent at the beginning of the rainy season in fall, when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a nonpoint discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (Public Law 92-500, § 208) until the mid-1980s. Since that time, the United States Environmental Protection Agency (EPA) has continued to develop implementing rules categorizing urban runoff as a point source (an identifiable source) subject to National Pollutant Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of federal water pollution control laws.

⁴ Marin Municipal Water District (Marin Water). May 2021. 2020 Urban Water Management Plan.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies, these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

Regional Board NPDES

The San Francisco Bay RWQCB administers the NPDES stormwater permitting program and regulates stormwater in the San Francisco Bay region. The Department of Corrections implements this State framework for San Quentin State Prison, a non-traditional small Municipal Separate Storm Sewer System (MS4) permittee under the Phase II NPDES Municipal Stormwater Permit. The Marin Countywide Stormwater Pollution Prevention Program (MCSTOPPP) develops tools and provides assistance to the permittees to comply with required Phase II Permit program areas.

Project Site

Currently, the project site drains direct precipitation from the surrounding slopes through a network of first and second order ephemeral drainage channels. The collected runoff is conveyed through two channels and culverts under East Sir Francis Drake Boulevard to the lagoon at Remillard Park, an artificial impoundment of San Francisco Bay.

Flooding and Inundation

FEMA Flood hazard areas—those areas susceptible to flooding—are mapped by the Federal Emergency Management Agency (FEMA). FEMA maps do not take into account future conditions. To protect such areas from flood hazards, FEMA administers the National Flood Insurance Program (NFIP). The NFIP is a federal program created to avert future flood losses through building and zoning ordinances and to provide federally backed flood insurance protection for property owners. The County is a participant in the NFIP.

To support the NFIP, FEMA publishes Flood Insurance Rate Maps (FIRMs) for participating communities, which are used for flood insurance and floodplain management purposes. The FIRMs delineate different special flood hazard area zones. Special flood hazard areas associated with the 1 percent probability of annual exceedance are zones that begin with the letter “A” (e.g., Zone A, Zone AE, and Zone AO).

In areas such as Marin County that do not have extended periods of below-freezing temperatures or significant snowfall, floods usually occur during the season of highest precipitation or during heavy rainfalls after prolonged dry periods. The County is dry during the late spring, summer, and early fall and receives most of its rain during the winter months. The rainfall season extends from November through April.⁵

⁵ Marin County. 2018. Marin County Multi-Jurisdictional Local Hazard Mitigation Plan. Website: <https://www.marinsheriff.org/assets/videos/Marin-County-Multi-Jurisdictional-Local-Hazard-Mitigation-Plan-2018.pdf>. Accessed September 9, 2022.

The County has several major 100-year and 500-year floodplains which are mapped by FEMA in the most recent FIRMs.⁶

The Ross Valley Watershed and Flood Protection Program was initiated after the 2005 New Year's Eve flood by Ross Valley residents and local agencies. In partnership with Ross Valley's four cities and towns as well as environmental, business, and community organizations, the Program is charged with the development and implementation of a region-wide flood protection program that integrates environmental stewardship and restoration. Projects identified as part of the Program include detention basins, bridge replacements, culvert enlargements, and creek improvement measures. Flood protection projects are planned throughout the Ross Valley in several locations that will function as a watershed-wide flood mitigation system providing reduced flood risks.⁷

Project Site

As shown in Exhibit 3.9-1, a large portion of the project site is mapped within a FEMA 500-year flood zone. A 500-year flood zone, or Zone X, is an area that would be inundated by a 0.2 percent annual chance of flooding.⁸

3.9.3 - Regulatory Framework

Clean Water Act

The Clean Water Act (CWA) (33 United States Code [USC] § 1251, *et seq.*) is the major federal legislation governing the water quality aspects of construction and operation of the project or variant. The CWA established the basic structure for regulating discharges of pollutants into waters of the United States (not including groundwater) and waters of the State. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." The CWA establishes the basic structure for regulating the discharge of pollutants into waters of the United States.

The CWA authorizes the EPA to implement pollution control programs. Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters unless an NPDES permit is obtained. In addition, the CWA requires each state to adopt water quality standards for receiving water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality objectives necessary to support those uses.

Responsibility for protecting water quality in California resides with the State Water Board and nine RWQCBs. The State Water Board establishes Statewide policies and regulations for the implementation of water quality control programs mandated by federal and State water quality statutes and regulations. The RWQCBs develop and implement water quality control plans (basin

⁶ Marin County. 2018. Marin County Multi-Jurisdictional Local Hazard Mitigation Plan. Website: <https://www.marinsheriff.org/assets/videos/Marin-County-Multi-Jurisdictional-Local-Hazard-Mitigation-Plan-2018.pdf>. Accessed September 9, 2022.

⁷ Ross Valley Flood Protection and Watershed Program. 2015. Program Fact Sheet. Website: https://www.marinwatersheds.org/sites/default/files/2017-12/Program_FSht_091615.pdf. Accessed September 9, 2022.

⁸ Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation. Oak Hill at San Quentin Multi-Family Residential Development.

plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. Water quality standards applicable to the project are listed in the RWQCB's Basin Plan.

Section 303—Water Quality Standards and Total Maximum Daily Loads

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body's designated beneficial use. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards.

CWA Section 303(d) requires states and authorized Native American tribes to develop a list of water quality-impaired segments of waterways. The list includes waters that do not meet water quality standards necessary to support a waterway's beneficial uses even after the minimum required levels of pollution control technology have been installed. Listed water bodies are to be priority ranked for development of a Total Maximum Daily Load (TMDL). A TMDL is a calculation of the total maximum daily load (amount) of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The TMDLs include waste load allocations for urban stormwater runoff as well as municipal and industrial wastewater discharges, with allocations apportioned for individual Municipal Separate Storm Sewer Systems (MS4s) and wastewater treatment plants. For stormwater, load reductions would be required to meet the TMDL waste load allocations within the 20 years required by the TMDLs.

The State Water Board, RWQCBs, and EPA are responsible for establishing TMDL waste load allocations and incorporating approved TMDLs into water quality control plans, NPDES permits, and Waste Discharge Requirements (WDRs) in accordance with a specified schedule for completion.

The project site does not include any waterways included on the Section 303(d) list. The closest Section 303(d) waterways to the project site include San Francisco Bay and Corte Madera Creek.⁹

Section 401—Water Quality Certification

Section 401 of the CWA requires compliance with State water quality standards for actions within State waters. Under CWA Section 401, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the State Water Board delegates authority to either grant water quality certification or waive the requirements to the nine RWQCBs.

Section 402—National Pollution Discharge Elimination System Permits

The RWQCBs administer the NPDES stormwater permitting program, under Section 402(d) of the federal CWA, on behalf of EPA. The objective of the NPDES program is to control and reduce levels of pollutants in water bodies from discharges of municipal and industrial wastewater and stormwater

⁹ California State Water Resources Control Board (State Water Board). 2019.2014/2016 California Integrated Report Clean Water Act Section 303(d) List/305(b) Report. Website: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml. Accessed September 25, 2022.

runoff. CWA Section 402(d) establishes a framework for regulating nonpoint source stormwater discharges (33 USC 1251). Under the CWA, discharges of pollutants to receiving water are prohibited unless the discharge complies with an NPDES permit. The NPDES permit specifies discharge prohibitions, effluent limitations, and other provisions, such as monitoring deemed necessary to protect water quality based on criteria specified in the National Toxics Rule (NTR), the California Toxics Rule (CTR), and the basin plan.

Discharge prohibitions and limitations in an NPDES permit for wastewater treatment plants are designed to maintain public health and safety, protect receiving water resources, and safeguard the water's designated beneficial uses. Discharge limitations typically define allowable effluent quantities for flow, biochemical oxygen demand, total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, pH, and toxic pollutants. Limitations also typically encompass narrative requirements regarding mineralization and toxicity to aquatic life. Under the NPDES permits issued to the City/County to operate the treatment plants, the City/County is required to implement a pretreatment program. This program must comply with the regulations incorporated in the CWA and the General Pretreatment Regulations (Code of Federal Regulations [CFR] Title 40, Part 403 [40 CFR 403]).

Section 401—Water Quality Certification

Section 404 of the CWA regulates temporary and permanent fill and disturbance of wetlands and waters of the United States. Under Section 404, the discharge (temporary or permanent) of dredged or fill material into waters of the United States, including wetlands, typically must be authorized by the United States Army Corps of Engineers (USACE) through either the Nationwide Permit (general categories of discharges with minimal effects) or the Individual Permit.

River and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the ordinary high water elevation of navigable waters of the United States be approved and permitted by the USACE. Regulated activities include the placement or removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the United States are those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. Section 10 also regulates tributaries and backwater areas that are associated with navigable waters of the United States and are located below the ordinary high water elevation of the adjacent navigable waterway.

A project proponent can apply for a permit/letter of permission for work regulated under Section 404 (CWA) and Section 10 (Rivers and Harbors Act) by completing and submitting one application form. An application for a USACE permit will serve as an application for both Section 404 and Section 10 permits.

Federal Antidegradation Policy

The federal antidegradation policy is designed to protect existing water uses, water quality, and national water resources. The federal policy directs states to adopt a Statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Toxics Rule and California Toxics Rule

In 1992, the EPA promulgated the NTR under the CWA to establish numeric criteria for priority toxic pollutants for 14 states to bring all states into compliance with the requirements of CWA Section 303(c)(2)(B). The NTR established water quality standards for 42 pollutants not covered under California's Statewide water quality regulations at that time. As a result of the court-ordered revocation of California's Statewide basin plans in September 1994, the EPA initiated efforts to promulgate additional federal water quality standards for California. In May 2000, the EPA issued the CTR, which includes all the priority pollutants for which the EPA has issued numeric criteria not included in the NTR.

Executive Order 11988

Executive Order 11988, "Floodplain Management," directs all federal agencies to avoid, to the extent possible, long- and short-term adverse impacts of occupancy and modification of floodplains and to avoid supporting development in a floodplain either directly or indirectly wherever there is a practicable alternative. Compliance requirements are outlined in 23 Code of Federal Regulations 650, Subpart A, "Location and Hydraulic Design of Encroachment on Floodplains."

If a project involves significant encroachment into the floodplain, the final environmental document must include:

- The reasons why the proposed action must be located in the floodplain,
- Alternatives considered and the reasons they were not practicable, and
- A statement indicating whether the action conforms to applicable State or local floodplain protection standards.

National Toxics Rule and California Toxics Rule

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted to reduce the need for flood protection structures and limit disaster relief costs by

restricting development in floodplains. FEMA, established in 1979, is responsible for predicting hazards from flooding events and forecasting the level of inundation under various conditions. As part of its duty to develop standards for delineating fluvial and coastal floodplains, FEMA provides information on FIRMs about the potential for flood hazards and inundation and, where appropriate, designates regions as special flood hazard areas. Special flood hazard areas are defined as areas that have a 1 percent chance of flooding in a given year.

FEMA also administers the NFIP, a federal program that enables property owners in participating communities to purchase insurance as protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages.

National Tsunami Hazard Mitigation Program

The National Tsunami Hazard Mitigation Program (NTHMP) is a coordinated U.S. national effort to mitigate the impact of tsunamis through public education, community response planning, hazard assessment, and warning coordination. NTHMP activities affect, either directly or indirectly, everyone in the United States, including coastal residents and visitors, emergency managers, land use planners, elected officials, educators, government and business organizations, the military, and the tourism and maritime industries.

The NTHMP is led by a Coordinating Committee made up of representatives from its partner organizations. This committee guides the work of subcommittees established to address three key functions of the NTHMP: hazard assessment, warning guidance, and mitigation (sustained action to reduce or eliminate the long-term risk to human life and property). To support, supplement, and implement the work of these subcommittees, Congress authorized the National Oceanic and Atmospheric Administration (NOAA) to provide financial assistance to NTHMP partner states for tsunami-related activities.

Tsunami Warning, Education, and Research Act of 2017

United States Code Title 33 Navigation and Navigable Waters Chapter 45—Tsunami Warning and Education Sections 3201–3208 incorporates unrepealed content from the Tsunami Warning and Education Act enacted as Title VIII of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (Public Law 109–479; 33 USC 3201, *et seq.*) and additions and modifications of content from the Tsunami Warning, Education, and Research Act of 2017, part of the Weather Research and Forecasting Innovation Act of 2017, (Public Law 115-25; 33 USC 3201, *et seq.*). The legislation authorizes establishment of a program to provide tsunami detection, forecasting, and warnings for the Pacific and Arctic Ocean regions and for the Atlantic Ocean region, including the Caribbean Sea and the Gulf of Mexico.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California’s statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect the State’s waters for the use and enjoyment of the people. Regional authority for planning, permitting, and enforcement is delegated

to the nine RWQCBs. The RWQCBs are required to formulate and adopt basin plans for all areas in the region and establish water quality objectives in the plans. The Porter-Cologne Act sets forth the obligations of the State Water Board and RWQCBs to adopt and periodically update basin plans. Basin plans are the regional water quality control plans required by both the CWA and the Porter-Cologne Act that establish beneficial uses, water quality objectives, and implementation programs for each of the nine regions in California. The Act also requires waste dischargers to notify the RWQCBs of their activities by filing reports of waste discharge and authorizes the State Water Board and RWQCBs to issue and enforce WDRs, NPDES permits, CWA Section 401 water quality certifications, or other approvals. The RWQCBs are also authorized to issue waivers to reports of waste discharge and WDRs for broad categories of “low threat” discharge activities that have minimal potential to cause adverse water quality effects when implemented according to prescribed terms and conditions.

National Pollutant Discharge Elimination System

The NPDES permits all involve similar processes, which include submitting notices of intent for discharging to water in areas under the RWQCB’s jurisdiction and implementing Best Management Practices (BMPs) to minimize those discharges. The RWQCB may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the State.

Construction Activity

The State Water Board stormwater general permit for construction activity (Order 2009-009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ) applies to all construction activities that would disturb 1 acre of land or more. Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters.

Through the NPDES and WDR processes, the State Water Board seeks to ensure that the conditions at a project site during and after construction do not cause or contribute to direct or indirect impacts on water quality (i.e., pollution and/or hydromodification) upstream and downstream. To comply with the requirements of the Construction General Permit, the project applicant must file a notice of intent with the State Water Board to obtain coverage under the permit; prepare a Storm Water Pollution Prevention Plan (SWPPP); and implement inspection, monitoring, and reporting requirements appropriate to the project’s risk level as specified in the SWPPP. The SWPPP includes a site map, describes construction activities and potential pollutants, and identifies BMPs that will be employed to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources, such as petroleum products, solvents, paints, and cement. The permit also requires the discharger to consider using post-construction permanent BMPs that will remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

Project sites served by the combined sewer system are not required to obtain coverage under the NPDES Construction General Permit.

Industrial General Stormwater Permit

The Statewide stormwater NPDES permit for general industrial activity (Order 2014-0057-DWQ, superseding Order 97-03-DWQ) regulates discharges associated with 10 broad categories of industrial activities, such as operation of wastewater treatment works, and with recycling facilities. The industrial general permit requires the implementation of Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to achieve performance standards. The permit also requires development of a SWPPP that identifies the site-specific sources of pollutants and describes the measures at the facility applied to reduce stormwater pollution. A monitoring plan is also required.

Stormwater

In November 1990, the EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase I of the permitting program applied to municipal discharges of stormwater in urban areas where the population exceeded 100,000 persons. Phase II of the NPDES stormwater permit regulations, which became effective in March 2003, required that NPDES permits be issued for construction activity for projects disturbing 1–5 acres. Phase II of the municipal permit system (known as the NPDES General Permit for Small MS4s, Order No. 2003-0005-DWQ as amended by 2013-0001-DWQ) requires small municipalities of fewer than 100,000 persons and non-traditional small MS4s, including correctional facilities, to develop stormwater management programs. This permit authorizes discharges of stormwater and some categories of non-stormwater that are not “significant contributors of pollutants.”

California Code of Regulations (Wetlands and Waters Definition)

The State Water Board indicates that no single accepted definition of wetlands exists at the State level and that the RWQCBs may have different requirements and levels of analysis regarding the issuance of water quality certifications. Generally, an area is a wetland if, under normal circumstances:

- (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
- (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.

Under California State law, waters of the State mean “any surface water or groundwater, including saline waters, within the boundaries of the State.” As such, water quality laws apply to both surface water and groundwater. After the U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (53 USC 159), the Office of Chief Counsel of the State Water Board released a legal memorandum confirming the State’s jurisdiction over isolated wetlands. The memorandum stated that under the Porter-Cologne Act, discharges to wetlands and other waters of the State are subject to State regulation, and this includes isolated wetlands. In general, the State Water Board regulates discharges to isolated waters in much the same way as it does for waters of the United States, using the Porter-Cologne Act rather than CWA authority.

California Toxics Rule and State Implementation Policy

The CTR, presented in 2000 in response to requirements of EPA's NTR, establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The CTR criteria are regulatory criteria adopted for inland surface waters, enclosed bays, and estuaries in California that are on the CWA Section 303(c) list for contaminants. The CTR includes criteria for the protection of aquatic life and human health. Human health criteria (water- and organism-based) apply to all waters with a municipal and domestic water supply beneficial use designation as indicated in the basin plans. The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, also known as the State Implementation Policy, was adopted by the State Water Board in 2000. It establishes provisions for translating CTR criteria, NTR criteria, and basin plan water quality objectives for toxic pollutants into:

- NPDES permit effluent limits,
- Effluent compliance determinations,
- Monitoring for 2,3,7,8-tcdd (dioxin) and its toxic equivalents,
- Chronic (long-term) toxicity control provisions,
- Site-specific water quality objectives, and
- Granting of effluent compliance exceptions.

The goal of the State Implementation Plan is to establish a standardized approach for permitting discharges of toxic effluent to inland surface waters, enclosed bays, and estuaries throughout the State.

Regional

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) has jurisdiction over all areas of San Francisco Bay that are subject to tidal action. (Tidal action is defined by the shoreline that extends up to mean high water mark, except in marsh areas, where BCDC's jurisdiction extends to 5 feet above mean sea level.) The BCDC also has "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 nature of the activity. Those projects requiring a permit must comply with the requirements of the McAteer-Petris Act and the San Francisco Bay Plan.

Local

Marin County Municipal Code

The proposed project is not subject to local regulations (Executive Order N-06-19). However, the proposed project would be subject to the following policies and programs to extent that compliance is required by federal or State law.

Title 22-Development Code

The County enacted Title 22 (Development Code) to protect and to promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents and businesses in the County. Chapter 22.20 of the Development Code (General Property Development and Use

Standards) is intended to ensure that the construction of new development and the establishment of new and modified uses contribute to the maintenance of a stable and healthy environment, that new development is harmonious in character with existing and future development and that the use and enjoyment of neighboring properties are protected.

Section 22.20.100 (Solid Waste/Recyclable Materials Storage), subdivision (F)(5), provides that projects must comply with runoff protection standards established by NPDES permit requirements:

Runoff protection. The storage area and individual bins or containers shall, to the extent feasible, incorporate a curb or berm to protect the pad from run-on surface drainage, and a drainage system that connects to the sanitary sewer system.

Certain types of projects and properties are subject to the specific requirements of the County's Municipal Pollutant Discharge Elimination System (NPDES) permit, including removal of trash with a size of five millimeters or greater out of runoff before it reaches a public storm drain system. These projects and properties include commercial, industrial, high-density residential, mixed urban, and public transportation stations. Those projects that are subject to the NPDES permit requirements shall include the installation of Certified Trash Full Capture Systems that meet State and County Standards. In addition, an operation and maintenance plan, subject to the review and approval of the Department of Public Works, shall be recorded and implemented to ensure long-term maintenance of these systems in conformance with the standards of the State and County.

Title 23—Natural Resources

Title 23 (Natural Resources) was enacted to protect and promote the public health, safety and general welfare, to preserve environmental qualities, and to protect the value, worth and enjoyment of the use of real property to the fullest extent possible, through the regulation of the uses or activities of the property in a manner which will prevent serious public injury consisting of, but not limited to, the following:

- (1) Soil erosion;
- (2) Siltation, pollution, disturbance or obstruction of streams, waterways, estuaries, bays and/or harbors;
- (3) The deposit on, or transmission over, across, or through real property, of soil, rock, sand, organic material, detritus or other natural material or contaminants inimical to use and enjoyment of land;
- (4) Pollution of private and/or public water supplies, waste and/or inefficient use of public water supplies, and impairment of sanitary disposal systems;
- (5) Pollution of the air;
- (6) Destruction or deterioration of public developments or improvements, including but not limited to roads, parks and marine facilities;

- (7) Soil instability, movement or displacement, particularly in response to earth tremors or shock waves created by natural causes or otherwise;
- (8) Fire;
- (9) Change of the environment which is detrimental to the public health, safety and general welfare.

Title 23 authorizes the County to issue permits to regulate grading, stormwater runoff, and other activities within the scope of Title 23 that could potentially impact the natural environment.

Chapter 23.18 (Stormwater Runoff Pollution Prevention) of the Municipal Code contains regulations that seek to minimize discharges other than stormwater to storm drains or watercourses, reduce pollutants in stormwater discharges, require operators of construction sites to implement and maintain appropriate BMPs, and maintain predevelopment stormwater runoff rates and prevent nonpoint source pollution whenever possible, through stormwater management controls and ensuring that these management controls are properly maintained. The purpose of the chapter is to protect and enhance water quality of watercourses, water bodies and wetlands in a manner pursuant to and consistent with the CWA, the Porter-Cologne Water Quality Control Act (California Water Code Section 13000, *et seq.*), and the Phase II MS4 NPDES Permit, Water Quality Order No. 2013-0001-DWQ, General Permit No. CAS000004 (phase II stormwater permit) and subsequent revisions and amendments thereto.

Section 23.18.093 (Construction-phase Best Management Practices) of the County Municipal Code requires that all construction activities implement appropriate BMPs to prevent the discharge of construction wastes, including soil or sediment, or contaminants from construction materials, tools and equipment from entering County storm drains, watercourses, the San Francisco Bay or the ocean.

Title 24—Development Standards

Chapter 24.04, Article VIII (Grading) of the Municipal Code outlines grading requirements, including excavating and filling. Specifically, the chapter addresses erosion and sediment control regulations (Section 24.04.625 [Erosion and sediment control]), stormwater control regulations, and drainage and terracing regulations.

3.9.4 - Methodology

Impacts related to hydrology and water quality were determined by reviewing information regarding regional and local hydrology, climate, topography, and geology contained in the San Francisco Bay RWQCB Basin Plan, FEMA FIRMs, and preliminary stormwater treatment plans for the proposed project. Evaluation of impacts is based on comparison of existing conditions to the project's built condition, such as changes in impervious area and facilities located within flood zones. Specifically, the impact evaluation focuses on effects on surface and groundwater quality, groundwater supply, and drainage (in terms of erosion, siltation, flooding, stormwater system exceedance, and polluted runoff). Water quality conditions are compared with water quality standards and WDRs by identifying potential contaminants and pollution pathways, amount of impervious area, and runoff

treatment requirements. Finally, as part of the analysis, inundation and flooding on the project site is assessed by reviewing potential inundation zone elevations relative to the final grade elevations of facilities and features for the project.

3.9.5 - Thresholds of Significance

The lead agency utilizes the criteria in the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist to determine whether hydrology and water quality impacts resulting from the implementation of the proposed project would be considered significant if the project would:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - (i) Result in substantial erosion or siltation on- or off-site;
 - (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - (iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - (iv) Impede or redirect flood flows?
- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

3.9.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project. As discussed herein, adherence to standard best practices and existing mandatory regulations would ensure that potential impacts are avoided or reduced to a less than significant level.

Surface and Groundwater Quality

Impact HYD-1:	The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
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Impact Analysis

Construction

Construction activities would expose soils on the project site to potential water erosion (e.g., because of ground disturbance) and construction equipment-related pollutants (e.g., accidental release of gasoline or other equipment fuels). Runoff carrying eroded soils and pollutants could enter storm drainage systems, increasing sedimentation and degrading downstream water quality. These sediments also would be carried downstream and discharged into the San Francisco Bay and Pacific Ocean, degrading surface water quality, or allowed to seep into the associated groundwater table. This would represent a potentially significant construction impact related to surface and groundwater quality.

Given that proposed construction would disturb more than 1 acre of land, the proposed project would be required to comply with the terms of NPDES permits and implementing provisions of the County Municipal Code, which requires the preparation and implementation of a SWPPP. The SWPPP includes BMPs to ensure reduction of pollutants from construction activities potentially entering surface waters. Additionally, implementation of the SWPPP would also prevent pollutants from entering the Ross Valley Groundwater Basin by preventing pollutants from moving off-site.

Furthermore, as indicated in Impact HAZ-1, construction activities that involve hazardous materials would be governed by several agencies, including the California Environmental Protection Agency (Cal/EPA), California Department of Transportation (Caltrans), California Division of Occupational Safety and Health (Cal/OSHA), and the Department of Toxic Substances Control (DTSC). Compulsory compliance with applicable regulations would prevent release of substances that could degrade water quality.

Although construction activities have the potential to generate increased sedimentation, compliance with applicable stormwater regulations would minimize the potential to degrade water quality in downstream water bodies to the maximum extent possible. These regulations require construction-phase BMPs for erosion control, sediment control, and pollution prevention, and outline grading requirements for erosion and sediment controls. As a result, construction-related project impacts related to surface and groundwater and respective water quality would be less than significant.

Operation

The project site is currently undeveloped and consists of primarily pervious surfaces. Project operation would generate runoff, which could carry pollutants such as deposits of fluids from motor vehicles into the San Francisco Bay or allow seepage of such pollutants into the associated groundwater table. This would represent a potentially significant operational impact related to surface and groundwater quality.

The proposed project would convert primarily undeveloped pervious surfaces to a developed site with primarily impervious surfaces and therefore would generate increased amounts of runoff that could carry pollutants into the San Francisco Bay or groundwater basins. However, the proposed project would comply with the applicable NPDES program and implementing regulations, which would minimize the potential to degrade water quality in downstream water bodies to the maximum extent possible.

In compliance with RWQCB requirements, the proposed project includes a comprehensive proposed Stormwater Treatment Plan. Stormwater would be captured in Drainage Management Areas (DMAs) located throughout the project site and would be conveyed to Integrated Management Practices (IMPs), detention basins that are appropriately sized to capture estimated stormwater flows. IMPs would make up an estimated 8,207 square feet of the project site and would be designed in accordance with all applicable standards with adequate capacity to accommodate stormwater flows. Implementation of the stormwater control plan would prevent untreated water from entering nearby surface and groundwater. Therefore, operation-related project impacts related to surface and groundwater and respective water quality would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Groundwater Supply/Recharge

Impact HYD-2: **The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.**

Impact Analysis

Construction

Impacts related to depletion of groundwater supplies or interference with groundwater recharge are limited to operational impacts because any water utilized during construction would be temporary, and, as discussed under Impact HYD-1, the proposed project would comply with applicable stormwater requirements and incorporate BMPs to address water quality and control runoff from the project site. While dewatering is not expected to be required during project construction, such actions would be temporary and therefore would not substantially interfere with groundwater supplies, recharge or management. No respective construction impacts would occur.

Operation

The project site is within the Marin Water service area. The proposed project could lead to an increased demand for water, which could lead to an increase in demand for groundwater production. However, as described above, the Marin Water does not pump groundwater directly, but it does receive water from Sonoma Water. A small portion of the Sonoma Water supply (i.e., less than 2 percent) consists of groundwater from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin. According to the Marin Water 2020 Urban Water Management Plan (UWMP), groundwater from Sonoma Water is used primarily as a drought period supply or when Russian River supplies are otherwise constrained. Because groundwater is a minimal portion of Marin County's water supply, the proposed project would not interfere substantially with groundwater supply, recharge, or

groundwater management. Furthermore, the Marin Water UWMP determined that groundwater is not planned to be used as a water supply source in the future.¹⁰

Marin Water is projected to have sufficient supplies to meet projected demands in normal years, single dry years, and multiple dry years through 2045.¹¹ Additionally, as described in Chapter 4, Effects Found not to be Significant, the Marin Water confirmed that it would be able to provide adequate water services to the proposed project and the rest of its services area during normal, dry, and multiple dry years. Therefore, impacts related to groundwater recharge and supply would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Drainage Leading to Erosion/Siltation, Flooding, Additional Sources of Polluted Runoff, or Impedance of Flood Flows

Impact HYD-3:	The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
	i) Result in substantial erosion or siltation on- or off-site;
	(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
	(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
	(iv) Impede or redirect flood flows?

Impact Analysis

Construction

i) Construction-related Erosion and Siltation

The proposed project would have a significant impact if it were to substantially alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on- or off-site. Such drainage effects could occur from grade changes at the project site, exposure of soils for periods of time during stormwater discharge, or alterations to creek beds. These types of changes would have a potentially significant impact to on-site drainage patterns.

The proposed project would involve grading and construction of an 8.3-acre project site that is currently primarily composed of pervious surfaces. Construction activity could result in substantial erosion or siltation, leading to drainage pattern alteration and the increased potential for polluted

¹⁰ Marin Municipal Water District (Marin Water). 2020. Urban Water Management Plan. Accessed September 25, 2022.

¹¹ Ibid. at p. 91.

runoff to enter nearby water bodies, such as the San Francisco Bay. This would represent a potentially significant impact.

However, the proposed project would be required to comply with the regulations of its NPDES permit. Additionally, the proposed project would be required to comply with construction-phase BMPs and requirements for erosion and sediment control plans, as outlined above. These BMPs may include scheduling and timing of grading (soil disturbing) activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, covering of materials stored on-site, and proper location of and maintenance of temporary sanitary facilities.

Additionally, as described above, the proposed project would be required to design and implement a SWPPP to ensure that erosion, siltation, and flooding are prevented or minimized to the maximum extent feasible during construction. The SWPPP would include both structural (physical devices or measures) and operational (timing of construction) BMPs that would prevent or reduce the discharge of pollutants directly or indirectly into waterbodies. Therefore, construction impacts related to alteration of drainage patterns resulting in erosion or siltation would be less than significant.

Operation-related Erosion and Siltation

Development of the project site would increase impervious surfaces compared to existing conditions. Thus, proposed project operation could result in increased amounts of stormwater runoff that could carry pollutants into nearby water bodies. Applicable stormwater regulations, as outlined above, require submittal and implementation of a stormwater control plan for all new development. Under the proposed Stormwater Treatment Plan, stormwater would be captured in DMAs located throughout the project site and would be conveyed to IMPs. IMPs would make up an estimated 8,207 square feet of the project site and would be designed in accordance with all applicable standards with adequate capacity to serve stormwater flows at the project site. Implementation of the stormwater control plan would prevent erosion and siltation caused by stormwater flows in accordance with the County's NPDES. Therefore, operational impacts related to alteration of drainage patterns resulting in erosion or siltation would be less than significant.

ii) Construction-related Surface Runoff

As discussed under Impact HYD-1, the proposed project would implement a project-specific SWPPP and incorporate BMPs contained within to reduce the potential for water quality impacts related to erosion, sedimentation, and other construction-related pollutants that may result in surface runoff. As such, construction-related impacts would be less than significant.

Operation-related Surface Runoff

The proposed project would result in the development of approximately 6.7 acres of the 8.3-acre site, or approximately 291,852 square feet. The proposed project would cover approximately 269,252 square feet of the project site, with approximately 22,600 square feet of landscaped open space. The increase in impervious area would increase the amount of surface runoff and could result in a potentially significant impact.

Under the proposed Stormwater Treatment Plan, stormwater would be captured in DMAs located throughout the project site and would be conveyed to IMPs, detention basins that would be appropriately sized to capture estimated stormwater flows. IMPs would make up a total of 8,207 square feet of the project site and would be designed in accordance with all applicable standards with adequate capacity to accommodate stormwater flows at the project site, preventing surface runoff. As such, the operation of the proposed project would not result in substantial on-site flooding. Therefore, the operational impact related to increased impervious surfaces in turn increasing the rate or amount of surface runoff resulting in flooding would be less than significant.

ii) Construction-related Exceedance of Storm Drain Capacity

The proposed project would be required to implement a SWPPP as part of its Construction General Permit to ensure that additional sources of polluted runoff is prevented during construction. Thus, construction of the proposed project would not create or contribute runoff water that would provide substantial additional sources of polluted runoff. Therefore, the construction impact related to additional sources of polluted runoff would be less than significant.

Operation-related Exceedance of Storm Drain Capacity

The proposed project would result in increased impervious surface area and increased runoff. Consistent with Provision C.3 San Francisco Bay Regional Municipal Stormwater NPDES Permit, Low Impact Development (LID) techniques are required to be implemented in order to treat stormwater runoff. LID techniques such as bioretention areas allow for stormwater infiltration into the soil and detain stormwater on-site in order to reduce peak flows and prevent erosion and siltation. Under the proposed Stormwater Treatment Plan, stormwater would be captured in DMAs located throughout the project site and would be conveyed to IMPs, detention basins that are appropriately sized to capture estimated stormwater flows. IMPs would make up a total of 8,207 square feet of the project site and would be designed in accordance with all applicable standards with adequate capacity to accommodate stormwater flows at the project site. Because stormwater would be treated through IMPs to ensure no net increase in off-site stormwater flow, the proposed project would not result in an exceedance of storm drain capacity. Therefore, impacts would be less than significant.

iii) Construction-related Impacts to Flood Flows.

Impacts related to impedance of flood flows would only occur during the operational phase of the project. As such, no construction impedance of flood flow impacts would occur.

Operation-related Impacts to Flood Flows.

As described above, and as shown in Exhibit 3.9-1, a large portion of the project site is mapped within a FEMA 500-year flood zone. A 500-year flood zone, or Zone X, is an area that would be inundated by a 0.2 percent annual chance flood.¹² However, under the proposed Stormwater Treatment Plan, stormwater would be captured in DMAs located throughout the project site and would be conveyed to IMPs. IMPs would make up a total of 8,207 square feet of the project site and would be designed in accordance with all applicable standards with adequate capacity to accommodate the project site during storm events to ensure no net increase in off-site flow of stormwaters. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Risk of Pollutant Release Due to Inundation

Impact HYD-4: **The proposed project would not be located in a flood hazard zone, tsunami, or seiche zone, or risk release of pollutants due to project inundation.**

Impact Analysis

Construction

Potential pollutants stored on-site during construction would be stored in a manner consistent with the project's NPDES mandated SWPPP, as well as applicable regulations established by OSHA, Department of Hazardous Substances and Materials that prevent pollutant release. As described in detail below, the project site is not located in a flood hazard zone, tsunami, or seiche zone. As such, no construction impacts would occur.

Operation

As described above, and as shown in Exhibit 3.9-1, a large portion of the project site is mapped within a FEMA 500-year flood zone. A 500-year flood zone, or Zone X, is an area inundated by a 0.2 percent chance of annual flooding.¹³ The project site is not located within a 100-year flood zone or other hazard area. Thus, the project site is not located within a flood hazard area that could be inundated with flood flows and result in release of pollutants. Moreover, while the site is unlikely to be at risk of flooding, inundation of the site could release pollutants into surface water should flood waters encounter contaminants at the project site. However, the project proposes residential land uses, which does not represent the type of use that would otherwise degrade water quality (e.g., industrial land uses that utilize hazardous materials that could adversely affect water quality). Anticipated and potential pollutants generated by the proposed project would be limited to household items and normal and expected materials for the proposed land uses and include sediment, nutrients, pesticides, metals, pathogens, and oil and grease. These materials would be

¹² Miller Pacific Engineering Group. 2022. Geotechnical Feasibility Evaluation. Oak Hill at San Quentin Multi-Family Residential Development.

¹³ Ibid.

limited to personal use quantities. Impacts related to flood hazards and pollutants would not occur from the project.

Rise in sea levels could also impact inundation of the project site. The FEMA-designated flood zones do not consider potential rise in sea level; however, the County utilizes several different resources to assess sea level rise risk. The San Francisco BCDC's "Adopting to Rising Tides" program provides a Flood Explorer map application that shows low points along the shoreline that can lead to inland flooding and presents flooding as a "Total Water Level" above mean higher high water (MHHW), which represents various combinations of storm-surge and sea level rise.¹⁴ According to the Flood Explorer map, the MHHW plus 12 inches scenario represents the total water level that could be expected by 2030 (with medium-high risk aversion) and the MHHW plus 24 inches scenario represents the total water level that could be expected by 2050 (with medium-high risk aversion). Both scenarios also provide data for storm surges. As shown on Exhibit 3.9-2, under both scenarios, neither the project site nor the project vicinity would be subject to any flooding due to sea level rise. The coast south of Remillard Park may experience slight inundation of 2 to 8 feet. According to the Flood Explorer map, even under the most severe scenario (MHHW plus 108 inches), the project site would not be subject to flooding due to sea level rise. Thus, the proposed project site is well situated and is not likely to experience flooding related to sea level rise.

A tsunami is a sea wave generated by an earthquake, landslide, volcanic eruption, or even by a large meteor hitting the ocean. An event such as an earthquake creates a large displacement of water resulting in a rise or mounding at the ocean surface that moves away from this center as a sea wave. Tsunamis generally affect coastal communities and low-lying (low-elevation) river valleys in the vicinity of the coast. As shown on Exhibit 3.9-2, the California Geological Survey's (CGS's) Tsunami Hazard Area Map does not show the project site as being located in a Tsunami Hazard Area. The map does show that land just south of East Sir Francis Drake Boulevard is located in a California Tsunami Inundation Map for Emergency Planning.¹⁵ However, the project site is located approximately 450 feet from San Francisco Bay and the Flood Explorer map does not designate any portion of the project site as a low-lying flood-prone land. Because the site is not identified as within a tsunami inundation area or low-lying flood-prone area and due to its elevation, the project is not likely to experience impacts from a tsunami.

Seiches are changes or oscillations of water levels within a confined water body. Seiches are caused by fluctuation in the atmosphere, tidal currents, or earthquakes. The effect of this phenomenon is a standing wave that would occur when influenced by external causes. There are no large, confined water bodies near the project site. Therefore, development under the proposed project would not result in substantial inundation by seiche during a seismic event and no impact would occur related to a release of pollutants due to inundation by seiche.

¹⁴ California Open Data Portal. 2022. San Francisco Bay Conservation and Development Commission (BCDC). Adapting to Rising Tides Bay Area Sea Level Rise and Shoreline Analysis Maps. Website: <https://data.ca.gov/dataset/adapting-to-rising-tides-bay-shoreline-flood-explorer1>. Accessed September 26, 2022.

¹⁵ California Geologic Survey (CGS). CGS Information Warehouse: Tsunami Hazard Area Map. Website: https://maps.conservation.ca.gov/cgs/informationwarehouse/ts_evacuation/. Accessed September 9, 2022.

Under the proposed Stormwater Treatment Plan, stormwater would be captured in DMAs located throughout the project site and would be conveyed to appropriately sized IMPs, detention basins that are appropriately sized to capture estimated stormwater flows. IMPs would make up a total of 8,207 square feet of the project site and would be designed in accordance with all applicable standards with adequate capacity to accommodate the project site during storm events and ensure no net increase in off-site flow of stormwaters. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Water Quality Control or Sustainable Groundwater Management Plans Consistency

Impact HYD-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impact Analysis

Construction

The RWQCB has established regulatory standards and objectives for water quality in San Francisco Bay in its Water Quality Control Plan for the San Francisco Bay Basin, commonly referred to as the Basin Plan. The proposed project would not conflict with the Basin Plan or the County’s NPDES program. Given that proposed construction would disturb more than 1 acre of land, the project would be required to comply with the terms of the Construction General Permit, which require the preparation and implementation of a SWPPP that includes BMPs to ensure reduction of pollutants from construction activities potentially entering surface waters. Therefore, construction impacts related to water quality control plan or groundwater management plan consistency would be less than significant.

Operation

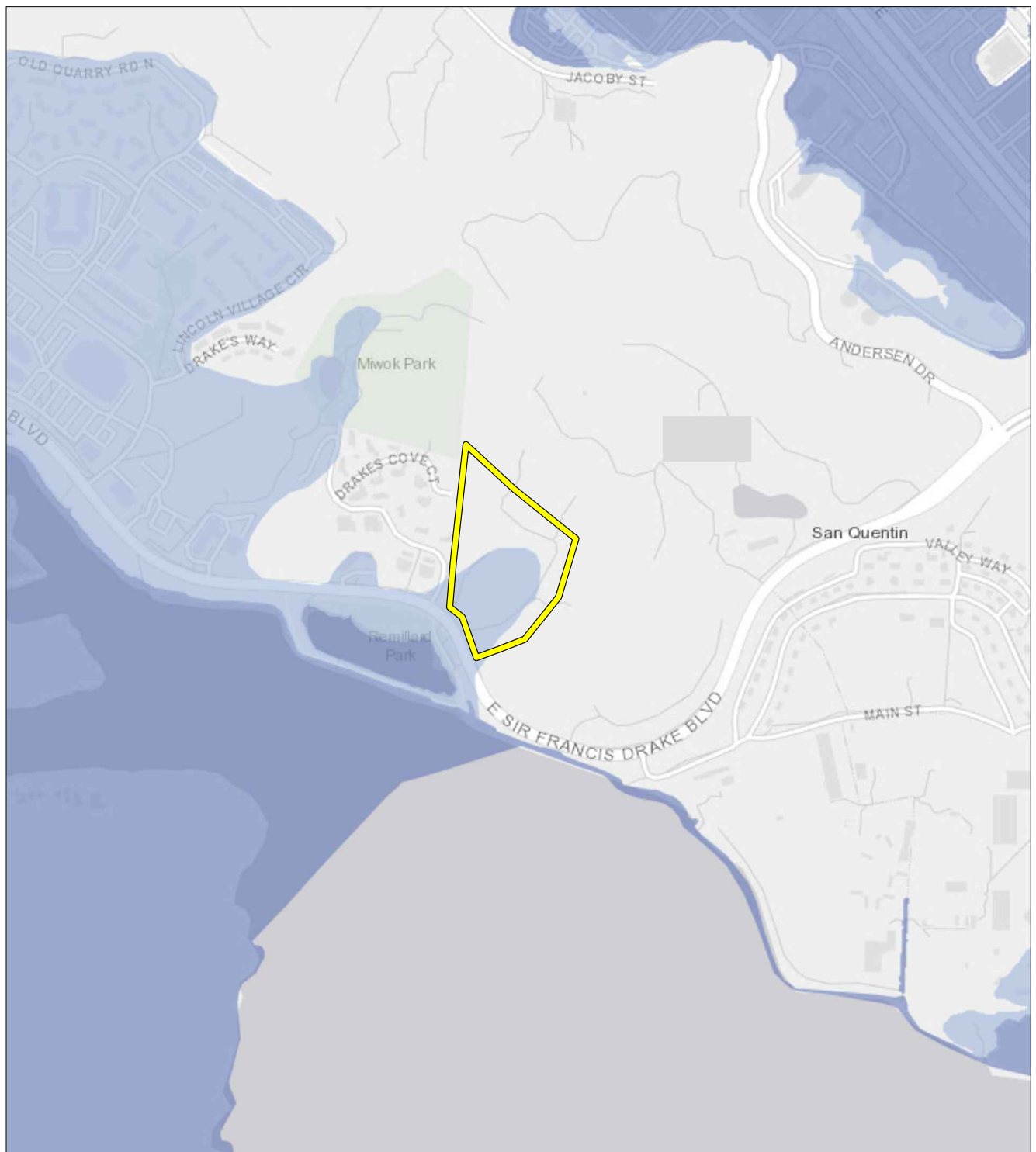
As described above, Marin Water does not pump groundwater directly. However, a small portion of the Sonoma Water supply (i.e., less than 2 percent) consists of groundwater from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin. Thus, the proposed project would not interfere substantially with groundwater supply. Therefore, impacts related to sustainable groundwater management would be less than significant.



Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.



 Zone A - 100yr.
 Zone X - 500yr.

 Project Site

Zone A: This identifies an area inundated by 1% annual chance flooding.

Zone X 500yr: This identifies an area inundated by .02% annual chance flooding and area inundated by 1% annual chance of flooding with average depth of less than 1 foot of with drainage areas less than 1 square mile or an area protected by levees from 1% annual chance flooding.

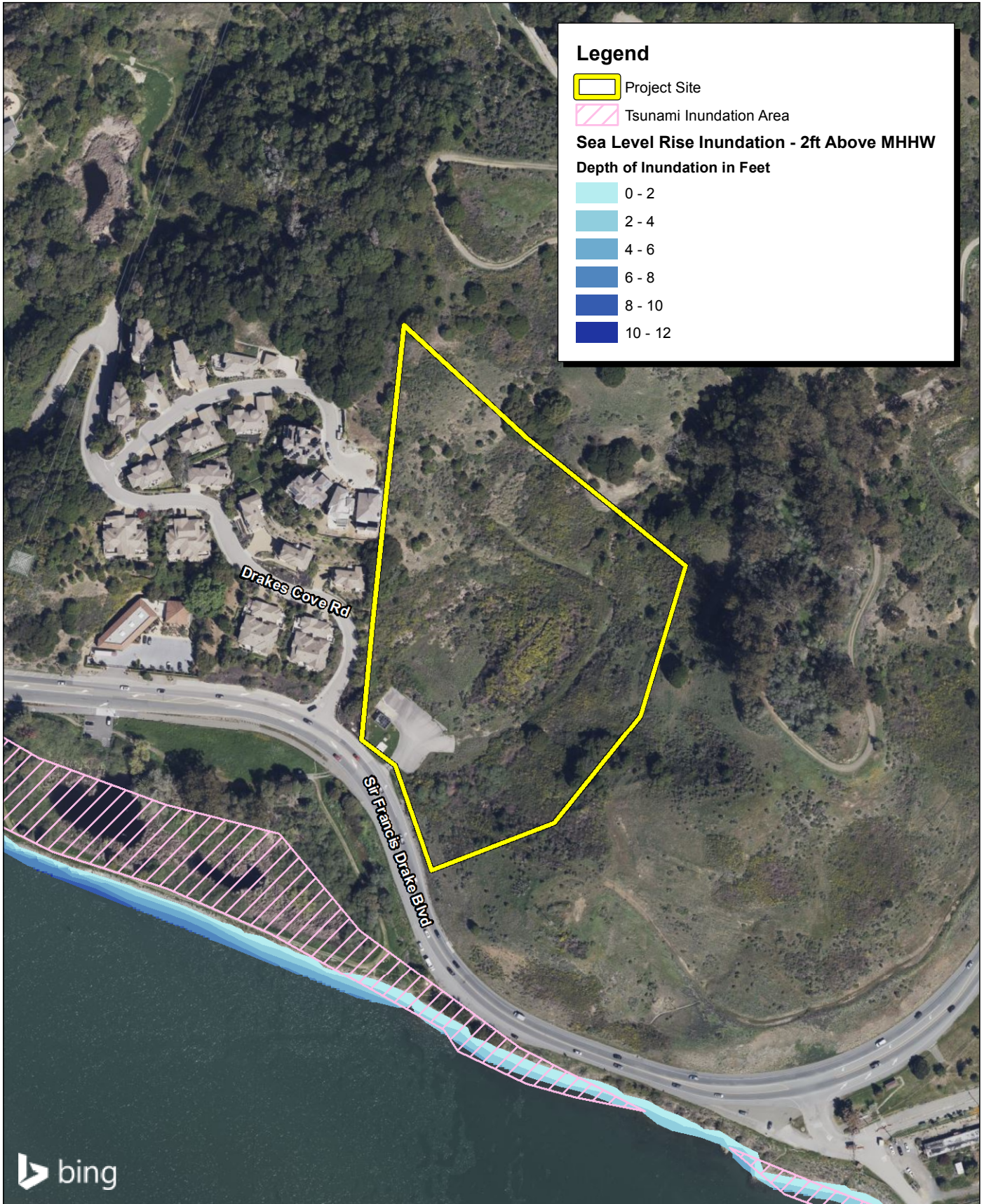
REFERENCE: ABAG Hazard Viewer, 2022



Source: Miller Pacific Engineering Group, 08/12/2022.



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Source: Bing Aerial Imagery. County of Marin. AECOM, 2020. NOAA Office for Coastal Management. ABAG/Metropolitan Transportation Commission (MTC).

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Exhibit 3.9-2
Sea Level Rise and
Tsunami Hazard Map

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[View description of exhibit.](#)

MARIN COUNTY
OAK HILL APARTMENTS
ENVIRONMENTAL IMPACT REPORT

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3.10 - Land Use and Planning

3.10.1 - Introduction

This section describes the existing conditions related to land use and planning as well as the relevant regulatory framework. This section also evaluates the possible impacts related to land use and planning that could result from the implementation of the proposed project.

The project site is owned by the State of California and the proposed project would develop the property for State use. As such the project is not subject to local zoning or the Subdivision Map Act and development on the site is not required to conform to existing local land use regulation under the principles of state sovereignty.

During the Draft Environmental Impact Report (Draft EIR) scoping period, seven comments were received related to land use and planning as follows:

- The Draft EIR should evaluate the proposed project’s consistency with the County of Sonoma General Plan, including the applicable General Plan policies. (Please note that the County of Sonoma was sent the proposed project’s Notice of Preparation [NOP] as it neighbors the County of Marin; however, the proposed project is not located in the County of Sonoma. The County of Sonoma’s General Plan is not applicable to the proposed project.)
- The Draft EIR should evaluate the proposed project’s impacts related to the project’s height and building density (three additional comments received on this topic).
- The Department of General Services (DGS) should allow further public discussion on the proposed project’s density.
- The Draft EIR should evaluate the proposed project’s consistency with the County’s land use designation and zoning.

3.10.2 - Environmental Setting

Land Uses in the Surrounding Area

Surrounding land uses are shown in Chapter 2, Project Description, Exhibit 2-2, and are described below.

West

Directly west of the project site is a residential neighborhood located in the City of Larkspur, along Drakes Cove Road. A corporate office and warehouse associated with an automobile dealership (the Price Simms Family Dealership) is located approximately 0.1 mile from the project site. The Larkspur Landing commercial center, which includes Marin County Mart, is located approximately 0.3 mile from the project site. The Larkspur Ferry Terminal is located approximately 0.5 mile from the project site. The Larkspur Sonoma-Marin Area Rail Transit (SMART) Train Station is located approximately 0.8 mile from the project site.

North

North of the project site is undeveloped land located within both Marin County (County) and the City of San Rafael. The Central Marin Sanitation Agency is located farther north along Interstate 580 (I-580). The project site is located approximately 0.8 mile from an I-580 on-ramp.

East

East of the project site is undeveloped land located in the County and San Quentin State Prison (San Quentin). The San Quentin west gate is located approximately 750 feet from the project site. The San Quentin facility contains the prison as well as approximately 86 homes occupied by prison staff and their families.

South

Immediately south of the project site is Sir Francis Drake Boulevard. On the far side of the roadway sits Remillard Park, located in the City of Larkspur, as well as the Corte Madera Channel, the Corte Madera Marsh Ecological Reserve, and the San Francisco Bay. The San Francisco Bay is located more than 300 feet away from the project site.

Land Use Designations and Zoning in the Surrounding Area

West

Directly west of the project site is a residential neighborhood located in the City of Larkspur, along Drake's Cove Road. A corporate office and warehouse associated with an automobile dealership (the Price Simms Family Dealership) is located approximately 0.1 mile from the project site. The Larkspur Landing commercial center, which includes Marin County Mart, is located approximately 0.3 mile from the project site. The Larkspur Ferry Terminal is located approximately 0.5 mile from the project site. The Larkspur SMART Train Station is located approximately 0.8 mile from the project site. Meanwhile, land to the west of the project site is designated Residential-Low Density by the City of Larkspur General Plan (Larkspur General Plan)¹ and is zoned Planned Development (PD) by the Larkspur Municipal Code.² Additionally, a small portion of the land west of the project site, where the Price Simms Family Dealership is located, is designated as Commercial and zoned Heritage Preservation District Overlay (H) by the Larkspur General Plan and Larkspur Municipal Code, respectively.

North

North of the project site is undeveloped land located within both the County and the City of San Rafael. The Central Marin Sanitation Agency is located farther north along I-580. The project site is located approximately 0.8 mile from an I-580 on-ramp. Land to the north of the project site has a land use designation of Public Facility (PF) by the Countywide Plan and is zoned Agriculture Limited (A2-B2) by the County Municipal Code. The land north of the project site also has a Ridge and Upland Greenbelt designation by the Countywide Plan, as shown on Exhibit 2-3. Additionally, a portion of the land north of the project site is designated as Parks, Recreation, and Open Space and

¹ City of Larkspur. 2010. General Plan Update, City of Larkspur Land Use and Circulation Map. Website: <http://ci.larkspur.ca.us/DocumentCenter/View/472/City-of-Larkspur-General-Plan-Land-Use-Map?bidId=>. Accessed July 25, 2022.

² City of Larkspur Municipal Code. 2022. Title 18, Zoning, City of Larkspur Zoning District Maps. Website: <http://ci.larkspur.ca.us/DocumentCenter/View/471/City-of-Larkspur-Zoning-District-Map?bidId=>. Accessed July 25, 2022.

as Conservation by the City of San Rafael General Plan³ and zoned Parks/Open Space Zoning District (P/OS) by the City of San Rafael Code of Ordinances.⁴

East

East of the project site is undeveloped land located in the County and San Quentin State Prison (San Quentin). The San Quentin west gate is located approximately 750 feet from the project site. The San Quentin facility contains the prison as well as approximately 86 homes occupied by prison staff and their families. Land east of the project site is designated PF by the Countywide Plan, and a portion of this land is designated as Ridge and Upland Greenbelt Area by the Countywide Plan. It is zoned as A2-B2 by the County Municipal Code.

South

South of the project site is Sir Francis Drake Boulevard and Remillard Park, located in the City of Larkspur, as well as the Corte Madera Channel, the Corte Madera Marsh Ecological Reserve, and San Francisco Bay. Remillard Park is designated Parkland by the Larkspur General Plan and is zoned PD by the Larkspur Municipal Code. A small portion of the land south of the project site is designated as Baylands Corridor and zoned as Bayfront Conservation and Residential Single-Family Planned (RSP), by the Countywide Plan.

Countywide Plan Land Use Designations and Zoning for the Project Site, Effect of State Sovereignty

The Countywide Plan designates the project site as Public Facility (PF) (Chapter 2, Project Description, Exhibit 2-3). Additionally, a small portion of the northwest corner of the project site intersects with the County's designated Ridge and Upland Greenbelt Area, as shown in Exhibit 2-3; however, no development would occur in this portion of the project site. The PF category is established for land owned by a governmental agency that is used as a public institution; typical land uses include airports, schools, hospitals, cemeteries, government facilities, correctional facilities, power distribution facilities, sanitary landfills, and water facilities.

The County Zoning for the project site is A2-B2 (Chapter 2, Project Description, Exhibit 2-4). The A2 Zoning District identifies areas suitable for commercial agricultural operations, and similar and compatible uses. The A2 Zoning District also allows affordable housing as a permitted use at a density of 4.36 dwelling units per acre.

As discussed above, however, the project site is owned by the State of California and therefore local land use zoning regulations are not applicable to the site under the principle of state sovereignty. Consistent with the state sovereignty framework, this Draft EIR will not analyze inapplicable site-specific use, height, density, or other similar development standards set forth in the underlying Marin Countywide Plan for the PF designation and County Zoning Ordinance for the A2 Zoning

³ City of San Rafael. 2021. City of San Rafael 2040 General Plan, Figure 3-1: General Plan 2040 Land Use Map. Website: <https://storage.googleapis.com/proudcity/sanrafaelca/uploads/2021/09/FullDocument-Adopted080221.pdf>. Accessed July 25, 2022.

⁴ City of San Rafael. 2022. Code of Ordinances, Title 14, Zoning. Website: https://library.municode.com/ca/san_rafael/codes/code_of_ordinances?nodeId=TIT14ZO. Accessed July 25, 2022.

District. Section 3.10.4 provides further discussion on how the principles of state sovereignty are applied to the proposed project and the analysis contained in the Draft EIR.

3.10.3 - Regulatory Framework

State

California Senate Bill 1818 and Assembly Bill 2345

California Senate Bill (SB) 1818, Chapter 928, provides developers with a density bonus and other incentives for constructing lower income housing units within a development provided the developer meets certain requirements. Assembly Bill (AB) 2345 amended density bonus incentives, as enumerated in Section 65915(b) of the Government Code:

Government Code Section 65915(b)

- (b)(1) A city, county, or city and county shall grant one density bonus, the amount of which shall be as specified in subdivision (f), and incentives or concessions, as described in subdivision (d), when an applicant for a housing development seeks and agrees to construct a housing development, excluding any units permitted by the density bonus awarded pursuant to this section, that will contain at least any one of the following:
- (A) Ten percent of the total units of a housing development for lower income households, as defined in Section 50079.5 of the Health and Safety Code.
 - (B) Five percent of the total units of a housing development for very low income households, as defined in Section 50105 of the Health and Safety Code.
 - (C) A senior citizen housing development as defined in Sections 51.3 and 51.12 of the Civil Code, or a mobile home park that limits residency based on age requirements for housing for older persons pursuant to Section 798.76 or 799.5 of the Civil Code.
 - (D) Ten percent of the total dwelling units in a common interest development, as defined in Section 4100 of the Civil Code, for persons and families of moderate income, as defined in Section 50093 of the Health and Safety Code, provided that all units in the development are offered to the public for purchase.

Government Code Section 65915(f)(3)(D)(ii)

For an affordable housing project, “[i]f the housing development is located within one-half mile of a major transit stop, the city, county, or city and county shall not impose any maximum controls on density.”

With respect to parking requirements, Assembly Bill 2097 resulted in the recent enactment of Government Code Section 65863.2, which prohibits a public agency from imposing minimum parking requirements on any residential, commercial, or other development project located within 0.5 mile of public transit (Gov. Code, § 65863.2, subd. (a)). The Larkspur Ferry Terminal is located 0.5 mile to the west of the project site.

Executive Order N-06-19 (Statewide Affordable Housing Opportunity Sites)

To address affordable housing shortages in California, on January 15, 2019, California Governor Gavin Newsom signed Executive Order N-06-19, which directed DGS and the California Department

of Housing and Community Development (HCD) to identify and prioritize excess State-owned property and aggressively pursue sustainable, innovative, cost-effective housing projects. Over 44,000 parcels have been reviewed and incorporated into a published inventory of excess land.⁵ According to the Statewide Affordable Housing Opportunities Sites Affordable Housing Geographic Information System (GIS) Map Viewer, the project site is located in a High Housing Needs zone and is marked as deemed potentially suitable for housing.⁶ Per Executive Order N-06-19, the State declared that housing projects on State land are not subject to local zoning or the Subdivision Map Act when developing a property for State use. Under the auspices of [the Department of Housing and Community Development], which has control and possession of the land that will be subject to the long-term ground lease, the development of affordable housing does not have to conform to existing local zoning. To this end, the order provides that “local zoning ordinances do not govern the use of State property, and the State possesses legal authority to enter in to low-cost, long-term leasing agreements with housing developers and accelerate housing development on State-owned land as a public use.”

Regional

Plan Bay Area 2050

Plan Bay Area 2050 is a long-range plan charting the course for the future of the nine-county San Francisco Bay Area (including Marin County) in which South San Francisco is located. Plan Bay Area 2050 focuses on four key elements—housing, the economy, transportation, and the environment—and identifies a path to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. Plan Bay Area 2050 supersedes Plan Bay Area 2040. This new regional plan outlines strategies for growth and investment through the year 2050, while simultaneously striving to meet and exceed federal and State requirements. The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) adopted Plan Bay Area 2050 at a special joint meeting of MTC and the ABAG Executive Board on October 21, 2021.

Plan Bay Area 2050 provides policies and investments necessary to advance the goal of a more affordable, connected, diverse, healthy, and vibrant Bay Area. However, it does not fund specific infrastructure projects nor change local policies. Cities and counties retain all local land use authority. Plan Bay Area 2050 identifies a potential path forward for the types of public policies necessary to realize a future growth pattern for housing and jobs.

3.10.4 - Methodology

While land use regulation in California historically has been a function of local government under the grant of police power contained in Article XI, Section 7 of the California Constitution, a State agency is not subject to local regulation unless the Legislature expressly waives immunity in a statute or the California Constitution.

⁵ Department of General Services Real Estate Division. 2021. Executive Order N-06-19 Affordable Housing Development. Website: <https://www.dgs.ca.gov/RES/Projects/Page-Content/Projects-List-Folder/Executive-Order-N-06-19-Affordable-Housing-Development>. Accessed July 13, 2022.

⁶ Department of General Services (DGS). Statewide Affordable Housing Opportunity Sites. Website: <https://cadgs.maps.arcgis.com/apps/webappviewer/index.html?id=392e5e687e9041bb8f20e3acc5b211c7>. Accessed July 13, 2022.

As noted above, pursuant to Executive Order N-06-19, “local zoning ordinances do not govern the use of State property, and the State possesses legal authority to enter in to low-cost, long-term leasing agreements with housing developers and accelerate housing development on State-owned land as a public use.” Accordingly, because DGS is a State agency, DGS is not required to apply local County land use regulations when considering the project.

The methodology adopted herein therefore focuses on the proposed project’s compatibility with surrounding existing and reasonably foreseeable development. Specifically, the analysis contained in this section focuses on whether project implementation would physically divide an established community and whether the proposed project would conflict with existing or reasonably foreseeable land uses. Conflicts and inconsistencies, in and of themselves, do not constitute significant environmental impacts, unless such conflicts or inconsistencies result in direct physical environmental impacts. Physical project impacts are discussed throughout Chapter 3, Environmental Impact Analysis, of this Draft EIR and are incorporated herein by this reference.

3.10.5 - Thresholds of Significance

Appendix G to the California Environmental Quality Act (CEQA) Guidelines is a sample Initial Study Checklist that includes questions for determining whether impacts to resources are significant. These questions reflect the input of planning and environmental professionals at the Governor’s Office of Planning and Research (OPR) and the California Natural Resources Agency, based on input from stakeholder groups and experts in various other governmental agencies, nonprofits, and leading environmental consulting firms. Accordingly, DGS has derived its significance criteria for this project, based in part, on the questions posed in Appendix G. These significance criteria are as follows:

The project would have a significant impact on the environment if it would:

- a) Physically divide an established community.
- b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.10.6 - Project Impacts Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Divide an Established Community

Impact LAND-1: The proposed project would not physically divide an established community.

Impact Analysis

Construction

Impacts related to physical division of an established community are limited to operational impacts. In any event, project-related construction activities will not physically divide an established

community because they are limited to the project site and would not otherwise disrupt or impede connectivity in the community. Therefore, no construction impacts would occur.

Operation

The physical division of an already established community typically refers to construction of a linear feature, such as an interstate highway, railroad tracks, or the removal of a means of access that would impact mobility within an existing community and an outlying area. The proposed project would construct 250 affordable housing units as well as associated landscaping, recreational amenities, and parking. The project site is currently vacant and is located adjacent to existing residential uses and nearby to extensive commercial uses to the west, in the City of Larkspur.

Development of the proposed project would not impair access to an established community or otherwise constitute a division of an established community. The proposed project would, however, provide additional connectivity through pedestrian improvements in an otherwise vacant and underutilized area. The proposed project would include a traffic signal at the intersection of the project's driveway and Sir Francis Drake Boulevard and would convert an eastbound acceleration lane on Sir Francis Drake Boulevard to a left-turn lane into the project site. Specifically, the proposed project would include a pedestrian crosswalk on East Sir Francis Drake Boulevard, connecting the project site to Remillard Park and the Class I multiuse path on the south side of East Sir Francis Drake Boulevard. This crosswalk would include right-of-way controls that would enable residents and visitors to access this multiuse path via the proposed traffic signal. This pedestrian crosswalk would enhance the convenience and safety for ingress and egress for project residents and the greater community. The proposed signalized intersection and the proposed off-site pedestrian improvements would enhance access and safety for the community. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None.

Conflict with Applicable Plans, Policies, or Regulations

Impact LAND-2: **The proposed project would not cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

Impact Analysis

Construction

To the extent that project-related construction activities have the potential to cause adverse environmental impacts, those potential impacts are analyzed in subject-specific sections elsewhere in Chapter 3 of this EIR. Otherwise, no construction impacts would occur.

Operation

Per Executive Order N-06-19, the Statewide Affordable Housing Opportunities Sites Map Viewer designates the project site as a High Housing Needs zone suitable for affordable housing,⁷ and DGS is required to use all existing legal authority to prioritize and expedite affordable housing developments in identified sites.⁸

Thus, the proposed project would be consistent with Executive Order N-06-19, AB 1255 (Robert Rivas), and SB 6 (Jim Beall) and would be implemented by the project applicant on DGS-owned property. As previously discussed, DGS retains state sovereignty over the property, and is not subject to local plans, policies, and zoning regulations where it asserts its sovereignty.

Although not required by State law, in its discretion as lead agency under CEQA, DGS includes the following information regarding the Marin County Municipal Code (specifically the project's zoning district designation contained in Title 22 of the Municipal Code) and the Countywide Plan with respect to land use in this section. This information is provided solely for background and informational purposes; the proposed project is not required to conform to these requirements.

The Countywide Plan designates the project site as PF, and a small portion of the northwest corner of the project site intersects with the County's designated Ridge and Upland Greenbelt Area; however, this portion of the project site would not be disturbed. The PF designation is established for land owned by a governmental agency that is used as a public institution; typical land uses include airports, schools, hospitals, cemeteries, government facilities, correctional facilities, power distribution facilities, sanitary landfills, and water facilities. This designation does not include residential uses. Additionally, the Marin County Zoning District for the site is A2-B2, which allows affordable housing as a permitted use, but at a density of 4.36 dwelling units per acre. The height limit for the site's current zoning district is 30 feet. The proposed project contemplates a density of approximately 30 units per acre and building heights of 30 to 60 feet. The buildings' roofs would also have a limited number of projections for emergency stairway roof access, elevator overrun and equipment rooms, and miscellaneous mechanical equipment, which would be set back from the exterior face of the structure.

However, as previously discussed, the project site is owned by the State of California and local land use regulations are not applicable under the principle of state sovereignty. Therefore, site-specific use, height, density, or other similar development standards set forth in the underlying Marin Countywide Plan for the PF designation and County Zoning Ordinance for the A2 Zoning District do not apply to the proposed project.

With respect to surrounding land uses, the surrounding State property to the north and east is open space and complements the proposed project uses. It is not foreseeable that this open space surrounding the project site would be redeveloped. The proposed project would not be visible to the prison uses and prison staff homes, which are located more than 750 feet to the east and separate from the project site on the back side of a ridge. Likewise, the project site is largely buffered from

⁷ Department of General Services (DGS). Statewide Affordable Housing Opportunity Sites. Website: <https://cadgs.maps.arcgis.com/apps/webappviewer/index.html?id=392e5e687e9041bb8f20e3acc5b211c7>. Accessed July 13, 2022.

⁸ State of California Executive Department. January 15, 2019. Executive Order N-06-19.

virtually all of the homes to the west of the project site in the adjacent Drake's Cove community in the City of Larkspur by topography and tree canopies of 10 existing heritage oaks that are being preserved in the open space west of the proposed project, as noted above. Section 3.1, Aesthetics, Light, and Glare, provides descriptions of the proposed project's aesthetics impacts and visual simulations of the proposed project. Relative to public view corridors, the proposed project would be most visible from eastwardly direction of Sir Francis Drake Boulevard and Remillard Park, which is south of the project site.

There are also some commercial uses, including a corporate office and warehouse associated with an automobile dealership located approximately 0.1 mile away, as well as the Larkspur Landing commercial center, located approximately 0.3 mile away. This commercial center is located on approximately 17 acres and accommodates more than two dozen businesses. Multi-family housing buildings of the type proposed are compatible with commercial and single-family residential uses.

The project site is situated in a "bowl-shaped" land mass, so the proposed project is designed to terrace up the site from a relatively flat base closest to Sir Francis Drake Boulevard, the project site's southern boundary. As previously discussed, the project site is constrained on its southwest corner by an easement for the benefit of the Central Marin Sanitation Agency. This easement contains a hydrogen peroxide dosing odor control facility and a junction box for a force main, as well as the force main itself that connects to the main treatment facility in the City of San Rafael. Thus, the building footprint largely covers the flat and moderately sloped portions of the project site.

The building would step up the base grade from 37 feet nearest to Sir Francis Drake Boulevard to 87 feet at its northern boundary. As a reference point, the project site's proposed driveway at Sir Francis Drake Boulevard is at an elevation of approximately 20 feet above the North American Vertical Datum of 1988 (NAVD88),⁹ which is approximately 3 feet below the mean sea level. The building elevations range from approximately 67 feet above NAVD88 at the southernmost portion of the building closest to Sir Francis Drake Boulevard to approximately 127 feet above NAVD88 at the northernmost portion of the building farthest from Sir Francis Drake Boulevard. By comparison, the ridgelines to the east and north of the project site reach a maximum approximate height of 215 feet and 315 feet above NAVD88, respectively. The proposed buildings have a minimum setback at the northeast corner of the proposed project of approximately 300 feet from the ridgeline. Moreover, the average setback from the ridge is nearly one and a half times greater. By comparison, the cul-de-sac at the end of Drakes Cove Court, directly west of the proposed project, is situated at 150 feet above NAVD88 and the ground floors of the adjacent residences along Drakes Cove Court are over 20 feet above the highest elevation of the proposed project's roofs.

While the proposed project is composed of two distinct buildings, the architectural design, materials, and colors would be complementary. To reduce the proposed project's mass on Sir Francis Drake Boulevard, the lower building would start with a 3-story element that would transition to a 5-story element before transitioning to a 4-story structure above the main parking entry to the north. The upper building would have a 5-story element at its southern end (adjacent to the 4-story

⁹ The North American Vertical Datum of 1988 (NAVD 88) is the official vertical datum of the United States and serves as a reference surface of zero elevation to which heights are referred to over a large geographic extent.

element of the lower building) and then transition to a 4-story element at its northernmost elevation. While the proposed project in its entirety would have nine above-grade levels, all of the exterior elevations contain three, four, or five residential levels as the buildings follow the grade of the site. It should be noted that, to add a sense of entry, 20-foot-tall lobbies would be featured at the main and secondary residential entries.

To further blend into its environment, the building color blocking would be primarily composed of earthtones with a dark blue accent. No reflective metal or other materials would be incorporated in the design. Parapets would largely screen all roof top equipment and solar installations. The proposed project's density is approximately 30 units per acre. This density is consistent with and implements the goals of State regulations that seek to place higher density housing near transit stops to reduce carbon footprints of projects. These State regulations, for instance, contemplate the elimination of density restrictions for sites that are within 0.5 mile of a major transit stop, as reflected in Government Code Section 65915 and SB 2097. The Larkspur Ferry Terminal is located approximately 0.5 mile from the project site. The Larkspur SMART Train Station is located approximately 0.8 mile from the project site.

For information purposes only, were the project site subject to use restrictions and development standards in the County's zoning ordinance, existing zoning would allow for affordable housing. Nevertheless, a rezone to the Precise Development Plan (PDP) zoning district would be pursued to facilitate more innovative design. To this end, the PDP designation provides flexibility to create development standards that would allow the project site to be developed as proposed. To the extent strictures do exist, the proposed project would comply with them, if they were applicable.

The Countywide Plan's Medium to High Density Residential land use designation permits residential units at a density of 11 to 45 dwelling units per acre. Meanwhile, under Government Code Section 65583.2 (c)(3)(B), and as implemented by AB 1537 and the County's Housing Element, to be viable for affordable housing, a property must be zoned to support at least 20 dwelling units per acre. The proposed project here, again, has a density of approximately 30 units per acre. Further, new housing similar in density is proposed northwest of the project site in Larkspur's 6th Cycle Housing element.

Meanwhile, PDP zoning, as set forth in Marin County Municipal Code Section 22.44, establishes site-specific development criteria to ensure that development enhances or is compatible with the surrounding neighborhood character. Most development projects that are subject to PDP zoning are required to submit a Master Plan that provides specific development standards, such as height and density. Affordable housing projects are exempt from the requirement to submit a Master Plan, except where an applicable Community Plan or community-based visioning plan approved by the Board of Supervisors contains policies that directly require Master Plans for development on specific properties.

Moreover, pursuant to State law and as outlined in the County Municipal Code, an 80 percent density bonus is allowed for 100 percent affordable housing projects.¹⁰ Further, if a 100 percent affordable housing project is located within 0.5 mile of a major transit stop, the project shall also

¹⁰ Marin County, California. 2022. Marin County, California Municipal Code. Section 22.24.020-Density Bonus and Other Incentives Pursuant to State Law. Table 3-5a California State Density Bonus Calculation Per Government Code Section 65915.

receive a height increase of up to three additional stories, or 33 feet (Gov. Code, § 65915(d)(2)(D)), and the project shall not be subject to any maximum controls on density (Gov. Code, § 65915(f)(3)(D)(ii)). The proposed project is located approximately 0.5 mile from the Larkspur Ferry Terminal. Thus, were the density bonus applied to the site, the proposed project's maximum height and density would comply with these regulations. Accordingly, given the nature of the proposed project, its location, and the nature of the County's flexible zoning regulations, even if these regulations were to apply, it would not be meaningful to evaluate the proposed project against them. To the extent that massing of the proposed project would have the potential to affect aesthetic resources, these are addressed in Section 3.1, Aesthetics.

Countywide Plan Program CD-2.a, which is specifically applicable to land use, requires the County to utilize all available methods to create affordable housing. Although compliance with Countywide Plan programs is not legally required, in providing 100 percent affordable housing consistent with Executive Order N-06-19, the proposed project would further Program CD-2.a. There are no applicable Countywide Plan policies or programs that conflict with the proposed project's creation of affordable housing. Accordingly, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None.

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3.11 - Noise

3.11.1 - Introduction

This section describes the existing noise setting and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on noise modeling performed by FirstCarbon Solutions (FCS). The noise modeling output is included in this Draft Environmental Impact Report (Draft EIR) as Appendix H. During the EIR scoping period, three public comments were received related to noise as follows:

- The Draft EIR should evaluate noise impacts from San Quentin’s Shooting Range on the proposed project.
- The Draft EIR should evaluate noise generated by the proposed project, including traffic noise.
- The Draft EIR should evaluate noise during construction and the impacts on nearby single-family homes.

3.11.2 - Environmental Setting

Characteristics of Noise

Noise is generally defined as unwanted or objectionable sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment. Noise effects can be caused by pitch or loudness. *Pitch* is the number of complete vibrations or cycles per second of a wave that result in the range of tone from high to low; higher-pitched sounds are louder to humans than lower-pitched sounds. *Loudness* is the intensity or amplitude of sound.

Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Only audible changes in existing ambient or background noise levels are considered potentially significant.

The human ear is not equally sensitive to all frequencies within the audible sound spectrum, so sound pressure level measurements can be weighted to better represent frequency-based sensitivity of average healthy human hearing. One such specific “filtering” of sound is called “A-weighting.” A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies that are audible to the human ear. Because decibels are logarithmic units, they cannot be added or subtracted by ordinary arithmetic means. For example, if one noise source produces a noise level of 70 dB, the addition of another

noise source with the same noise level would not produce 140 dB; rather, they would combine to produce a noise level of 73 dB.

Noise Descriptors

There are many ways to rate noise for various intervals, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and Community Noise Equivalent Level (CNEL) or the day-night average level (L_{dn}) based on dBA. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise.

Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source, as well as ground absorption, atmospheric conditions (wind, temperature gradients, and humidity) and refraction, and shielding by natural and manmade features. Sound from point sources, such as an air conditioning condenser, a piece of construction equipment, or an idling truck, radiates uniformly outward as it travels away from the source in a spherical pattern.

The attenuation or sound drop-off rate is dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in noise models: soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA/DD is typically observed over soft ground with landscaping, as compared with a 6 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. For line sources, such as traffic noise on a roadway, a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3 dBA/DD drop-off rate for hard-site conditions. Table 3.11-1 briefly defines these measurement descriptors and other sound terminology used in this section.

Table 3.11-1: Sound Terminology

Term	Definition
Sound	A vibratory disturbance created by a vibrating object which, when transmitted by pressure waves through a medium such as air, can be 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.
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which represents the squared ratio of sound pressure amplitude to a reference sound pressure. The reference pressure is 20 micropascals, representing the threshold of human hearing (0 dB).
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level that approximates the frequency response of the human ear.
Equivalent Noise Level (L_{eq})	The average sound energy occurring over a specified time period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period.
Maximum and Minimum Noise Levels (L_{max} and L_{min})	The maximum or minimum instantaneous sound level measured during a measurement period.
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 between 10:00 p.m. and 7:00 a.m. (nighttime).
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 between 7 p.m. and 10 p.m. and 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m.
Source: Data compiled by FirstCarbon Solutions (FCS) 2022.	

Traffic Noise

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Because of the logarithmic nature of noise levels, a doubling of the traffic volume (assuming that the speed and truck mix do not change) results in a noise level increase of 3 dBA. Based on the Federal Highway Administration (FHWA)

community noise assessment criteria, this change is “barely perceptible”; for reference, a doubling of perceived noise levels would require an increase of approximately 10 dBA. The truck mix on a given roadway also has an effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase.

Stationary Noise

A stationary noise producer is any entity in a fixed location that emits noise. Examples of stationary noise sources include machinery, engines, energy production, and other mechanical or powered equipment and activities such as loading and unloading or public assembly that may occur at commercial, industrial, manufacturing, or institutional facilities. Furthermore, while noise generated by the use of motor vehicles over public roads is preempted from local regulation, although the use of these vehicles is considered a stationary noise source when operated on private property such as at a construction site, a truck terminal, or warehousing facility. The emitted noise from the producer can be mitigated to acceptable levels either at the source or on the adjacent property through the use of proper planning, setbacks, block walls, acoustic-rated windows, dense landscaping, or by changing the location of the noise producer.

The effects of stationary noise depend on factors such as characteristics of the equipment and operations, distance and pathway between the generator and receptor, and weather. Stationary noise sources may be regulated at the point of manufacture (e.g., equipment or engines), with limitations on the hours of operation, or with provision of intervening structures, barriers or topography.

Construction activities are a common source of stationary noise. Construction-period noise levels are higher than background ambient noise levels but eventually cease once construction is complete. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on each construction site and, therefore, would change the noise levels as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 3.11-2 shows typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.

Table 3.11-2: Typical Construction Equipment Maximum Noise Levels

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Impact Pile Driver	Yes	95
Auger Drill Rig	No	85
Vibratory Pile Driver	No	95
Jackhammers	Yes	85
Pneumatic Tools	No	85
Pumps	No	77
Scrapers	No	85
Cranes	No	85

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Portable Generators	No	82
Rollers	No	85
Bulldozers	No	85
Tractors	No	84
Front-End Loaders	No	80
Backhoe	No	80
Excavators	No	85
Graders	No	85
Air Compressors	No	80
Dump Truck	No	84
Concrete Mixer Truck	No	85
Pickup Truck	No	55
Notes: dBA = A-weighted decibel Source: Federal Highway Administration (FHWA) 2006. Highway Construction Noise Handbook, August.		

Noise from Multiple Sources

Because sound pressure levels in decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. Therefore, sound pressure levels in decibels are logarithmically added on an energy summation basis. In other words, adding a new noise source to an existing noise source, both producing noise at the same level, will not double the noise level. Instead, if the difference between two noise sources is 10 dBA or more, the louder noise source will dominate, and the resultant noise level will be equal to the noise level of the louder source. In general, if the difference between two noise sources is 0–1 dBA, the resultant noise level will be 3 dBA higher than the louder noise source, or both sources if they are equal. If the difference between two noise sources is 2–3 dBA, the resultant noise level will be 2 dBA above the louder noise source. If the difference between two noise sources is 4–10 dBA, the resultant noise level will be 1 dBA higher than the louder noise source.

Characteristics of Vibration

Groundborne vibration consists of rapidly fluctuating motion through a solid medium, specifically the ground, which has an average motion of zero and in which the motion’s amplitude can be described in terms of displacement, velocity, or acceleration. The effect of groundborne vibration typically only causes a nuisance to people, but in extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or the root mean square (rms) amplitude of the vibration velocity. Because of the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels—denoted as LV—and is based on the reference quantity of 1 microinch per second. To distinguish vibration levels from noise levels, the unit is written as “VdB.”

Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. When assessing annoyance from groundborne vibration, vibration is typically expressed as rms velocity in units of decibels of 1 microinch per second, with the unit written in VdB. Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. Human perception to vibration starts at levels as low as 67 VdB. Annoyance due to vibration in residential settings starts at approximately 70 VdB.

Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration. Construction activities, such as blasting, pile driving and operating heavy earthmoving equipment, are common sources of groundborne vibration. Construction vibration impacts on building structures are generally assessed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 3.11-3.¹

Table 3.11-3: Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	rms Velocity in Decibels (VdB) at 25 Feet
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer—small	0.003	58
Jackhammer	0.035	79
Concrete Mixer	0.046	81
Concrete Pump	0.046	81
Paver	0.046	81
Pickup Truck	0.046	81
Auger Drill Rig	0.051	82
Backhoe	0.051	82
Crane (Mobile)	0.051	82
Excavator	0.051	82
Grader	0.051	82
Loader	0.051	82

¹ Federal Highway Administration (FHWA). 2006. Highway Construction Noise Handbook. August.

Construction Equipment	PPV at 25 Feet (inches/second)	rms Velocity in Decibels (VdB) at 25 Feet
Loaded Trucks	0.076	86
Bulldozer—large	0.089	87
Caisson drilling	0.089	87
Vibratory Roller (small)	0.101	88
Compactor	0.138	90
Clam shovel drop	0.202	94
Vibratory Roller (large)	0.210	94
Pile Driver (impact-typical)	0.644	104
Pile Driver (impact-upper range)	1.518	112
<p>Notes: rms = root mean square PPV = peak particle velocity Source: Compilation of scientific and academic literature, generated by Federal Transit Administration (FTA) and Federal Highway Administration (FHWA).</p>		

The propagation of groundborne vibration is not as simple to model as airborne noise. This is because noise in the air travels through a relatively uniform medium, while groundborne vibrations travel through the earth, which may contain significant geological differences. Factors that influence groundborne vibration include:

- **Vibration source:** Type of activity or equipment, such as impact or mobile, and depth of vibration source;
- **Vibration path:** Soil type, rock layers, soil layering, depth to water table, and frost depth; and
- **Vibration receiver:** Foundation type, building construction, and acoustical absorption.

Among these factors that influence groundborne vibration, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at large distance from the source. Factors such as layering of the soil and depth to the water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground’s surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a “push-pull” fashion). P-waves

are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation.

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil type, but it has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

Existing Noise Levels

The existing noise environment on the project site was documented through a noise monitoring effort. A long term (24-hour+) noise measurement was taken from 11:11 a.m. on Wednesday, September 29, 2021, to 11:17 a.m. on Thursday, September 30, 2021. The noise measurement was taken in the southwest portion of the project site, approximately 110-feet to center of East Sir Francis Drake Boulevard. The noise measurement location is shown on Exhibit 3.11-1.

The noise technician documented that the primary audible noise source on the project site is traffic on East Sir Francis Drake Boulevard. The noise technician did not notice any audible activity from San Quentin's Shooting Range during the site visit.

The noise measurement results show that the 24-hour average ambient noise level at this location was 51.0 dBA L_{dn} , with daytime average noise levels of 52.3 dBA L_{eq} , and nighttime average noise levels of 47.3 dBA L_{eq} . The minimum recorded noise level was 34.6 dBA L_{min} , and the maximum recorded noise level was 78.2 dBA L_{max} . The percentile exceedance noise levels were documented as being 61.6 dBA L_{05} , 61.0 dBA L_{10} , 57.6 dBA L_{50} , and 53.1 dBA L_{90} .

The weather conditions during the measurement had maximum wind speeds of 10 mph, with average wind speeds of 6 mph. The daytime temperature had a high of 87 degrees, with sunny skies and high visibility. The resulting noise measurement data sheets are contained in Appendix H.

3.11.3 - Regulatory Framework

Federal

Noise Control Act

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972. The Federal Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees.

Among the agencies now regulating noise are the Occupational Safety and Health Administration (OSHA), which limits noise exposure of workers to 90 dB L_{eq} or less for 8 continuous hours or 105 dB L_{eq} or less for 1 continuous hour; the United States Department of Transportation (USDOT), which assumed a significant role in noise control through its various operating agencies; and the Federal Aviation

Administration (FAA), which regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration (FTA). Transit noise is regulated by the federal Urban Mass Transit Administration, while freeways that are part of the interstate highway system are regulated by the FHWA. Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being sited adjacent to a highway, or alternatively, that developments are planned and constructed in such a manner that minimize potential noise impacts.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by transportation sources, local jurisdictions are limited to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

Federal Transit Administration Standards and Guidelines

FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment Manual.² The FTA guidelines include thresholds for construction vibration impacts for various structural categories as shown in Table 3.11-4.

Table 3.11-4: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
I. Reinforced-Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98
III. Non-engineered Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90
Notes: PPV = peak particle velocity rms = root mean square VdB = vibration measured as rms velocity in decibels of 1 microinch per second Source: Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September.		

State

The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the “State Noise Insulation Standard,” it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. For limiting noise transmitted between adjacent dwelling units, the noise insulation

² Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September.

standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

3.11.4 - Methodology

The project site is owned by the State of California and the proposed project would develop the property for State use. As such, the proposed project is not required to conform to existing local land use regulation under the principles of state sovereignty.

Construction Noise Analysis Methodology

A worst-case scenario was analyzed assuming each piece of modeled equipment would operate simultaneously at the nearest reasonable locations to the closest noise-sensitive receptor for the loudest phase of construction. Noise emission levels recommended by FHWA's Highway Construction Noise Handbook were used to ascertain the noise generated by specific types of construction equipment.

Traffic Noise Modeling Methodology

The FHWA highway traffic noise prediction model (FHWA-RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. Traffic data used in the model was obtained from the traffic impact analysis prepared for this EIR by W-Trans.³ The resultant noise levels were weighted and summed over a 24-hour period in order to determine the CNEL values. The FHWA-RD-77-108 Model arrives at a predicted noise level through a series of adjustments to the reference energy mean emission level. Adjustments are then made to the reference energy mean emission level to account for the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway); the total Average Daily Traffic (ADT); the percentage of ADT that flows during the day, evening, and night; the travel speed; the vehicle mix on the roadway; a percentage of the volume of automobiles, medium trucks, and heavy trucks; the roadway grade; the angle of view of the observer exposed to the roadway; and the site conditions ("hard" or "soft") as they relate to the absorption of the ground, pavement, or landscaping.

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires. Because of the logarithmic nature of traffic noise levels, a doubling of the traffic volume (assuming that the speed and truck mix do not change) results in a noise level increase of 3 dBA. Based on the FHWA community noise assessment criteria, this change is considered "barely perceptible."

³ W-Trans, 2022. Traffic Impact Study for the Oak Hill Apartments Project. July 6.

The traffic noise levels were calculated based on a single-lane-equivalent noise source combining both directions of travel. A single-lane-equivalent noise source is when the vehicular traffic from all lanes is combined into a theoretical single-lane that has a width equal to the distance between the two outside lanes of a roadway, which provides almost identical results to analyzing each lane separately where elevation changes are minimal. The modeling assumes a direct line of sight to the roadway and flat terrain conditions.

Stationary Noise Source Analysis Methodology

The proposed project would generate noise from future development that could contain new exterior mechanical equipment sources, such as rooftop ventilation systems on proposed industrial uses, and potential new parking lot activities. To provide a conservative analysis, the highest end of the range of reference noise levels for these stationary noise sources was used to calculate the reasonable worst-case hourly average noise levels from each noise source as measured at the nearest sensitive receptor land uses.

Vibration Impact Analysis Methodology

The State does not have adopted criteria for construction or operational groundborne vibration impacts. Therefore, the FTA's vibration impact criteria and modeling and analysis methodology were utilized to evaluate potential vibration impacts. The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment document,⁴ and are summarized in Table 3.11-4 above. A reasonable worst-case scenario was analyzed assuming the piece of equipment that would generate the highest groundborne vibration levels would operate at the nearest reasonable location to an off-site structure. FTA and FHWA reference vibration levels for construction equipment, summarized in Table 3.11-3 were used to calculate reasonable worst-case construction vibration levels.

3.11.5 - Thresholds of Significance

The lead agency utilizes California Environmental Quality Act (CEQA) Guidelines updated Appendix G, as thresholds to determine whether impacts related to noise and vibration are significant environmental effects.

Would the proposed project:

- a) 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?
- b) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- c) Generate excessive groundborne vibration or groundborne noise levels?

⁴ Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May.

- d) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

3.11.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Noise Levels That Would Conflict with Any Land Use Plan, Policy, or Regulation

Impact NOI-1: The proposed project would 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.

The project site is located on State land, and is not subject to land use plan, policy, or regulation adopted by the County of Marin. Accordingly, the only noise-related policies and regulations applicable to the proposed project are the “State Noise Insulation Standards” in California Code of Regulations, Title 24, Appendix Chapters 12 and 12A. A significant impact would occur if the proposed multi-family residential land use development would conflict with any of these standards. There are no applicable federal land use noise compatibility standards, therefore, only compatibility with the applicable State Noise Insulation Standards are analyzed below. The proposed project would not conflict with the “State Noise Insulation Standards.” For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL

The ambient noise measurements taken on the project site from Wednesday, September 29, 2021, to 11:17 a.m. on Thursday, September 30, 2021, show that the 24-hour average ambient noise level at this location was 51.0 dBA L_{dn} , with daytime average noise levels of 52.3 dBA L_{eq} , and nighttime average noise levels of 47.3 dBA L_{eq} . The minimum recorded noise level was 34.6 dBA L_{min} , and the maximum recorded noise level was 78.2 dBA L_{max} . These measured ambient noise levels are below the State’s exterior noise standard of 60 dBA L_{dn} for new multi-family residential development and would be considered a less than significant impact to the proposed project.

In addition to this ambient noise monitoring effort, existing traffic noise levels were also modeled. The FHWA highway traffic noise prediction model (FHWA-RD-77-108) was used to evaluate existing traffic noise levels in the vicinity of the project site. The projected traffic noise levels along roadways adjacent to the project site were analyzed to determine compliance with the State’s exterior and interior noise insulation standards. The daily traffic volumes were obtained from the traffic analysis prepared for the project by W-Trans.⁵ The resultant noise levels were weighed and summed over a

⁵ W-Trans, 2022. Traffic Impact Study for the Oak Hill Apartments Project. July 6.

24-hour period in order to determine the L_{dn} values. The traffic noise modeling input and output files are included in Appendix H of this document. Table 3.11-5 shows a summary of the traffic noise levels for Existing conditions as measured at 50 feet from the centerline of the outermost travel lane.

Table 3.11-5: Existing Traffic Noise Levels

Roadway Segment	Approximate ADT	Centerline to 70 L_{dn} (feet)	Centerline to 65 L_{dn} (feet)	Centerline to 60 L_{dn} (feet)	L_{dn} (dBA) 50 feet from Centerline of Outermost Lane
East Sir Francis Drake Boulevard—Anderson Drive to Proposed Site Access	21,800	< 50	83	178	67.6
East Sir Francis Drake Boulevard—Proposed Site Access to Drakes Cove Road	21,900	< 50	84	179	67.0
East Sir Francis Drake Boulevard—Drakes Cove Road to Larkspur Landing Circle	21,900	< 50	86	180	66.1

Notes:
 ADT = Average Daily Traffic; this is based on the PM peak-hour turning volumes from the traffic study, multiplied by a factor of 10.
 dBA = A-weighted decibel
 L_{dn} = day/night average sound level
¹ Modeling results do not take into account mitigating features such as topography, vegetative screening, fencing, building design, or structure screening. Rather, they assume a worst-case scenario of having a direct line of site on flat terrain.
 Source: FirstCarbon Solutions (FCS) 2022.

The modeling results in Table 6 show that traffic noise levels along the modeled roadway segment of East Sir Francis Drake Boulevard, adjacent to the project site, range up to 67.6 dBA L_{dn} under Existing traffic conditions as measured at 50 feet from the centerline of the outermost travel lane. However, the nearest proposed building façade would be located over 130 feet from the centerline of the nearest travel lane of East Sir Francis Drake Boulevard. At this distance, these existing traffic noise levels would attenuate to below 60 dBA L_{dn} .

These traffic noise levels are below the State’s exterior noise standard of 60 dBA L_{dn} for new multi-family residential land use development. In addition, construction of the proposed residences would be in compliance with current building code requirements, which would provide a minimum 25 dBA in exterior-to-interior noise reduction with windows closed. Therefore, these existing noise levels would be reduced to below the State interior Noise Insulation Standard of 45 dBA L_{dn} (60 dBA – 25 dBA = 35 dBA). Therefore, traffic noise level impacts to the proposed project would not conflict with State Noise Insulation Standards.

Therefore, implementation of the proposed project would not result in a conflict with applicable noise land use compatibility standards and would result in no impact.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Substantial Noise Increase in Excess of Standards

Impact NOI-2: **The proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of applicable standards of other agencies.**

Construction

A significant impact would occur if project-related, noise producing construction activities would generate a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of established standards.

This analysis evaluates whether construction noise impacts to whether the project would generate noise that would cause a substantial increase in excess of the State Noise Insulation Standard's interior noise level standard of 45 dBA L_{dn} , as measured in any habitable room with doors and windows closed within any neighboring sensitive receptors. If the standard is exceeded, then the project would generate a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of established standards.

Construction-related Traffic Noise

Noise impacts from construction activities associated with the project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities.

One type of short-term noise impact that could occur during project construction would result from the increase in traffic flow on local streets, associated with the transport of workers, equipment, and materials to and from the project site. The transport of workers and construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the site. Because workers and construction equipment would use existing routes, noise from passing trucks would be similar to existing vehicle-generated noise on these local roadways. For an increase in traffic noise to be substantial, it would need to be perceptible to the human ear in outdoor environments. Typically, a doubling of the ADT hourly volumes on a roadway segment is required in order to result in an increase of 3 dBA in traffic noise levels, which, as discussed in the characteristics of noise discussion above, is the lowest change that can be perceptible to the human ear in outdoor environments. Project-related construction trips would not be expected to double the hourly or daily traffic volumes along any roadway segment in the project vicinity. For this reason, short-term intermittent noise from construction trips would not be expected to result in a perceptible increase in hourly- or daily average traffic noise levels in the project vicinity. Therefore, short-term construction-related noise impacts associated with the transportation of workers and equipment to the project site will not cause a perceptible increase in daily traffic noise levels along any roadway segment in the project vicinity, and construction-related traffic noise would be less than significant.

Construction Equipment Operational Noise

The second type of short-term noise impact is related to noise generated during construction on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 2 lists typical construction equipment noise levels, based on a distance of 50 feet between the equipment and a noise receptor. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. Impact equipment such as pile drivers are not expected to be used during construction of this project.

The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery and compacting equipment, such as bulldozers, draglines, backhoes, front loaders, roller compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the project is expected to require the use of scrapers, bulldozers, water trucks, haul trucks, and pickup trucks. Based on the information provided in Table 3.11-2, the maximum noise level generated by each scraper is assumed to be 85 dBA L_{max} at 50 feet from this equipment. Each bulldozer would also generate 85 dBA L_{max} at 50 feet. The maximum noise level generated by graders is approximately 85 dBA L_{max} at 50 feet. A characteristic of sound is that each doubling of sound sources with equal strength increases a sound level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, a reasonable worst-case combined noise level during this phase of construction would be 90 dBA L_{max} at a distance of 50 feet from the acoustic center of a construction area. This would result in a reasonable worst-case hourly average of 86 dBA L_{eq} . The acoustic center reference is used, because construction equipment must operate at some distance from one another on a project site, and the combined noise level as measured at a point equidistant from the sources would (acoustic center) be the worst-case maximum noise level. The effect on sensitive receptors is evaluated below.

The nearest off-site sensitive receptor to the project construction footprint where multiple pieces of heavy construction equipment could operate simultaneously is the single-family residence, located west of the project at the end of Drakes Cove Court. The façade of this closest receptor would be located approximately 170 feet from the acoustic center of construction activity where multiple pieces of heavy construction equipment would operate simultaneously during construction of the project. At this distance and assuming minimal shielding from terrain features, relative worst-case maximum construction noise levels would attenuate to below 71 dBA L_{max} , with relative worst-case hourly average construction noise levels attenuating to below 68 dBA L_{eq} at this receptor. The calculation spreadsheet is included in Appendix H.

Project on-site construction activity will only occur from 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 5:00 p.m. on Saturdays. Based on compliance with these hours of construction, reasonable worst-case construction noise levels would result in a daily average noise level of less than 63 dBA L_{dn} , as measured at the nearest sensitive receptor. The calculation sheet is provided in Appendix H. Based on the United States Environmental Protection Agency (EPA) Protective Noise Levels, with a combination of walls, doors, and windows, standard construction in accordance with Title 24 Uniform Building Code (UBC) requirements for residential developments in Northern California provide a minimum of 25 dBA in exterior-to-interior noise reduction with windows closed.⁶ Therefore, project construction noise levels for any habitable room with doors and windows closed would not exceed the State interior Noise Insulation Standard of 45 dBA L_{dn} (63 dBA – 25 dBA = 38 dBA).

Therefore, the calculated reasonable worst-case construction noise levels would not result in a substantial temporary increase in ambient noise levels in excess of standards established in the State's Noise Insulation Standard. Therefore, temporary construction noise impacts would be less than significant.

Operation

Mobile Source Operational Noise Impacts

A significant impact would occur if implementation of the proposed project would result in a substantial increase in traffic noise levels compared with traffic noise levels existing without the project. For an increase in traffic noise to be substantial, it would need to be perceptible to the human ear in outdoor environments. An increase of 3 dBA is the lowest change that can be perceptible to the human ear in outdoor environments. Therefore, the proposed project will not have a significant impact if it does not increase traffic noise by greater than 3 dBA.

Traffic noise levels along selected roadway segments in the project vicinity were modeled using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108). Site-specific information is entered, such as roadway traffic volumes, roadway active width, source-to-receiver distances, travel speed, noise source and receiver heights, and the percentages of automobiles, medium trucks, and heavy trucks that the traffic is made up of throughout the day, among other variables. The daily traffic volumes were obtained from the traffic analysis prepared for the project by W-Trans.⁷ The traffic volumes described here, which correspond to the traffic scenarios analyzed in the traffic study, include the existing, existing plus project, opening year no project, and opening year plus project conditions. The model inputs and outputs—including the 60 dBA, 65 dBA, and 70 dBA L_{dn} noise contour distances—are provided in Appendix H of this document. Table 3.11-6 shows the traffic noise levels as measured at 50 feet from the centerline of the outermost travel lane.

⁶ United States Environmental Protection Agency (EPA). 1978. Protective Noise Levels. Website: https://openlibrary.org/books/OL17648503M/Protective_noise_levels. Accessed September 29, 2022.

⁷ W-Trans, 2022. Traffic Impact Study for the Oak Hill Apartments Project. July 6.

Table 3.11-6: Traffic Noise Increase Summary

Roadway Segment	Existing (dBA) Ldn	Existing Plus Project (dBA) Ldn	Increase over Existing (dBA)
East Sir Francis Drake Boulevard—Anderson Drive to Proposed Site Access	67.6	67.6	0.0
East Sir Francis Drake Boulevard—Proposed Site Access to Drakes Cove Road	67.0	67.2	0.2
East Sir Francis Drake Boulevard—Drakes Cove Road to Larkspur Landing Circle	66.1	66.2	0.1

Notes:
dBA = A-weighted decibel
L_{dn} = day/night average sound level
¹ Modeling results do not take into account mitigating features such as topography, vegetative screening, fencing, building design, or structure screening. Rather, they assume a worst-case scenario of having a direct line of site on flat terrain.
Source: FirstCarbon Solutions (FCS) 2022.

As shown in Table 3.11-6, implementation of the project would result in a 0.2 decibel increase in traffic noise levels on roadway segments adjacent to the project site where the highest concentration of project trips would occur. Therefore, implementation of the proposed project would not result in a substantial increase in traffic noise levels compared with traffic noise levels existing without the project, and this impact would be less than significant.

Stationary Operational Noise Impacts

A significant impact would occur if operational noise levels generated by stationary noise sources at development projects result in substantial increase in noise in exceedance of the State Noise Insulation Standard’s interior noise level standard of 45 dBA L_{dn} for any habitable room with doors and windows closed within any neighboring sensitive receptors. If the standard is exceeded, then the project would generate a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of established standards.

The only new stationary noise source associated with implementation of the project would be new mechanical ventilation system equipment operations. These would be potential point sources of noise that could affect noise-sensitive receptors in the project vicinity.

Mechanical Equipment Operations

At the time of preparation of this analysis, details were not available pertaining to proposed mechanical ventilation systems for the project. Therefore, a reference noise level for typical residential mechanical ventilation systems was used. Noise levels from commercial grade residential mechanical ventilation equipment are sound rated from 50 dBA to 60 dBA L_{eq} as measured at approximately 25 feet from the operating unit.

Mechanical ventilation systems could be located as close as 180 feet from the nearest off-site residential receptor property line. At this distance, noise generated by mechanical ventilation

equipment would attenuate to below 43 dBA L_{eq} at the nearest residential property line, which is well below the daytime average noise levels of 52.3 dBA L_{eq} , and nighttime average noise levels of 47.3 dBA L_{eq} that were documented on the project site by the ambient noise measurements. When averaging over 24-hours, these operational noise levels would result in noise levels of 50 dBA L_{dn} .

Based on EPA Protective Noise Levels, with a combination of walls, doors, and windows, standard construction in accordance with Title 24 UBC requirements for residential developments in Northern California provide a minimum of 25 dBA in exterior-to-interior noise reduction with windows closed. Therefore, project construction noise levels for any habitable room with doors and windows closed would not exceed the County's State interior Noise Insulation Standard noise level standard of 45 dBA L_{dn} (50 dBA – 25 dBA = 25 dBA). Therefore, noise levels from proposed mechanical ventilation equipment operations would not exceed existing background noise levels nor generate a substantial temporary or permanent increase in ambient noise levels in the project vicinity in excess of the State's established interior Noise Insulation Standard, and the impact would be less than significant.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

None required.

Groundborne Vibration/Noise Levels

Impact NOI-3: The proposed project would not result in generation of excessive groundborne vibration or groundborne noise levels.

This section analyzes both construction and operational groundborne vibration and noise impacts. Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. Groundborne noise is generated when vibrating building components radiate sound, or noise generated by groundborne vibration. In general, if groundborne vibration levels do not exceed levels considered to be perceptible, then groundborne noise levels would not be perceptible in most interior environments. Therefore, this analysis focuses on determining exceedances of groundborne vibration levels.

A significant impact would occur if the project would generate groundborne vibration or groundborne noise levels in excess of established standards. For the purposes of this analysis, the FTA's vibration impact criteria are utilized. The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment Manual⁸ and are summarized in Table 3.11-4.

Construction

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. The operation of construction equipment causes ground vibrations that spread

⁸ Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September.

through the ground and diminish in strength with distance. Buildings in the vicinity of a construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels, to slight damage at the highest levels. As shown in Section 3.11.2, Environmental Setting above, Table 3.11-3 provides approximate vibration levels for particular construction activities.

Of the variety of equipment used during construction, the large vibratory rollers that are anticipated to be used in the site preparation phase of construction would produce the greatest groundborne vibration levels. Large vibratory rollers produce groundborne vibration levels ranging up to 0.201 inch per second (in/sec) PPV at 25 feet from the operating equipment.

The nearest off-site structure to the project construction footprint is the single-family residence located across Drakes Cove Road from where construction for the project's alternate entrance would occur. The façade of this closest structure would be located approximately 60 feet from the proposed project site where heavy construction equipment would potentially operate. In addition, this structure is elevated more than 6-feet above the grade where construction would occur. At this distance and due to the change in grade elevation, groundborne vibration levels would attenuate to below 0.05 PPV from operation of the types of equipment that would produce the highest vibration levels. This is well below the FTA's Construction Vibration Impact Criteria of 0.2 PPV for this type of structure – non-engineered timber and masonry buildings. Therefore, project construction activities would not generate groundborne vibration or groundborne noise levels in excess of established standards and the impact of short-term groundborne vibration associated with construction to off-site receptors would be less than significant.

Operation

Implementation of the project would not include any new permanent sources that would expose persons in the project vicinity to groundborne vibration levels that could be perceptible without instruments at any existing sensitive land use in the project vicinity. Additionally, there are no active sources of groundborne vibration in the project vicinity that would produce vibration levels that would be perceptible without instruments within the project site. Therefore, the project would not generate groundborne vibration or groundborne noise levels in excess of established standards and there would be no impact related to operational groundborne vibration.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.

Excessive Noise Levels from Airport Activity

Impact NOI-4: **The proposed project would not expose people residing or working in the project area to excessive noise levels for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.**

Impact Analysis

A significant impact would occur if the proposed project would expose people residing or working in the project area to excessive noise levels for a project located 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.

The nearest public airport to the project site is the Oakland International Airport, located approximately 20 miles southeast of the project site. At this distance, the project site lies outside of the 60 dBA CNEL noise contours of the airport. While aircraft noise is occasionally audible on the project site from aircraft flyovers, aircraft noise associated with nearby airport activity would not expose people residing or working near the project site to excessive noise levels. Therefore, implementation of the project would not expose persons residing or working in the project vicinity to noise levels from airport activity that would be in excess of normally acceptable standards for the proposed land use development, and no impact would occur.

Level of Significance Before Mitigation

No impact.

Mitigation Measures

None required.



Source: Thomson Dorfman + Eden Housing, W-Trans, 10/12.



Exhibit 3.11-1
3.11-1 Noise Monitoring Locations

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3.12 - Transportation

3.12.1 - Introduction

This section describes existing conditions related to transportation facilities in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts relative to transportation that could result from implementation of the Oak Hill Apartments project (proposed project). Information in this section is based, in part, on the project-specific Transportation Impact Study (TIS) prepared by W-Trans, dated December 8, 2022 (included as Appendix I), and on a review of applicable transportation policies and regulation, including the City of Larkspur 2040 General Plan, City of San Rafael General Plan 2040, Marin Countywide Plan, Marin County Unincorporated Area Bicycle and Pedestrian Master Plan, Technical Advisory on Evaluating Transportation Impacts in the California Environmental Quality Act (CEQA), 2015 and 2040 Transportation Authority of Marin Demand Model (TAMDM) Marin County Vehicle Miles Traveled (VMT) Estimates, California Fire Code 2019, City of San Rafael Transportation Impact Analysis Guidelines, and Count and Density of Work Locations for All Jobs in Home Selection Area in 2018.

During the Draft Environmental Impact Report (Draft EIR) scoping period, 18 comments were received related to transportation. A summary of these comments is provided below:

- The Draft EIR should evaluate the proposed project’s consistency with the County of Sonoma General Plan, including the applicable General Plan policies. (Please note that the County of Sonoma was sent the proposed project’s Notice of Preparation [NOP] as it neighbors County of Marin; however, the proposed project is not located in the County of Sonoma. The County of Sonoma’s General Plan is not applicable to the proposed project.)
- The Draft EIR should evaluate the proposed project’s temporary and construction impacts on California Department of Corrections and Rehabilitation (CDCR) staff, the CDCR’s contract providers, and vendors that use Sir Francis Drake Boulevard to San Quentin Prison.
- The Draft EIR should discuss the benefits of a traffic light at the intersection of Sir Francis Drake Boulevard and entrance/exit to the project site.
- The Draft EIR should evaluate the impacts of either widening Sir Francis Drake Boulevard or implementation of an exclusive left-turn lane from the southeast-bound lane and a right-turn lane from the opposite direction.
- The Draft EIR should discuss the benefits of including bicycle storage and/or parking.
- The Draft EIR should evaluate the impacts of increased traffic on Sir Francis Drake Boulevard.
- The Draft EIR should evaluate the impacts related to project improvements to the surrounding roadways, intersections, and pedestrian safety, including the inclusion of a stoplight and a crosswalk.
- The Draft EIR should evaluate the impacts related to the proposed project’s location as it relates to the existing, surrounding traffic congestion and related to pedestrian, bicycle, and vehicular safety (two duplicate comments made on this topic).

- The Draft EIR should evaluate the impacts related the proposed project’s distance from accessible public transit.
- The Draft EIR should evaluate cumulative impacts related to traffic, pollution, and water resources.
- The Draft EIR should evaluate traffic congestion as a result of the proposed project and the legitimacy of traffic studies conducted during the COVID-19 pandemic.
- The Draft EIR should evaluate impacts related vehicle access to the project site and evaluate alternative access points to the proposed project.
- The Draft EIR should evaluate the impacts the proposed project’s internal roads would have on traffic congestion on Sir Francis Drake Boulevard (three duplicate comments made on this topic).
- The Draft EIR should evaluate the proposed project’s walkability.
- The Draft EIR should evaluate the benefits of providing separate entry and exit access points to the project site from Sir Francis Drake Boulevard with signals.
- The Draft EIR should evaluate impacts related to congestion generated by internal roads.
- The Draft EIR should evaluate the feasibility of providing public transit, including shuttles, for the proposed project’s residents.
- Request to evaluate the proposed project’s impacts on regional traffic via the Richmond Bridge and US-101.

3.12.2 - Environmental Setting

The proposed project site is situated between Interstate 580 (I-580) and US-101, which provide regional automobile access between Marin County (County) and the surrounding Bay Area. The Larkspur Ferry Terminal is located along East Sir Francis Drake Boulevard approximately 0.5 miles west of the project site. Passenger rail service is provided by the Sonoma-Marín Area Rail Transit (SMART). The Larkspur SMART station is located approximately 0.8 miles from the project site. A multiuse path along the southern side of East Sir Francis Drake Boulevard provides access for bicyclists and pedestrians in the project area. The Existing Conditions scenario was based on traffic counts collected in July 2021 and observations from a site visit conducted in September 2021.

3.12.3 - Existing Conditions

Roadway Facilities

Arterials

Sir Francis Drake Boulevard

Sir Francis Drake Boulevard is an east–west arterial running between the Point Reyes Peninsula and I-580 just west of the Richmond-San Rafael Bridge. The roadway has one lane of travel in each direction east of Larkspur Landing Circle (East) and two lanes in each direction to the west of the intersection. In the project area, the roadway has a posted speed limit of 35 miles per hour (mph).

Andersen Drive

Andersen Drive is an arterial roadway that intersects the junction of East Sir Francis Drake Boulevard and I-580 and connects to Downtown San Rafael at its northern terminus. The roadway typically has one lane in each direction and a two-way left-turn lane along some segments.

Collector

Larkspur Landing Circle

Larkspur Landing Circle is a two-lane collector roadway that connects traffic between East Sir Francis Drake Boulevard and various commercial uses, residences, and the Larkspur SMART station.

Local Road

Drakes Cove Road

Drakes Cove Road is a private, local street that serves single-family residences in the “Drake’s Cove” housing development.

Study Area

The study area consists of the proposed project access in addition to three existing intersections that were identified as having the potential to be impacted by project traffic. These intersections are listed below and shown in Exhibit 3.12-1 along with existing lane configurations and controls. The study area also includes existing pedestrian and bicycle facilities lying along major routes of travel in the vicinity of the project site.

1. East Sir Francis Drake Boulevard/Larkspur Landing Circle (East)
2. East Sir Francis Drake Boulevard/Drakes Cove Road
3. East Sir Francis Drake Boulevard/Project Access
4. East Sir Francis Drake Boulevard/Andersen Drive

Project Site

The proposed project would be located in an unincorporated area of the County on a site that currently houses a few sanitary sewer facilities but is otherwise vacant. The site is located north and west of East Sir Francis Drake Boulevard, east of Drakes Cove Road, and south of Andersen Drive. The project site would occupy a total of 8.3 acres with a building footprint of approximately 2.5 acres.

Study Area

Traffic Counts

The Existing Conditions scenario provides an evaluation of the current operation of existing transportation facilities based on existing traffic volumes during the AM and PM peak periods. This condition does not include project-generated traffic volumes. Volume data was collected in July 2021 and is shown on Exhibit 3.12-2

Consideration was given to the effects of the COVID-19 pandemic on travel patterns, and therefore daily traffic volumes available from the California Department of Transportation (Caltrans) for the I-580 ramps to and from East Sir Francis Drake Boulevard were reviewed. These volumes indicate an Average Daily Traffic (ADT) volume of approximately 25,600 vehicles using the ramps on a typical

weekday in June 2019 compared to an ADT of 28,200 daily vehicles in June 2021. A 24-hour machine count on East Sir Francis Drake Boulevard in July 2021 recorded 28,153 vehicles. As these more recent volumes indicate an increase in traffic since 2019, it can be concluded that the traffic counts collected in July 2021 sufficiently represent typical traffic patterns in the study area despite the effects of the pandemic.

Queueing

Study Area

For the project analysis, projected maximum queues in left-turn pockets at the study intersections were determined using the SIMTRAFFIC application of Synchro and averaging the maximum projected queue for each of 10 runs. Summarized in Table 3.12-1 are the predicted queue lengths for the left-turn lanes. Copies of the SIMTRAFFIC projections are contained in Appendix I.

Table 3.12-1: Maximum Left-Turn Queues (Existing)

Study Intersection Movement	Available Storage	Maximum Queue	
		AM Peak-hour	PM Peak-hour
1. East Sir Francis Drake Boulevard/Larkspur Landing Circle <i>Eastbound Left-Turn</i>	170	66	76
2. East Sir Francis Drake Boulevard/Drakes Cove Road <i>Eastbound Left-Turn</i>	150	13	19
3. East Sir Francis Drake Boulevard/Project Access <i>Eastbound Left-Turn</i>	–	–	–
4. East Sir Francis Drake Boulevard/Andersen Drive <i>Eastbound Left-Turn</i>	170	115	45

Notes:
Maximum queue is based on the average of the maximum value from 10 SIMTRAFFIC runs; all distances are in feet; a dash indicates a movement where no left turns were assigned and therefore queue length was not reported.

Existing Public Transit Service and Facilities

Regional and local fixed-route bus transit service is provided by the County of Marin through Marin Transit, the Golden Gate Bridge, Highway and Transportation District through the Larkspur Ferry, and SMART. These services connect to locations from the Mark West community north of Santa Rosa to San Francisco. Transit stations in the area provide a connection between local and regional transit services and the project site as summarized in Table 3.12-2. It is noted that service frequencies have been modified in response to the COVID-19 pandemic, but overall routes and stop locations have remained consistent with pre-pandemic conditions.

Table 3.12-2: Transit Routes

Agency Route	Distance to Stop ¹ (mile)	Service			Connections
		Days of Operation	Times	Frequency	
Marin Transit					
Route 17	0.5	Weekday Weekends	9:00 p.m.–10:30 p.m. 8:00 p.m.–11:00 p.m.	20–60 min 60 min	San Rafael, Larkspur Landing, Strawberry, Mill Valley, Sausalito
Route 29	0.5	Weekdays	6:45 a.m.–9:00 a.m. 2:45 p.m.–6:30 p.m.	60 min	San Rafael, Larkspur Landing, Marin Health Medical Center, College of Marin
Route 228	0.5	Weekday Weekends	6:30 a.m.–8:30 p.m. 6:45 a.m.–7:30 p.m.	60 min 60 min	San Rafael, Larkspur Landing, College of Marin, Fairfax
Golden Gate Bridge, Highway and Transportation District					
Larkspur Ferry	0.5	Weekday Weekends	6:30 a.m. –6:00 p.m. 8:30 a.m. –9:00 p.m.	0.75–3.5 hours 1–4 hours	San Francisco
Sonoma-Marín Area Rail Transit (SMART) District					
SMART	0.8	Weekday Weekends	6:00 a.m. –11:40 p.m. 9:00 a.m. –9:00 p.m.	0.5-3.5 hours 2 hours	Larkspur to Sonoma County Airport
Notes:					
¹ Defined as the straight-line distance between the project site and the nearest transit stop.					

The nearest bus stop for Marin Transit Routes 17 and 228 is at Larkspur Landing Circle/Lincoln Village Circle. The nearest bus stop for Route 29 is at East Sir Francis Drake Boulevard/Larkspur Landing Circle. Ferry service is provided at the Larkspur Ferry Terminal and passenger rail service from the Larkspur SMART station.

Two bicycles can use the rack on the front of most Marin Transit buses, 30 to 100 folding bikes and non-electric bikes may be brought aboard the Larkspur Ferry depending on the ship class, and 24 bicycles can be brought onto each two-car SMART train. For all transit services, bicycle storage is on a first come, first served basis.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Marin Transit offers a dial-a-ride service designed to serve the needs of individuals with disabilities within the project area and Marin County overall.

Bicycle Facilities

The Highway Design Manual¹ classifies bikeways into four categories:

- Class I Multiuse Path—a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- Class II Bike Lane—a striped and signed lane for one-way bike travel on a street or highway.
- Class III Bike Route—signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- Class IV Bikeway—also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, there is a Class I multiuse path on the south side East Sir Francis Drake Boulevard, Class II bike lanes on Andersen Drive, and a Class II bike lane on the south side of the East Sir Francis Drake Boulevard ramps with I-580 with a Class IV bikeway on the north side that connects to Francisco Boulevard East. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Table 3.12-3 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the Marin County Unincorporated Area Bicycle and Pedestrian Master Plan, County of Marin, 2018.

Table 3.12-3: Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
East Sir Francis Drake Boulevard	I	0.71	Drakes Cove Road	Cal Park Hill Pathway
Cal Park Hill Pathway	I	1.30	Andersen Drive	East Sir Francis Drake Boulevard
Larkspur Ferry Terminal	I	0.50	East Sir Francis Drake Boulevard	East Sir Francis Drake Boulevard
Andersen Drive	II	2.40	Lindaro Street	East Sir Francis Drake Boulevard
Freeway Legal Route	II	0.80	Andersen Drive	Main Street
Larkspur Landing Circle	III	0.60	East Sir Francis Drake Boulevard	East Sir Francis Drake Boulevard
I-580 Overpass	IV	0.20	Andersen Drive	Francisco Boulevard Est
Proposed				
East Sir Francis Drake Boulevard	I/II	0.64	Drakes Cove Road	Andersen Drive

¹ California Department of Transportation (Caltrans). 2017. The Highway Design Manual. Accessed September 27, 2022.

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, there is an existing but discontinuous network of sidewalks, crosswalks, pedestrian signals, and curb ramps providing access for pedestrians in the vicinity of the proposed project site. Sidewalk gaps, obstacles, and barriers can be found along East Sir Francis Drake Boulevard connecting to the project site. For example, sidewalks along East Sir Francis Drake Boulevard only exist intermittently on the north side of the boulevard west of Drakes Cove Road, and there are no sidewalks east of Drakes Cove Road on either side of the boulevard. In addition, there are no crosswalks at East Sir Francis Drake Boulevard/Drakes Cove Road. Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points.

3.12.4 - Regulatory Framework

Federal

Applicable federal regulations pertaining to transportation are addressed in other sections of this Draft Program EIR, including Air Quality, Greenhouse Gas Emissions, and Hazardous Materials.

The federal Clean Air Act, the Infrastructure Investment and Jobs Act (IIJA), and Americans with Disabilities Act (ADA) may have some relevance or influence for individual projects or actions as part of subsequent implementation of the proposed project.

State

California Department of Transportation

The California Department of Transportation (Caltrans) builds, operates, and maintains the State highway system, including the interstate highway system. Caltrans mission is to improve mobility Statewide. Caltrans operates under strategic goals to provide a safe transportation system, optimize throughput, and ensure reliable travel times, improve the delivery of State highway projects, provide transportation choices, and improve and enhance the State's investments and resources. Caltrans controls the planning of the State highway system and accessibility to the system. Caltrans does not have a standard of significance relative to traffic operation as this is no longer a CEQA issue. The new *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* (TISG), published in May 2020, replaced the *Guide for the Preparation of Traffic Impact Studies*, 2002. As indicated in the TISG, the Department is transitioning away from requesting Level of Service (LOS) or other vehicle operations analyses of land use projects and will instead focus on VMT. Caltrans requires encroachment permits from agencies or new development before any construction work may be undertaken within the State's right-of-way.

Caltrans facilities in Marin County include US-101 and its interchanges, I-580 and its interchanges, State Route (SR) 37, and SR-1.

Senate Bill 375

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008 (Chapter 728, Statutes of 2008), provides guidance regarding curbing emissions from cars and light trucks. There are four major components to SB 375. First, SB 375 requires regional greenhouse gas (GHG) emissions reduction targets. These targets must be updated every 8 years in conjunction with the revision of the housing and transportation elements of local general plans. Second, Metropolitan Planning Organizations (MPOs) are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. Third, SB 375 requires regional housing elements and transportation plans to be synchronized on an 8-year schedule. Finally, MPOs must use transportation and air emissions modeling techniques that are consistent with the guidelines prepared by the California Transportation Commission (CTC).

Under SB 375, some development and transportation projects assumed as a part of the proposed project may be eligible to use a streamlined version of the environmental review process. Among other criteria, these projects must be consistent with the land use designation, density, intensity, and policies of Plan Bay Area 2050 and fall within the identified criteria for development and transportation projects.

California Complete Streets Act of 2008

Assembly Bill 1358, also known as the California Complete Streets Act of 2008, requires cities and counties to include “complete street” policies in their general plans. These policies address the safe accommodation of all users, including bicyclists, pedestrians, motorists, public transit vehicles and riders, children, the elderly, and the disabled. These policies can apply to new streets as well as the redesign of corridors.

Senate Bill 743

In September 2013, the Governor’s Office signed SB 743 into law. The mandate of SB 743 was to devise an alternative traffic impact evaluation criterion that would promote the reduction of GHG emissions as well as foster the development of multimodal transportation networks and a diversity of land uses. Public Resources Code Section 21099, enacted by SB 743, is to limit the use of LOS standards in CEQA analysis and to promote the use of standards that place greater focus on implementing the State’s goals of reducing GHG emissions, promoting transit, and increasing infill development.

SB 743 further suggested that a measurement such as VMT would be an appropriate method to evaluate traffic impacts (State CEQA Guidelines § 15064.3). VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMTs are calculated based on individual vehicle trips generated and their associated trip lengths. One vehicle traveling one mile constitutes one vehicle mile, regardless of its size, fuel type, or the number of passengers. VMT is a term used throughout this Draft EIR and refers to the number of VMT within the City or region (or other specified geographic area) during a typical weekday, and for residential uses, includes VMT for all trip types (commute, shopping, social/recreational, and school). In transportation analyses for residential uses, VMT is typically expressed as a home-based VMT per capita performance metric. The justification for the paradigm shift from LOS to VMT is that

automobile delay and LOS impacts may lead to improvements that increase roadway capacity and therefore sometimes induce more traffic and GHG emissions as a result. In contrast, constructing projects in VMT-efficient locations assists California in meeting GHG emissions targets.

In December 2018, the California Natural Resources Agency (CNRA) certified and adopted the CEQA Guidelines update, including a new Guidelines section implementing SB 743 (State CEQA Guidelines § 15064.3). In implementing Public Resources Code Section 21099, State CEQA Guideline Section 15064.3 provides that VMT is generally "the most appropriate measure of transportation impacts," and that except for roadway capacity projects, a project's effect on traffic delays "shall not constitute a significant environmental impact." (14 California Code of Regulations [CCR] § 15064.3(a)).

Accordingly, as of July 1, 2020, under the statute and the Guidelines, localities are required to rely on VMT instead of traffic delay as the primary metric for evaluating transportation impacts in CEQA documents. The existence of automobile delay impacts, or the adequacy of an LOS analysis, is not a basis under CEQA for challenging an EIR (*Citizens for Positive Growth & Preservation v. City of Sacramento* (2019) 43 CA5th 609, 624).

For land use projects, SB 743 provides applicants the ability to streamline transportation analysis under CEQA for qualifying urban infill development near major transit stops in metropolitan regions throughout the State. The legislation established a new CEQA exemption for a residential, mixed-use, or employment center project if it is: (1) proposed in a transit priority area, or TPA (i.e., an area within one-half mile of a major transit stop that is existing or planned); (2) consistent with a specific plan for which an EIR was certified, and (3) consistent with the use, intensity, and policies of an SCS or Alternative Planning Strategy (APS) that is certified by the California Air Resources Board (ARB) as meeting its greenhouse gas reduction targets. In addition, SB 743 establishes that parking impacts of these projects are not considered significant impacts on the environment.

Senate Bill 226

CEQA Streamlining for Infill Projects (SB 226) sets forth a streamlined review process for infill projects and includes performance standards that will be used to determine an infill project's eligibility for streamlined review. The purpose of SB 226 and updated CEQA Guideline Section 15183.3 is to streamline the environmental review process by "limiting the topics subject to review at the project level where the effects of infill development have been addressed in a planning level decision or by uniformly applicable development policies." Residential, commercial and retail, public office buildings, transit stations, and schools are eligible for this streamlining provided if they: (1) are located in an urban area on a site that has been previously developed or adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; (2) satisfy the performance standards provided in Appendix M [of CEQA]; and (3) are consistent with the general land use designation, density, building intensity, and applicable policies specified for the project area in either an SCS or an APS, with some exceptions.

Under SB 226, some development and transportation projects assumed as a part of the proposed project may be eligible to use a streamlined version of the environmental review process. Among other criteria, these projects must be consistent with the land use designation, density, intensity, and

policies of Plan Bay Area, and fall within the identified criteria for development and transportation projects.

Evacuation Routes Assembly Bill 747

Assembly Bill 747 requires local governments, on or after January 1, 2022, to review and update their safety element to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. A county or city that has adopted a local hazard mitigation plan, emergency operations plan, or other document that fulfills commensurate goals and objectives may use that information in the safety element to comply with this section and, in that event, shall summarize and incorporate into the safety element that other plan or document.

Residential Emergency Evacuation Routes Senate Bill 99

SB 99 requires all cities and counties, upon the next revision of the housing element on or after January 1, 2020, to update the safety element to include information identifying residential developments in any hazard area identified in the safety element that do not have at least two emergency evacuation routes.

California Bicycle Transportation Act

The California Bicycle Transportation Act (1994) requires all cities and counties to have an adopted bicycle master plan to apply for the Bicycle Transportation Account funding source. Marin County adopted its Bicycle and Pedestrian Master Plan in 2018.

Regional

Metropolitan Transportation Commission

The regional transportation planning agency and MPO for the nine-county Bay Area is the Metropolitan Transportation Commission (MTC). MTC is the authorized clearinghouse for State and federal transportation improvement funds. Each county's Congestion Management Agency (CMA) sends a capital improvement project list to MTC. MTC reviews the lists submitted by all nine Bay Area counties and submits a regional priority list to the CTC and/or the Federal Highway Administration (FHWA) for selection of projects to receive funding. Funded projects are then included in the Regional Transportation Plan (RTP) prepared by MTC.

Plan Bay Area 2050: A Vision for the Future

Plan Bay Area is the Bay Area's RTP/SCS. Plan Bay Area 2050, adopted jointly by the Association of Bay Area Governments (ABAG) and MTC on October 21, 2021, is the current version of the plan. Defined by 35 strategies for housing, transportation, economic vitality and the environment, Plan Bay Area 2050 lays out a \$1.4 trillion vision for policies and investments to make the nine-county region more affordable, connected, diverse, healthy, and economically vibrant for all its residents through 2050 and beyond. The transportation strategies in Plan Bay Area 2050 fall into three categories:

1. Maintain and Optimize the Existing System
2. Create Healthy and Safe Streets
3. Build a Next-Generation Transit System

California Department of General Services

Project Management and Development Branch

The Project Management and Development Branch (PMDB) provides architectural and engineering services; space planning and interior design; construction and construction inspection services; and energy and environmental services. PMDB would review the proposed project for compliance with the California Building Code.

3.12.5 - Methodology

The project site is owned by the State of California and the proposed project would develop the property for State use. As such the project is not required to conform to existing local land use regulation under the principles of State Sovereignty. The potential for impacts on roadway safety in terms of increased queueing and need for signalization was evaluated with project traffic added to existing conditions.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in Trip Generation Manual, 10th Edition, 2017 for “Multifamily Housing (Mid-Rise).”² The proposed project is expected to generate an average of 1,360 trips per day, including 90 trips during the AM peak-hour and 110 during the PM peak-hour; these new trips represent the increase in traffic associated with the project compared to existing volumes. The expected trip generation potential for the proposed project is indicated in Table 3.12-4.

Table 3.12-4: Trip Generation Summary

Land Use	ITE LU Code	Dwelling Units	Weekday		AM Peak-hour				PM Peak-hour			
			Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Apartments	221	250	5.44	1,360	0.36	90	23	67	0.44	110	67	43

Notes:
 ITE = Institute of Transportation Engineers
 LU = Land Use
 Source: Institute of Transportation Engineers (ITE). Trip Generation Manual, 10th Edition. 2017.

Project Trip Distribution

The pattern used to allocate new project trips to the street network was based on data from the U.S. Census Bureau, the OnTheMap Application, and Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics for 2018 for home-to-work trips. The applied distribution assumptions and resulting trips are shown in Table 3.12-5. The anticipated project volumes as applied to each study intersection are shown in Exhibit 3.12-4.

² Institute of Transportation Engineers (ITE). 2017. Trip Generation Manual, 10th Edition. Accessed September 28, 2022.

Table 3.12-5: Trip Distribution Assumptions

Route	Percent	Daily Trips	AM Trips	PM Trips
East Sir Francis Drake Boulevard west of Larkspur Landing Circle	70%	952	64	78
East Sir Francis Drake Boulevard east of Andersen Drive	15%	204	13	16
Andersen Drive north of East Sir Francis Drake Boulevard	10%	136	9	11
Larkspur Landing Circle north of East Sir Francis Drake Boulevard	5%	68	4	5
TOTAL	100%	1,360	90	110

Left-Turn Lane Warrants

The need for a left-turn lane on East Sir Francis Drake Boulevard was evaluated based on criteria contained in the *Intersection Channelization Design Guide*, National Cooperative Highway Research Program (NCHRP) Report No. 279, Transportation Research Board, 1985, as well as an update of the methodology developed by the Washington State Department of Transportation and published in the *Method For Prioritizing Intersection Improvements*, January 1997. The NCHRP report references a methodology developed by M. D. Harmelink that includes equations that can be applied to expected or actual traffic volumes in order to determine the need for a left-turn pocket based on safety issues.

Right-Turn Lane Warrants

The need for a right-turn lane or taper was evaluated based on criteria contained in the *Intersection Channelization Design Guide*. A right-turn lane would consist of a lane installed to the right of the travel lane and would be a minimum of 10 feet wide, plus a shoulder where not adjacent to a curb. A right-turn taper is a shoulder area that gets progressively wider as the motorist drives toward the intersection. Both improvements are meant to provide an area for motorists turning right to move out of the traffic lane without impeding through traffic.

Using the same criteria contained in the *Intersection Channelization Design Guide*, the warrants were evaluated using Existing Plus Project volumes.

Traffic Signal Warrants

A signal warrant analysis was performed to determine potential need for a traffic signal at the project access on East Sir Francis Drake Boulevard. The warrant analysis was conducted assuming combination of the project access with Drakes Cove Road in order to provide a maximum reasonable side-street volume if internal connectivity were provided between the site and Drakes Cove Road.

Chapter 4C of the California Manual on Uniform Traffic Control Devices (CA-MUTCD) provides guidance on when a traffic signal should be considered. There are nine different warrants, or criteria, presented, as follows:

- Warrant 1, 8-hour Vehicular Volume

- Warrant 2, 4-hour Vehicular Volume
- Warrant 3, Peak-hour Volume
- Warrant 4, Pedestrian Volume
- Warrant 5, School Crossing
- Warrant 6, Coordinated Signal System
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network
- Warrant 9, Intersection Near a Grade Crossing

For the purposes of this study the Peak-hour Volume Warrant, which determines the need for traffic control based on the highest volume hour of the day, was used as an initial indication of traffic control needs. The use of this signal warrant is common practice for planning studies. Other warrants, which are more generally applicable to existing traffic issues, require collection of traffic volumes for the highest four or eight hours of the day, review of the collision history, and evaluation of the system surrounding the location.

Under the Peak-hour Volume Warrant the need for a traffic control signal may be indicated if an engineering study finds that the criteria in either of the following two categories are met:

- A. If all three of the following conditions exist for the same one hour (any four consecutive 15-minute periods) of an average day:
 1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: four vehicle-hours for a one-lane approach; or five vehicle-hours for a two-lane approach, and
 2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
 3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.
- B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 in Chapter 4C of the CA-MUTCD for the existing combination of approach lanes. If the intersection is within a built-up area of an isolated community with a population over 10,000 or the posted, statutory, or critical speed on the major street exceeds 40 mph, Figure 4C-4 in Chapter 4C of the CA-MUTCD may be used instead.

A key component of the Peak-hour Volume Warrant is the volume of traffic entering from the minor street, or in this case the project access combined with Drakes Cove Road. Condition A.2 requires 100 vehicles to enter from the minor street, and the figure for Condition B (Figure 4C-3 in Chapter 4C of the CA-MUTCD) requires lower minor street volumes with higher major street volumes, but the curve bottoms out at a minimum requirement of 100 minor street vehicles or 70 vehicles for Figure

4C-4 in Chapter 4C of the CA-MUTCD. As the critical speed on East Sir Francis Drake Boulevard was measured to be greater than 40 mph, the requirements of Figure 4C-4 in Chapter 4C of the CA-MUTCD apply.

3.12.6 - Thresholds of Significance

The lead agency utilizes the criteria in CEQA Guidelines Appendix G Environmental Checklist as thresholds to determine whether transportation and traffic impacts are significant environmental effects.

Appendix G to the CEQA Guidelines is a sample Initial Study Checklist that includes questions for determining whether impacts to resources are significant. These questions reflect the input of planning and environmental professionals at the Governor’s Office of Planning and Research (OPR) and the CNRA, based on input from stakeholder groups and experts in various other governmental agencies, nonprofits, and leading environmental consulting firms. Accordingly, the significance criteria are based on the questions posed in Appendix G. These significance criteria are as follows:

The proposed project would have a significant impact on the environment if the proposed project would:

- a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- d) Result in inadequate emergency access.

3.12.7 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Affect to Circulation System

Impact TRANS-1: The proposed project would not conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Impact Analysis

This analysis addresses the potential for pedestrian, bicycle, and transit impacts.

Pedestrian Facilities

Given the proximity of restaurants, retail, the SMART station, and the Larkspur Ferry Terminal to the west of the site, it is reasonable to assume that some project residents would want to walk or bicycle to reach these nearby amenities. Plan Bay Area 2050 Policy T.8 aims to build a complete street

network by enhancing streets to promote walking, biking, and other micro-mobility through sidewalk improvements and other complete street features and Policy T.9 aims to advance a regional Vision Zero policy through street design and reduced speeds.³ The nearest bus stop for Marin Transit Routes 17, 228 is at East Sir Francis Drake Boulevard and Larkspur Landing Circle (0.5 mile from the project site). Ferry service is provided at the Larkspur Ferry Terminal (approximately 0.5 mile from the project site).⁴ As such, there are several transit facilities within walking distance of the project site.

Internal Circulation and Project Frontage

As part of the proposed project, a traffic signal would be installed at East Sir Francis Drake Boulevard and the project's driveway and the eastbound acceleration lane, beginning at Drakes Cove Road, would be converted into the project site. The proposed project would include a network of internal walkways connecting the various on-site facilities, including a sidewalk parallel to the drive aisle connecting the apartment building to East Sir Francis Drake Boulevard.

East Sir Francis Drake Crossing

There is an existing multiuse trail along the south side of East Sir Francis Drake Boulevard that provides an existing connection to the amenities noted above. The proposed project would include construction of a crosswalk across East Sir Francis Drake Boulevard which would enable residents and visitors of the project to access this trail. Additionally, as discussed, a traffic signal would be installed at East Sir Francis Drake Boulevard the project's driveway to ensure safety of pedestrians using the crosswalk facilities. Copies of the pedestrian crossing warrant worksheets are provided in Appendix I.

In sum, the inclusion of a traffic signal would create a safer pedestrian environment and increased access to other transit facilities and commercial areas, in compliance with Policies T.8 and T.9 in the Plan Bay Area 2050. Therefore, impacts related to pedestrian facilities would be less than significant.

Bicycle Facilities

Policy T.8 in the Plan Bay Area 2050 aims to build a complete streets network by enhancing streets to promote biking through installation of bike lanes or multiuse paths. Existing bicycle facilities, including the multiuse trail along the south side of East Sir Francis Boulevard, provide adequate access for bicyclists to the west of the project site, and the proposed Class I multiuse path and Class II bike lanes proposed in the Marin County Unincorporated Area Bicycle and Pedestrian Master Plan would provide adequate access to the east. However, accessing the multiuse trail across East Sir Francis Boulevard from the project site would be challenging given the volumes on the roadway. However, the proposed installation of a pedestrian crossing and traffic signal would create an enhanced connection for bicyclists between the project site and trail, compliant with Policy T.8.

Bicycle Storage

Short-term bicycle parking spaces may be on a sidewalk or in place of vehicle parking spaces but must be within 100 feet of the main entrance to a building. Long-term bicycle parking is prescribed

³ Vision Zero is an internationally adopted framework that seeks to eliminate all traffic fatalities and severe injuries while increasing safe, healthy and equitable mobility for all.

⁴ W-Trans. 2021. Draft Traffic Impact Study for the Village at Oak Hill Project. July 6.

to be provided with direct, safe, convenient, and stair-free access to and from bicycling facilities. The proposed project would include approximately 30 short-term and 180 long-term parking spaces.

In sum, the provision of bicycle parking as well as additional access to bicycle lanes via a pedestrian crosswalk and traffic signal would encourage the use of bicycle facilities. Impacts would be less than significant.

Transit Facilities

Regional and local fixed-route bus transit service is provided by the County of Marin through Marin Transit, the Golden Gate Bridge, Highway and Transportation District through the Larkspur Ferry, and the SMART District. These services connect to locations from the Mark West community north of Santa Rosa to San Francisco. Transit stations in the area provide a connection between local and regional transit services and the project site as summarized in Table 3.12-3. It is noted that service frequencies have been modified in response to the COVID-19 pandemic, but overall routes and stop locations have remained consistent with pre-pandemic conditions.

As described previously, the nearest bus stop for Marin Transit Routes 17 and 228 is at East Sir Francis Drake Boulevard and Larkspur Landing Circle (0.5 mile from the project site). Ferry service is provided at the Larkspur Ferry Terminal (approximately 0.5 mile from the project site).⁵ As such, there are several transit facilities within walking distance of the project site. The project proposes to install a pedestrian crosswalk and traffic signal at its driveway allowing for its residents to access the multiuse path along the south side of Sir Francis Drake Boulevard, which provides access to the transit facilities listed above. The proposed project supports use of transit facilities for its residents by creating safer access to them, while impacts to transit facilities would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Conflict with CEQA Guidelines Section 15064.3, Subdivision (b)

Impact TRANS-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

Impact Analysis

Consideration was given to the project's potential generation of VMT, using guidance provided by the OPR.⁶ Guidance provided with respect to assessing VMT for residential projects is that a project's generation of VMT that is 15 or more percent below the existing regional residential VMT per capita may indicate a less than significant transportation impact. This premise was tested by obtaining data

⁵ W-Trans. 2021. Draft Traffic Impact Study for the Village at Oak Hill Project. July 6.

⁶ Governor's Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Website: https://opr.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf. Accessed September 28, 2022.

from the TAMDM maintained by the Transportation Authority of Marin (TAM), as well as background model data prepared by Fehr & Peers for TAM during development of the model.

The OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* states that for land use projects or programs in the unincorporated areas of a county within an MPO area, which for the County is the MTC nine-county Bay Area, the VMT significance threshold should be based on the regional average VMT per capita. A residential project exceeding a level of 15 percent below the region’s existing VMT per capita is considered to have a significant transportation impact. The TAMDM model, which is built upon MTC’s Travel Model Two which covers the entire Bay Area, reports an average regional home-based VMT per capita of 13.3.⁷ Based on OPR guidance, a project generating a VMT that is 15 percent or more below this value, or 11.3 miles per resident, would have a less than significant VMT impact. The TAMDM model includes Traffic Analysis Zones (TAZ) covering geographic areas throughout Marin County, including 1,400 Micro Analysis Zones (MAZ) for which VMT characteristics are estimated. The project site is located within MAZ 811319, which has a VMT per capita of 10.1 miles. Because this per capita VMT ratio is below the OPR-based significance threshold of 11.3 miles, the project would be considered to have a less than significant VMT impact. A summary of the VMT findings is provided in Table 3.12-7.

Table 3.12-6: Vehicle Miles Traveled Analysis Summary

VMT Metric	Baseline VMT Rate	Significance Threshold	Project VMT Rate	Resulting Significance
Residential VMT per Capita (Bay Area Regional Baseline)	13.3	11.3	10.1	Less than significant
Notes: VMT = Vehicle Miles Traveled VMT rate is in home-based VMT per capita, or the number of daily miles driven per resident.				

It is also noted that the Technical Advisory on Evaluating Transportation Impacts in CEQA identifies two categories of projects that would qualify for screening from VMT analysis, wherein projects may be presumed to have a less than significant VMT impact. These include development projects near major transit stops, which are defined as projects located within 0.5 mile of a major transit stop as defined in Public Resources Code 21064.3. The project is within 0.5 mile of the Larkspur Ferry Terminal and would qualify for this screening parameter. The second applicable screening category pertains to affordable residential development, which is defined as projects containing 100 percent affordable residential development. The proposed project would also qualify for this screening parameter.

Level of Significance Before Mitigation

Less than significant impact.

⁷ Fehr & Peers. 2020. Memorandum to Transportation Authority of Marin, 2015 and 2040 TAMDM Marin County VMT Estimates. Accessed September 28, 2022.

Mitigation Measures

None required.

Hazards

Impact TRANS-3: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Impact Analysis

The project site currently has a paved driveway providing access to the sanitary sewer facilities located adjacent to East Sir Francis Drake Boulevard. The project would reconstruct this driveway as well as a sidewalk parallel to the driveway.

The proposed project would include a traffic signal at the intersection of the project’s driveway and East Sir Francis Drake Boulevard and convert an eastbound acceleration lane on East Sir Francis Drake Boulevard to a left-turn lane into the project site.

Sight Distance

Sight distances along East Sir Francis Drake Boulevard at the project access point were evaluated using sight distance criteria contained in the Highway Design Manual (HDM) published by Caltrans.⁸ The recommended sight distances for approaches on the major street to driveways and private street intersections are based on stopping sight distance with approach travel speed used as the basis for determining the recommended sight distance.

For the posted speed limit of 35 mph on East Sir Francis Drake Boulevard, the minimum stopping sight distance needed is 250 feet. However, speeds on East Sir Francis Drake Boulevard were checked through an informal speed survey using a speed radar gun to estimate the critical speed of traffic during the midday when volumes are lower, and speeds are not constrained. The “critical speed” is defined as the speed at or below which 85 percent of drivers are observed to be traveling. Based on this informal study, the critical speed of drivers on East Sir Francis Drake Boulevard approaching eastbound (from the west) was measured as 47 mph, and westbound drivers (from the east) were measured traveling at a critical speed of 41 mph.

The HDM provides minimum stopping sight distances for increments of 5 mph. Between these increments, the HDM defers to the Greenbook,⁹ which prescribes a formula for converting speed into stopping sight distance that results in 385 feet for 47 mph and 312 feet for 41 mph. Based on a review of field conditions, sight lines extend more than 500 feet to the west and 340 feet to the east. Therefore, sight distance available at the project driveway is adequate for the posted speed limit as well as the critical speed of vehicles traveling on East Sir Francis Drake Boulevard.

⁸ California Department of Transportation (Caltrans). 2017. The Highway Design Manual. Accessed September 27, 2022.

⁹ American Association of State Highway and Transportation Officials. 2018. A Policy on Geometric Design of Highways and Streets (“the Greenbook”).

Access Analysis

The need for a left-turn lane and a right-turn lane on East Sir Francis Drake Boulevard was evaluated based on criteria contained in the Intersection Channelization Design Guide, NCHRP Report No. 279, Transportation Research Board, 1985, as well as an update of the methodology developed by the Washington State Department of Transportation and published in the Method For Prioritizing Intersection Improvements, January 1997. The NCHRP report references a methodology developed by M. D. Harmelink that includes equations that can be applied to expected or actual traffic volumes in order to determine the need for a left-turn pocket based on safety issues.

Left-Turn Lane Warrants

Using Existing Plus Project peak-hour volumes, a left-turn lane is warranted on East Sir Francis Drake Boulevard at the project access during both peak periods evaluated. The existing acceleration lane would be converted into a left-turn lane by restriping the dashed lane line as a solid lane line, and replacing the lane drop arrows with left-turn arrows. Copies of the turn lane warrant worksheets are included in Appendix I.

Right-Turn Lane Warrants

Using Existing Plus Project volumes, a right-turn lane would be warranted under AM peak-hour conditions. Given the potential for conflict between the future planned bicycle lanes on East Sir Francis Drake Boulevard and a right-turn lane, the Traffic Impact Analysis (TIA) concluded that it would be more appropriate to widen the shoulder to provide an area for drivers to decelerate while allowing a bicycle lane to be striped as planned.¹⁰ As part of the proposed project, the shoulder on East Sir Francis Drake Boulevard adjacent to the project site would be widened along with construction of the project sufficiently to provide adequate width for the planned future bike lane.

Traffic Signal Warrants

A signal warrant analysis was performed to determine the potential need for a traffic signal at the project access on East Sir Francis Drake Boulevard. The warrant analysis was conducted assuming combination of the project access with Drakes Cove Road in order to provide a maximum reasonable side-street volume if internal connectivity were provided between the site and Drakes Cove Road.

Using the trip generation detailed in Table 3.12-4, it is anticipated that the project would generate 67 outbound vehicles during the AM peak-hour and 43 outbound vehicles during the PM peak-hour. Combined with the four outbound vehicles during the AM peak-hour and 10 outbound vehicles during the PM peak-hour from Drakes Cove Road, there would be a side-street volume of 71 combined outbound vehicle during the morning peak-hour and 53 vehicles during the evening peak-hour. The morning peak-hour volume is sufficient to meet the Peak-hour Volume Warrant for a traffic signal. With the combined volume of the project access and Drakes Cove Road, a signalized crossing would be warranted per the Peak-hour Volume Warrant of the CA-MUTCD if the connection is made. A signalized crossing would not be warranted for the project access without the addition of traffic from Drakes Cove Road. Thus, the project proposes a pedestrian crossing that would include a right-of-way control and a traffic signal across East Sir Francis Drake Boulevard between the project site and multiuse trail. Construction of these improvements would substantially reduce hazards due a geometric design

¹⁰ County of Marin. 2018. Marin County Unincorporated Area Bicycle and Pedestrian Master Plan.

feature. Impacts would be less than significant. Copies of the turn lane warrant worksheets are included in Appendix I.

Queueing

With the inclusion a traffic signal and left-turn lane, the projected maximum queues in the left-turn pocket at the study intersections were determined using the SIMTRAFFIC application of Synchro and averaging the maximum projected queue for each of 10 runs. Summarized in Table 3.12-8 are the predicted queue lengths for the left-turn lane. As shown, the proposed project would not cause any queues to exceed available storage. Copies of the SIMTRAFFIC projections are contained in Appendix I.

Table 3.12-7: Maximum Left-Turn Queues (Plus Project)

Study Intersection Movement	Available Storage	Maximum Queue							
		AM Peak-hour				PM Peak-hour			
		E + PA1	E + PA2	E + PA3	E + PA4	E + PA1	E + PA2	E + PA3	E + PA4
East Sir Francis Drake Boulevard/Drakes Cove Road <i>Eastbound Left-Turn</i>	150	10	17	–	70	18	15	–	128

Notes:
E+PA2 = Existing Plus Project
A dash indicates a movement where no left turns were assigned and therefore queue length was not reported.
Maximum queue is based on the average of the maximum value from 10 SIMTRAFFIC runs; all distances are in feet

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

None required.

Emergency Access

Impact TRANS-4: The proposed project would not result in inadequate emergency access.

Impact Analysis

Site Access

The proposed project buildings would be approximately 30 feet in height or greater, and therefore, would be required to have an adjacent approved apparatus access road that fulfills the Central Marin Fire Authority’s requirements as outlined in the Larkspur Fire Code (LFC). For buildings over 30 feet, LFC Section 503.1.5 requires an approved aerial fire apparatus access road, which shall have a minimum unobstructed width of 26 feet and shall be located not less than 15 feet and not more than 30 feet from the building. One aerial fire apparatus access road shall run parallel to one entire side of the building. Overhead utility and power lines shall not be located over the aerial fire apparatus access road or between it and the building. All gates to the property shall have an

unobstructed width of not less than 16 feet and an unobstructed vertical clearance of not less than 15 feet.

In addition to a main drive aisle, the proposed project includes the required aerial fire apparatus access road, identified as a fire lane in Chapter 2, Project Description, and shown in Exhibit 2-6. The proposed project's internal circulation system therefore would not present any impacts related to emergency access.

Marin County does not have a formal evacuation plan. However, the project site is located near major highways that serve as evacuation routes out of Marin County. US 101 is located approximately 3,350 feet west of the project site, and I-580 is located approximately 2,290 feet east of the project site.

Emergency Response Times

The proposed project would increase traffic volumes on East Sir Francis Drake Boulevard by approximately 4 to 5 percent during the AM and PM peak-hours, and across a typical 24-hour day. Since emergency vehicles have lights and sirens to bypass queued traffic and minimize the effects of intersection delay, and since drivers are required to pull over to the side of the road to let emergency vehicles pass, the increase in traffic that would result from the proposed project would have a nominal to no effect on emergency response times. Additionally, the Central Marin Fire Authority and Central Marin Police have reviewed the proposed project and determined that they will be able to meet the increase in service calls without increasing response times.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

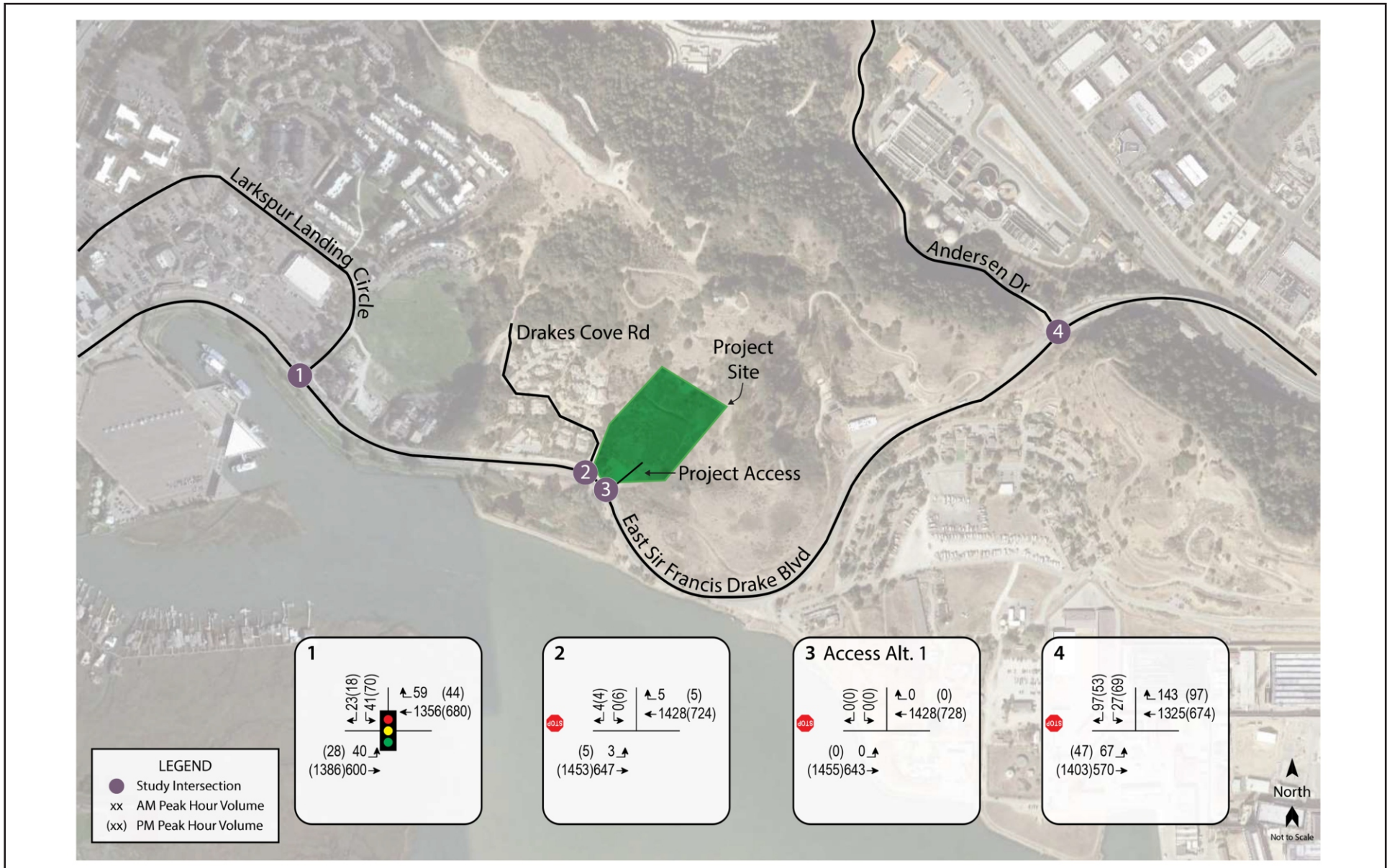
None required.

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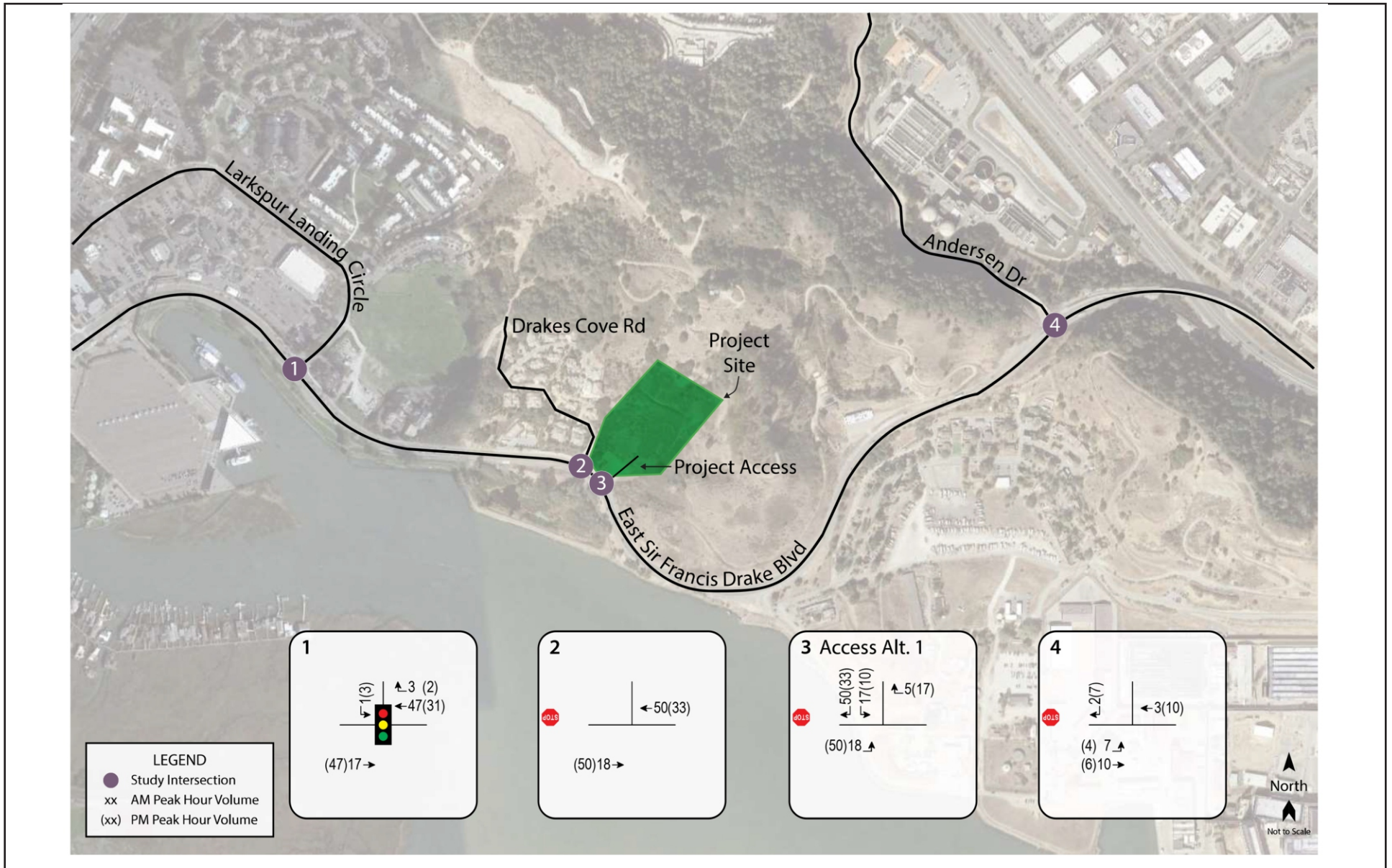
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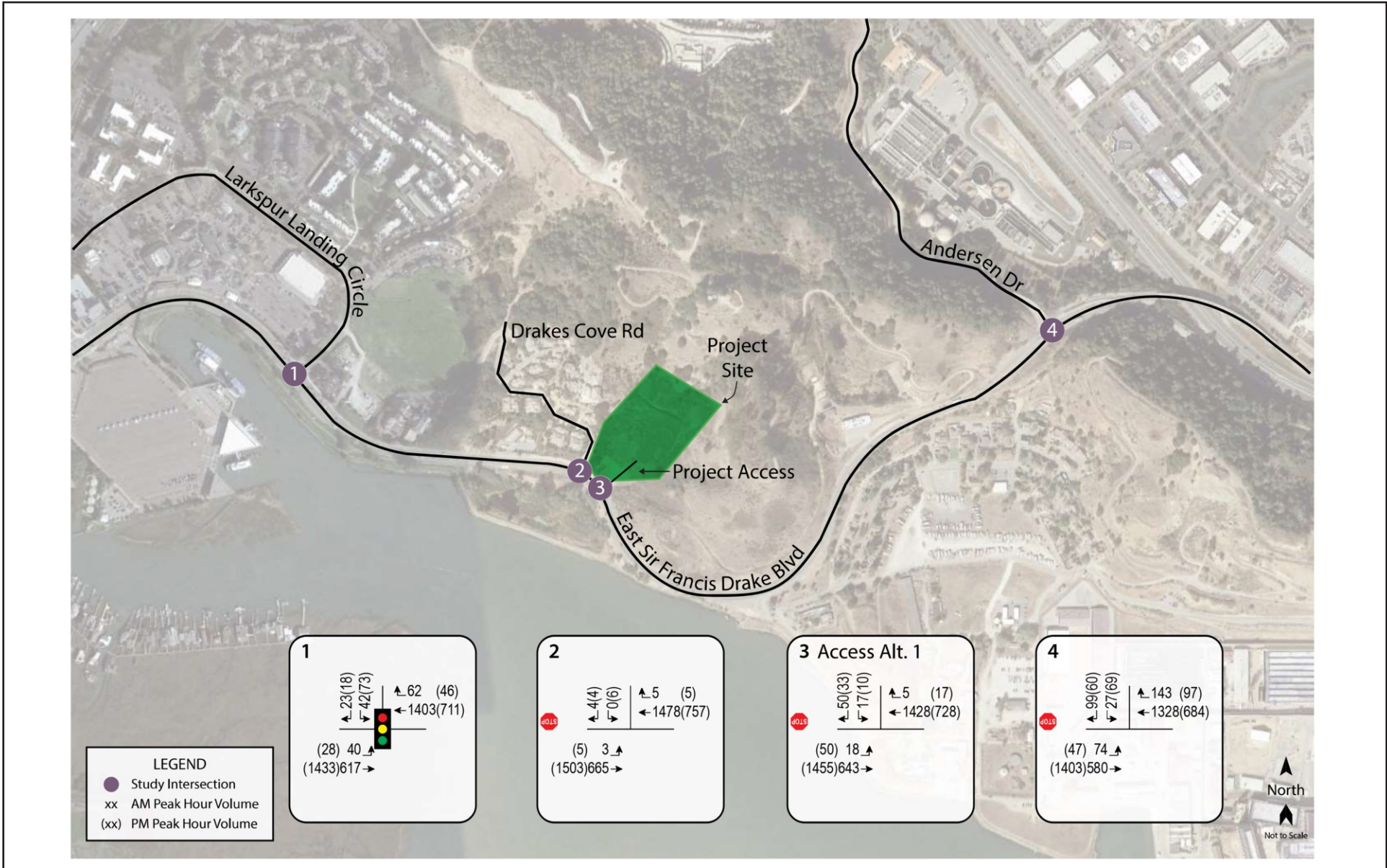
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CHAPTER 4: CUMULATIVE EFFECTS

4.1 - Introduction

California Environmental Quality Act (CEQA) Guidelines Section 15130 requires the consideration of cumulative impacts within an Environmental Impact Report (EIR) when a project's incremental effects are cumulatively considerable. According to CEQA “. . . the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” In identifying projects that may contribute to cumulative impacts, CEQA allows the use of a list of past, present, and reasonably anticipated future projects, which have the potential to result in related or cumulative impacts, including those which are outside of the control of the lead agency.

In accordance with CEQA Guidelines Section 15130(b), “. . . the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, the discussion need not provide as great [a level of] detail as is provided for the effects attributable to the project alone.” The discussion should be guided by standards of practicality and reasonableness, and it should focus on the cumulative impact to which the identified other projects contribute rather than on the attributes of other projects that do not contribute to the cumulative impact.

The proposed project's cumulative impacts were considered in conjunction with other proposed and approved projects in the vicinity of the project site including the City of Larkspur, the City of San Rafael, Town of Corte Madera, and the County of Marin (County).

City of Larkspur

As noted in the City of Larkspur General Plan, the City is largely built out and there are few parcels available for new development.¹ FirstCarbon Solutions (FCS) contacted the City of Larkspur for a list of cumulative projects in the City to be analyzed in conjunction with the proposed project. The City did not identify any cumulative projects to be considered. During the Draft EIR scoping period, public comments identified the proposed 2000 Larkspur Landing Circle mixed-use development project, located within the City of Larkspur to the southwest of the project site, as a potential cumulative project. However, this project is no longer active. Similarly, the Golden Gate Highway and Transportation District is conducting the Larkspur Ferry Service and Parking Expansion Study.²

The Golden Gate Bridge, Highway and Transportation District is currently reviewing ways to increase ferry ridership and to consider how the Larkspur Ferry Terminal can accommodate increases in ridership with adequate parking, transit connectivity (bus and rail), and walking and bicycling, for overall reduction in traffic backup and congestion in the area. Specific details about the Larkspur Ferry Terminal project are not available at this time, and its effects therefore cannot be studied in

¹ City of Larkspur. 2020. 2040 General Plan, page 32. Website: <https://www.ci.larkspur.ca.us/DocumentCenter/View/12546/12-18-20-General-Plan-Update>. Accessed October 6, 2022.

² Golden Gate Highway and Transportation District. 2022. Larkspur Ferry Service and Parking Expansion Study web page. Website: <https://www.goldengate.org/district/district-projects/larkspur-ferry-service-parking-expansion-study/>. Accessed November 18, 2022.

this chapter. Additionally, this is a planning level effort and no specific development project related to this study is approved and, therefore, this study is not considered as part of the cumulative project list.³ There are no other projects requiring cumulative consideration within the City of Larkspur.

City of San Rafael

Undeveloped lands within the City of San Rafael near the project site are primarily designated as Conservation, Public/Quasi-Public, as well as Parks, Recreation, and Open Space and, therefore, are not planned for development. However, the San Rafael Planning Division lists approved projects to be constructed or projects currently under construction. The approved projects were considered for their potential to result in cumulative impacts and are included in Table 4-1, below.

Town of Corte Madera

Utilizing the Town of Corte Madera’s online interactive approved project’s list, FCS did not identify any cumulative projects to be analyzed in conjunction with the proposed project.⁴ The project nearest to the proposed project, located at 72 Industrial Way, does not include any development or construction activities. It amends the Town of Corte Madera General Plan Land Use Diagram Map by changing the land use designation Office to Wetlands and Marshlands. The next closest projects to the proposed project site (100 Tamal Plaza and 200 Tamal Plaza) consist of minor design review to approve changes to exterior paint color. However, due to intervening structures and U.S. Highway 101 (US-101), these sites are not visible from the proposed project site, and as such are not considered as part of the cumulative discussion. Additionally, current development is already considered as part of the baseline discussion.

County of Marin

FCS contacted the County for a list of cumulative projects in the County to be analyzed in conjunction with the proposed project. The County did not identify any cumulative projects to be considered. Undeveloped lands within the County in the project vicinity are primarily designated as Public Facility with large portions within the Ridge and Upland Greenbelt Areas overlay. However, the Public Facility designated lands are primarily owned by the State of California and contain San Quentin State Prison, located to the east of the project site. According to San Quentin State Prison Master Plan, future projects for San Quentin State Prison primarily consist of interior renovations and no significant future projects.

4.1.1 - Cumulative Project List

Table 4-1, below, provides a list of the projects considered in the cumulative analysis. Generally, past projects are not included within the list of cumulative projects due to the fact that current environmental conditions are already considered as part of the baseline and existing environmental condition.

³ The Larkspur Ferry Terminal Project is not anticipated to be approved until 2024.

⁴ The Towne of Corte Madera. 2023. Approved Project web page. Website: <https://www.townofcortemadera.org/657/Approved-Projects>. Accessed November 11, 2022.

Table 4-1: Cumulative Projects

Jurisdiction	Project	Characteristics	Distance from Project	Quantity	Units
City of San Rafael	88 Vivian Street	Town home development	1.25 miles	70	DU
City of San Rafael	350 Merrydale Town Home Development	Town home development	4.14 miles	45	DU
City of San Rafael	703 Third Mixed Use Development	Mixed-use building	2.10 miles	120	DU
City of San Rafael	800 Mission Aegis (formerly known as 1203 Lincoln)	Assisted living facility	2.30 miles	103	Suites
City of San Rafael	AC Marriott Hotel (1201 5 th Avenue)	Hotel	2.46 miles	140	Rooms
City of San Rafael	BioMarin Office Building at 755 Lindero	Office building	2.11 miles	72,400	Square Feet
City of San Rafael	BioMarin/Vivalon 999 3 rd Street	Laboratory/research and development and general office space	2.25 miles	N/A	N/A
City of San Rafael	Brookdale Apartments	Multi-family residential	2.72 miles	10	DU
City of San Rafael	Hampton Inn and Suites–1075 Francisco	Hotel	0.90 mile	185	Rooms
City of San Rafael	Los Gamos Apartments	Mixed use, multi-family residential	5.42 miles	5,003 192	Square Feet DU
City of San Rafael	Marin Academy Aquatic Center	Replacement/relocation of aquatic center	2.67 miles	N/A	N/A
City of San Rafael	Northgate Walk (1005 and 1010 Northgate Drive)	Condominiums	4.91 miles	136	DU
City of San Rafael	Tiscornia Marsh Restoration Project	Restoration of marsh	1.64 miles	N/A	N/A
City of San Rafael	The Village at Loch Lomond Marina Project	Mixed use development	2.25 miles	26,650 81	Square Feet DU
Town of Corte Madera	72 Industrial Way	General Plan Amendment, Zoning Ordinance Amendment changing the land use designation Office to Wetlands and Marshlands		N/A	N/A
<p>Notes: DU = dwelling unit Approved Projects, Corte Madera, CA - Official Website (townofcortemadera.org)</p>					

4.2 - Cumulative Impact Analysis

The cumulative impact discussions in Sections 4.2.1 through 4.2.16 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, City, planning area, County, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing noise impacts, the geographic study area is more local and includes the immediate vicinity of the areas of new development. In assessing air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants and basin-wide projections of emissions is the best tool for determining cumulative effect. After establishing the relevant geographic scope, this analysis evaluates whether the impacts of the proposed project, together with the impacts of cumulative development, would result in a cumulatively significant impact. This analysis then considers whether incremental contribution to cumulative impacts associated with the implementation of the proposed project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance. Under State CEQA Guidelines Section 15130(a)(2), where a project contributes to a cumulative impact but the combined cumulative impact with the project's incremental effect is not significant, the EIR must only "briefly indicate" why the cumulative impact is not significant.

The following is a summary of cumulatively considerable project contributions to potentially significant cumulative impacts, and is based, in part, on the analysis of impacts in each of the EIR's topical impact chapters; in the case of certain topical areas, such as the analysis of Vehicle Miles Traveled (VMT) and greenhouse gas (GHG) emissions and quantitative analysis of utilities (water supply, wastewater generation, and stormwater volumes), the impact analyses and conclusions are, by definition, cumulative because a project impact would affect physical environmental conditions beyond the unincorporated county.

4.2.1 - Aesthetics, Light, and Glare

The geographic scope of the cumulative aesthetics analysis is the visible area surrounding the project site. This encompasses the Community of Greenbrae and City of Corte Madera as well as the Corte Madera Channel and adjoining San Francisco Bay vicinity. As discussed in Section 3.1, Aesthetics, Light, and Glare, the project site is located in an urbanized area.⁵ Directly north and east of the project site are undeveloped hills and open space. The San Quentin State Prison area is located approximately 750 feet east of the project site.

Scenic Vistas

The cumulative project area is generally urban. The project site is located nearby commercial uses and San Quentin State Prison. It is also immediately adjacent to residential uses in the City of Larkspur, including residential homes with elevations of over 40 feet. Cumulative projects could result in cumulative impacts related to scenic vistas if they block or significantly obscure scenic vistas. As described in Impact AES-1, neither the State or the Countywide Plan identifies scenic vistas on the project site or within the viewshed. The proposed project would be clustered at the

⁵ Association of Environmental Professionals (AEP). 2021. 15191. (m). Definitions. 2021 CEQA California Environmental Quality Act Statutes and Guidelines.

lowest portion of the project site, would have heights consistent with the character of adjacent development, and therefore would not interrupt any scenic vistas. Therefore, there would be no cumulative impacts.

Scenic Highways

There are no designated State Scenic Highways within the vicinity of the project site or within the County. Therefore, there would be no cumulative aesthetic impacts to eligible scenic highways.

Visual Character

As described in Impact AES-3, Section 3.1, Aesthetics, the project site is located in an urbanized area. The proposed building height would vary from 30 feet to a maximum height of 60 feet (not including rooftop equipment projecting from the rooftop in limited, stepped-back locations). The proposed project would include four stories of structured parking built into the hillside. Building exteriors would incorporate stucco and/or Hardi-plank lap sided exteriors in a combination of earth tones. As such, the proposed project has been designed to be cohesive with the project site, and the surrounding area and consistent with existing development to the extent feasible. The proposed project would be clustered at the lowest portion of the project site and therefore would not interrupt any scenic vistas. Neighboring development includes three-story homes, and the adjacent homes' ground floors at Drake's Cove Court are over 20 feet above the highest elevation of the Oak Hill roofs. . The proposed project therefore would be a logical extension of the existing urban development and would be consistent with the developed character of the area, even though it is multi-family housing, and together these and other developments facilitate an active streetscape near transit, while respecting ridgelines and other natural features. Therefore, there is no significant cumulative impact, and the proposed project's contribution would not be considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to visual character.

Light and Glare

The proposed project and cumulative projects could increase light and glare in the geographic area. The proposed project and cumulative development would include streetlights, exterior lighting, safety lighting, lighting from vehicles, and sources of glare from the buildings and vehicles. However, cumulative impacts would be less than significant because cumulative projects would be located in an already urbanized area and would be subject to applicable regulations related to light and glare. Additionally, cumulative development projects proposed would be required to adhere to the architectural, design, and lighting measures related to aesthetics and community design outlined in the applicable jurisdiction's General Plan and/or respective specific plan, if located therein. Therefore, cumulative impacts would be less than significant.

The proposed project's incremental contribution to light and glare would not be cumulatively considerable because it would not substantially contribute to the less than significant cumulative impact. The proposed project's exterior lighting would be consistent with neighboring developments and would maintain the existing character of the area. The proposed project's lighting would be shielded and directed downward to avoid trespass to the adjacent residential properties and to avoid obtrusive light or glare in the public right-of-way. All lighting over 40W would be equipped with

automatic dimming and motion sensors. The exterior materials are designed to minimize glare and impact, without the use of any highly reflective exterior materials. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to light and glare.

Level of Cumulative Significance

Less than significant impact.

4.2.2 - Air Quality

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The significance thresholds applied in Section 3-2 of this EIR measure contributions to cumulative impacts, as air quality impacts by nature are regional. To this end, the geographic scope of the cumulative air quality emissions analysis is the San Francisco Bay Area Air Basin (SFBAAB), which encompasses most of the nine-county San Francisco Bay Area region including the County. Air quality is impacted by topography, dominant air flows, atmospheric inversions, location, and season; therefore, the SFBAAB represents the area most likely to be impacted by air emissions. The SFBAAB is currently in nonattainment of the federal and State standards for ozone and the State standards for PM₁₀ and PM_{2.5}. Therefore, there is an existing cumulatively significant air quality impact with respect to these pollutants. Moreover, the SFBAAB is anticipated to continue to be nonattainment for these pollutants and, thus, this impact would exist in the future. The proposed project would not result in population growth or subsequent emissions generation in excess of what was considered in the Bay Area Air Quality Management District (BAAQMD) 2017 Clean Air Plan, which is the region's strategy for achieving attainment status for these standards. As such, the proposed project's incremental contribution would not have a significant cumulatively considerable contribution to this existing significant cumulative air quality impact. Further, as discussed in Impact AIR-2, with the inclusion of Mitigation Measure (MM) AIR-2, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment. The determination of cumulative air quality impacts for construction and operational emissions is based on whether the proposed project would result in mass emissions that exceed the BAAQMD regional thresholds of significance for construction and operations on a project level. The significance thresholds represent the allowable amount of emissions each project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, because the proposed project would not exceed the BAAQMD thresholds of significance on the project level as explained in Impact AIR-2, would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts.

The proposed project would not emit construction and operational criteria pollutant emissions at levels that would exceed the applicable BAAQMD significance thresholds. Thus, the proposed project's incremental contribution would not be a cumulatively considerable contribution to the existing significant cumulative impact in the air basin with respect to criteria pollutant emissions and ozone precursors.

As provided in the construction Health Risk Assessment (HRA), cumulative cancer, non-cancer chronic hazard, and PM_{2.5} concentrations were evaluated at the most impacted sensitive receptor from all sources of toxic air contaminants (TAC) emissions located within 1,000 feet of the project site, including diesel particulate matter (DPM) emissions resulting from project construction. Also, due to the project's location, the proposed project would not result in a cumulatively considerable contribution to TAC cancer risk. Therefore, both conditions discussed above are not present with respect to air quality and this project's cumulative impacts would be less than significant.

Because of the short range of odor dispersion, the consideration of cumulative construction odor impacts is generally limited to projects constructed simultaneously within extremely close proximity. There are no foreseeable odor generating construction projects within 1,000 feet of the proposed project site. The nearest reasonably foreseeable cumulative project is 0.9 mile from the project site. Additionally, there are not currently uncommon or objectionable odors in the project vicinity and no additional odor generating projects are reasonably foreseeable in the project vicinity. As discussed in Section 3.2, Air Quality, there are four existing facilities within the BAAQMD's Odor Screening-level Distances Thresholds that could result in cumulative operational odor impacts. As part of this environmental review process, an odor complaint record request was submitted to the BAAQMD to identify odor complaint histories related to nearby facilities. In the last 3 years only one odor complaint in 2019 for Marin Recycling has been recorded. The other three facilities have no recorded odor complaints over the last 3 years. As only one odor complaint has been recorded in 2019, it is not expected that operations from these existing facilities would generate odors that would adversely affect a substantial number of people. Therefore, construction and operational cumulative odor impacts would not be cumulatively considerable. Additionally, the proposed project would not have a cumulatively considerable contribution to the less than significant cumulative impacts because it would not involve land uses typically associated with objectionable odors. Therefore, cumulative impacts related to odors would be less than significant.

Level of Cumulative Significance

Less than significant impact.

4.2.3 - Biological Resources

The geographical scope of the cumulative impact analysis for biological resources is the project vicinity. Table 4-1 identifies 15 potential cumulative projects. The project site is located in an area characterized by both urban development and undeveloped lands and the adjacent San Francisco Bay. Adjacent urban habitats tend to be characterized as highly disturbed, thereby localizing impacts. Adjacent undeveloped habitats are less disturbed, thus retaining the potential to provide semi-natural habitat function and value.

Special-status Species

The majority of lands surrounding the project site are highly urbanized and contain little suitable habitat for special-status species aside from ridgeline areas and the San Francisco Bay. Future cumulative development within the cumulative geographic context as listed in Table 4-1 could have significant cumulative impacts on special-status species if development is allowed to encroach in these areas. As described in Section 3.3, Biological Resources, Regulatory Framework, numerous

laws and regulations are in place to protect biological resources, including, but not limited to, California Endangered Species Act (CESA), Endangered Species Act, and the Clean Water Act. Additionally, the San Francisco Bay Conservation and Development Commission (BCDC) has jurisdiction over all areas of San Francisco Bay that are subject to tidal action. Development of projects within the cumulative geographic context, would be required to comply with federal, State, and local laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources. However, applicable laws and regulations do not prevent loss of habitat area and function (e.g., loss of semi-natural vegetation and soils), and would therefore be cumulatively significant, because it is reasonably foreseeable that the other 15 cumulative projects would likely also contribute to loss of habitat value and function.

As indicated in Impact BIO-1, the proposed project has a low potential to impact special-status or rare plant species, as well as special-status wildlife species including protected nesting birds and roosting bats. However, the proposed project would be required to implement MM BIO-1a through MM BIO-1d that would ensure impacts are reduced to less than significant. However, because considerable contributions can be smaller than individual impacts, and 15 other cumulative projects may contribute to a net loss of habitat value and function, the project-specific relatively small impacts could add to a cumulative effect that is significant.

Sensitive Natural Communities or Riparian Habitat

The geographic scope for analyzing potential impacts to sensitive natural communities and riparian habitat include loss of Riparian Arroyo Willow Riparian Woodland, loss of Coast Live Oak Woodland and Purple Needlegrass–Oat Species–Brome species Grassland (no loss). In addition, Corte Madera Channel the tidal marsh mudflats, ponds, and open water in San Francisco Bay are considered ecologically sensitive areas.

Future development within the cumulative geographic context could have significant cumulative impacts on sensitive natural communities or riparian habitat if riparian and/or coast live oak woodland is removed. However, the California Department of Fish and Wildlife (CDFW) requires unavoidable loss of riparian habitat to be compensated for with the goal of no-net-loss of area and function through Fish and Game Code 1602 Streambed Alteration Agreements, and additionally, protection of riparian areas are required by local regulations and policies, including the Marin Countywide Plan (CWP) for projects in Marin County. Therefore, with implementation of compensatory mitigation adequate to achieve no-net-loss in area and function, it is reasonable to assume that cumulative effects on riparian habitat would be less than significant.

Protections of coast live oak woodland in this area is only provided if individual trees are protected through a local regulation (e.g., tree ordinance), and, for cumulative projects that need to comply with the CWP, through environmental review through the County. Both local tree ordinances and CWP do not necessarily prevent removal of mature coast live oak trees. While this project requires compensatory mitigation of loss of coast live oak woodland based on canopy area, if other cumulative projects result in loss of mature coast live oaks, a cumulative effect could be significant,

as replanted coast live oak mitigation plantings would need many years to form a woodland that provides similar characteristics compared to the woodland removed for the proposed project.

Wetlands and Jurisdictional Features

Future development within the cumulative geographic context could have significant cumulative impacts on jurisdictional waters and wetlands located in the greater project vicinity. However, development within the cumulative geographic context would be required to comply with federal, State, and local laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources. Because cumulative development would be required to comply with the above oversight and requirements, as well as the overall land use vision, regulations and policies in local and regional plans, cumulative biological impacts would be less than significant.

As indicated in Impact BIO-3, the proposed project would impact 3,090 linear feet of open ephemeral to intermittent headway drainages (including artificially constructed diversion channels) protected by State and federal laws and regulations as waters of the United States and State, and by CDFW's streambed Alteration program. Impacts to these features, and any other similar features in the geographic scope, are regulated pursuant to the Clean Water Act (CWA), Porter-Cologne Water Quality Control Act, and Fish and Game Code Section 1602 *et seq.*, and would require the project applicant to comply with the avoidance, minimization, and compensatory mitigation measures defined by the United States Army Corp of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW. Compliance ensures no-net-loss. Therefore, the proposed project's contribution to related impacts would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to wetlands and jurisdictional features.

Fish and Wildlife Movement Corridors and Nurseries

Future development within the cumulative geographic scope would not substantially interfere with the movement of any fish or wildlife species because development would be required to comply with federal, State, and local laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on fish and wildlife movement corridors. Because cumulative development would be required to comply with the oversight and requirements discussed above and in Section 3.3, Biological Resources, Regulatory Framework, as well as the overall land use vision, regulations and policies in local and regional plans, cumulative impacts would be less than significant.

As indicated in Impact BIO-4, the project site does not include any substantial wildlife nursery sites and does not function as a wildlife movement corridor. However, the vegetated portions on-site have the potential to provide some opportunity for wildlife nursery sites, including for nesting birds and maternity roosts for bats. Additionally, potentially cumulative edge effects may adversely impact off-site wildlife corridors, nursery sites, or other sensitive habitat. Therefore, the proposed project's contribution to related impacts could potentially be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, could result in significant cumulative impact with respect to fish and wildlife movement corridors.

Level of Cumulative Significance

Less than significant impact.

4.2.4 - Cultural Resources and Tribal Cultural Resources

The geographic scope of the cumulative impact analysis for cultural and Tribal Cultural Resources (TCRs) in the project vicinity as well as the surrounding Cities of Larkspur and San Rafael, Town of Corte Madera, and Marin County unincorporated lands as shown in Table 4-1, Cumulative Projects.⁶ The Marin Countywide Plan Final EIR identifies a significant and unavoidable cumulative impact related to cultural resources.

Future development within the cumulative geographic scope could have significant cumulative impacts on known or previously unidentified cultural and TCRs. However, development within the cumulative geographic context would be required to comply with federal, State, and local laws and policies that protect cultural and TCRs, including the provisions of Senate Bill (SB) 18 and Assembly Bill (AB) 52, Section 15064.5 of the CEQA Guidelines, Section 7050.5 of the California Health and Safety Code, and Sections 5024.1 and 5097 of the Public Resources Code which would sufficiently reduce impacts. Compliance with these policies may also require development projects to prepare site-specific project-level analyses to fulfill CEQA requirements, which also would include additional consultation that could lead to the identification of potential site-specific cultural and TCRs. Accordingly, because cumulative development would be required to comply with long-term planning documents, and regulatory agency policies (including, but not limited to, evaluation requirements and inadvertent discovery procedures) that reduce impacts to potential cultural and TCRs, potential cumulative impacts to cultural resources and TCRs would be reduced to the maximum extent practicable, however cumulative impacts would remain significant.

With implementation of the mitigation proposed herein, the proposed project's incremental contribution to potential cumulative impacts would not be significant. As indicated in Section 3.4, Cultural and Tribal Cultural Resources, MM CUL-1 would require environmentally sensitive area fencing to identify and protect adjacent historic era resources. MM CUL-1 would require worker cultural resources sensitivity training. MM CUL-3 would require archaeological monitoring, and the halting of construction upon encountering archaeological materials. MM CUL-4 requires that construction is stopped upon encountering human remains. MM CUL-5a requires Native American construction monitoring. Finally, MM CUL-5b requires avoidance and preservation of TCRs should they be discovered on-site. The project applicant also engaged in Tribal outreach that did not result in the identification of any additional potential impacts. These mitigation measures would also ensure that cumulative impacts associated with the proposed project would be less than significant. As such, cumulative impacts from implementation of the proposed project would not result in a considerable incremental contribution to cumulative impacts related to cultural and TCRs. Therefore, the proposed project's incremental contribution to cumulative impacts would be less than significant.

⁶ Cumulative development within unincorporated Marin County is identified as less than significant in the Marin Countywide Plan Update Final EIR. County of Marin. Community Development Department. 2007. Marin Countywide Plan Update Final Environmental Impact Report. November.

Level of Cumulative Significance

Less than significant impact.

4.2.5 - Energy

The geographic scope for cumulative impacts with respect to energy would be the service area of Marin Clean Energy (MCE) and the Pacific Gas and Electric Company (PG&E) service area. PG&E's electrical service area consists of all or part of the 47 counties in California (including portions of Marin County), while its natural gas service area consists of 39 counties in California comprising most of the northern and central portions of the State (including Marin County). Electricity for the operation of the proposed project would be serviced by MCE, unless the project owner chooses to opt-out, in which case the proposed project would be serviced by PG&E. Continued growth throughout MCE's and PG&E's service areas could contribute to ongoing increases in demand for electricity and natural gas. It is anticipated that these increases would be offset, in part, by compliance with State and local requirements related to renewable energy that are expected to be more stringent and result in energy efficiency increases. As discussed in Section 3.5, Energy, SB 100 obligates utilities to supply 100 percent carbon-free electricity by 2045; PG&E reached California's 2020 renewable energy goal 3 years ahead of schedule and is currently projected to meet the new SB 100 goal by 2030. Cumulative development would require the use of energy. The use of energy would be regulated by federal, State, and local regulations regarding energy. For example, Marin County Countywide Plan, County Ordinance, and Title 24 standards would ensure cumulative projects do not exceed current capacity or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. As such, cumulative impacts would be reduced to less than significant.

The proposed project would generate energy demand during construction and operation, principally consisting of electricity and transportation fuel consumption. Construction energy demand generated by the proposed project would largely be limited to the activities which would be required for the construction of the proposed project and would normally not constitute the unnecessary, inefficient, or wasteful consumption of energy resources out of the interest of minimizing development costs. Moreover, the proposed project would be located near major transportation facilities, which would further reduce potential consumption of transportation energy resources. Further, as discussed under Impact ENER-1, the proposed project would be designed in accordance with the 2022 Title 24 CALGreen and Building Energy Efficiency standards, including minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting. Incorporating these standards into the proposed project's design would ensure that the proposed project would not result in the use of energy in a wasteful manner. Therefore, the proposed project would not result in the unnecessary, inefficient, or wasteful consumption of energy resources nor would it conflict with applicable plans, policies, or regulations adopted for renewable energy and energy efficiency.

The proposed project and cumulative development would increase energy usage compared to existing conditions. However, in the case of the proposed project, no mitigation is required to ensure that energy use would not be wasteful, inefficient, or unnecessary, or to ensure compliance with an

applicable plan for renewable energy or energy efficiency. Therefore, the proposed project's contribution would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to energy.

Level of Cumulative Significance

Less than significant impact.

4.2.6 - Geology and Soils

Geologic conditions within the San Francisco Bay Area and can vary widely, even among short distances. In general, a project's potential impacts related to geology and soils are individual and localized, depending on the project site and underlying soils. Each project requires different levels of excavation, cut-and-fill work, and grading, which affect site-specific local geologic conditions. Therefore, the geographic context for geology and soils is site-specific. Therefore, geologic impacts tend to be localized, the geographic scope for analysis of cumulative impacts related to geology and soils is the immediate project vicinity. Potentially adverse environmental effects associated with seismic hazards, as well as those associated with expansive soils, unstable geologic units, unstable soils, landslides, and erosion, usually are site-specific and generally do not result in cumulative effects. The geographic context for paleontological resources includes Marin County. The Marin Countywide Plan Final EIR identifies a significant and unavoidable cumulative impact related to geology and soils.

Cumulative projects would be exposed to ground shaking during seismic events, but development of individual projects would not increase the potential for impacts to occur on other sites. As each project would be required to complete a site-specific detailed geotechnical investigation as required by the California Building Standards Code (CBC), and, as applicable for individual cumulative projects, the Marin Countywide Plan, or other local jurisdiction planning documents, each project would be provided with site-specific design recommendations, which would ensure each project was compliant with existing regulations concerning geologic stability and safety. Additionally, individual development proposals would be reviewed separately by the appropriate public agency depending on location and undergo environmental review if appropriate. In the event that future cumulative development would result in impacts related to geologic or seismic impacts, those potential project or site-specific impacts would be addressed in accordance with the requirements of CEQA. New buildings would be constructed utilizing current design and construction methodologies for earthquake resistant design as required by relevant regulations, such as the CBC. The purpose of the CBC regulations and standards is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction, and by design, it is intended to reduce the cumulative risks to the public and the environment resulting from seismic events. The 2019 CBC is based on the 2018 International Building Code published by the International Code Conference. Seismically induced ground shaking, liquefaction and lateral spreading, and expansive and corrosive soils could cause structural damage or ruptures during construction of cumulative projects. However, compliance with CBC building regulations and standards would reduce the potential for such impacts to occur. For example, specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of

the CBC. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction. Like the proposed project, the cumulative projects would be required to comply with the same applicable provisions of these laws and regulations. Through compliance with these requirements, the potential for impacts throughout the geographic region would be reduced. Compliance with the CBC, National Pollutant Discharge Elimination System (NPDES) permits, laws and regulations related to, but not limited to, soils and seismicity would reduce cumulative impacts associated with geology and soils to the greatest extent possible; however, cumulative impacts would remain potentially significant.

As indicated in Section 3.6, Geology and Soils the proposed project would be subject to the mandatory requirements and standards of the CBC Title 24 (California Green Building Standards Code [CALGreen]), which identify site preparation and construction techniques to attenuate the effects of strong ground shaking and seismic-related ground failure. The closest related project is located 0.90 mile from the proposed project and would not impact the geologic conditions of the project site. However, compliance with the CBC ensures proper site preparation and grading practices, adequate design of foundations, and guidelines for the appropriate selection and use of construction materials that would minimize potential impacts associated with seismic-related events. The proposed project would also be subject to an NPDES permit and related Storm Water Pollution Prevention Plan (SWPPP) preparation which would avoid significant soil erosion or loss. Furthermore, the implementation of MM GEO-1 would ensure the implementation of applicable recommendations provided in the Geotechnical Feasibility Evaluation prepared for the proposed project to ensure that potential impacts related to site-specific geotechnical conditions, such as unstable or expansive soils, remain at less than significant levels. For these reasons, the proposed project's contribution to cumulative impacts on geology and soils would not be cumulatively considerable and the cumulative impact would be less than significant.

Future development in Marin County has potential to cumulatively impact paleontological resources. However, the nearest cumulative project is 0.9 mile from the project site and all cumulative projects would be required to comply with federal and State policies related to protection of paleontological resources which reduces potential cumulative impacts to paleontological resources to less than significant. Moreover, the proposed project's incremental contribution to less than significant cumulative impacts would not be significant with the implementation of MM GEO-2. Cumulative projects would also be required to conform to federal and State policies that protect paleontological resources, including Section 5097 of the California Public Resources Code. For these reasons, the proposed project's contribution to cumulative impacts on paleontological resources are not cumulatively considerable and would be less than significant.

Level of Cumulative Significance

Less than significant impact.

4.2.7 - Greenhouse Gas Emissions

GHG emissions related to implementation of the proposed project are not confined to a particular air basin but are dispersed worldwide and GHG emissions are widely acknowledged as a significant cumulative impact.

As discussed in Section 3.7, Greenhouse Gas Emissions, an analysis of impacts related to GHG emissions is inherently cumulative. Although the proposed project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. Therefore, in the case of global climate change, the proximity of the proposed project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to the California Air Pollution Control Officers Association (CAPCOA), “GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.”⁷ The resultant consequences of that climate change can cause adverse environmental effects. A project’s GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change.

As discussed under Impact GHG-1 and GHG-2, GHG impacts from the development and operation of the proposed project would be less than significant, and the proposed project would be consistent with the goals of SB 32 and Executive Order S-3-05. Furthermore, the project would be consistent with the California Air Resources Board (ARB) Scoping Plan and the Marin County Unincorporated Area Climate Action Plan 2030, as well as other required federal, State or local regulations as applicable. As such, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Given this consistency, it is concluded that the proposed project’s incremental contribution to GHG emissions and their effects on climate change would not be cumulatively considerable and would be less than significant.

Level of Cumulative Significance

Less than significant impact.

4.2.8 - Hazards and Hazardous Materials

Cumulative impacts related to hazards and hazardous materials would result from projects that combine to increase exposure to hazards and hazardous materials, which could result in potential impacts to the public or the environment. The potential for cumulative impacts to occur is limited in geographic context since the impacts from hazardous materials are generally site specific, accordingly, the geographic scope for the analysis for relating to hazards and hazardous materials consists of an area 0.25 mile surrounding the project site. Based on the list of cumulative projects provided by the relevant jurisdictions, no cumulative projects would be located sufficiently close to

⁷ California Air Pollution Control Officers Association (CAPCOA). 2008. CEQA and Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.

the proposed project such that combined impacts from hazards and hazardous materials would occur.

The nearest cumulative project is 0.9 mile from the project site. Cumulative projects would be subject to the requirements and regulations set forth by the United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), United States Department of Transportation (USDOT), California Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), BAAQMD, and other agencies related to transport, use, and disposal of hazardous materials. Cumulative projects would also be required to implement a SWPPP and comply with the California Code of Regulations during construction, site grading, excavation operations, and building demolition. In addition, federal, and State laws would ensure that cumulative projects would provide sufficient emergency access, would not impair an emergency evacuation plan, and would not pose significant wildfire risk. For these reasons, cumulative impacts associated with the release of hazardous materials would be substantially reduced; however, the potential remains for significant cumulative impacts in the geographic scope.

As discussed in Section 3.8, Hazards and Hazardous Materials, the proposed project would abide by federal and State, regulations regarding hazardous materials, and would provide emergency access that would comply with local regulations, though such regulations do not apply. Further, the proposed project would not conflict with emergency evacuation plans for the surrounding area. The project site is not located in a high or very high fire hazard severity zone and would remove existing on-site fuel load thereby reducing wildfire risk. Furthermore, MM HAZ-2 would ensure that on-site soils containing hazardous materials are properly remediated. For these reasons, the proposed project's contribution to cumulative impacts would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in less than significant cumulative impacts.

Level of Cumulative Significance

Less than significant impact.

4.2.9 - Hydrology and Water Quality

The geographic context for an analysis of cumulative impacts is the Ross Valley Watershed, which extends from the Fairfax area to the San Quentin and Corte Madera areas.⁸

Surface and Groundwater Quality

Cumulative development in the watershed, as identified in Table 4-1, Cumulative Projects, contributes to an incremental increase in impervious surfaces that could introduce pollutants that are typically associated with urban runoff into the stormwater and/or contribute to cumulative flood conditions in the watershed. Cumulative development could also contribute to water quality impacts in the watershed from construction activities. Cumulative impacts would be less than significant because future cumulative development, infrastructure, and planning projects would be subject to

⁸ Marin Watershed Program. Creeks and Watersheds. Interactive Map. Website: <https://www.marinwatersheds.org/creeks-watersheds/interactive-map>. Accessed September 9, 2022.

local, State and federal permit requirements and would be required to comply with applicable ordinances and policies, as well as other water quality regulations that control construction-related and operational discharge of pollutants in stormwater. The water quality regulations implemented by the RWQCB take a basin-wide approach and consider water quality impairment in a regional context that addresses the entire geographic context of the Ross Valley Watershed. For example, the Construction General Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the Municipal Separate Storm Sewer System (MS4) Permit works with all municipalities within the Ross Valley Watershed to manage stormwater systems to be collectively protective of water quality. If a CWA Section 404 Permit is required, the USACE would have approval authority. For these reasons, cumulative impacts to hydrology and water quality would be less than significant.

The proposed project's incremental contribution to less than significant cumulative impacts would not be significant. As discussed in Section 3.9, Hydrology and Water Quality, the proposed project would be required to conform to applicable federal, State, and local policies that would reduce hydrology and water quality impacts to less than significant levels.

More specifically, the proposed project would be required to comply with the terms of NPDES permits, including implementation of a SWPPP which would ensure reduction of pollutants from construction activities potentially entering surface waters. In compliance with RWQCB requirements, the proposed project includes a comprehensive proposed Stormwater Treatment Plan which would prevent untreated water from entering nearby surface and groundwater. As such, the proposed project would not result in significant water quality degradation, exceed storm drain capacity, require significant groundwater supplies, or affect groundwater quality. Therefore, the proposed project's incremental contribution to less than significant cumulative impacts related to hydrology and water quality would not be significant.

Groundwater Supply/Recharge

The geographic context for addressing cumulative impacts to groundwater supply and recharge is the Marin Municipal Water District (Marin Water) service area. Cumulative projects could lead to an increased demand for water, which could lead to an increase in demand for groundwater production. However, as described Section 3.9, Hydrology, the Marin Water does not pump groundwater directly, but it does receive water from Sonoma County Water Agency (Sonoma Water). According to the Marin Water 2020 Urban Water Management Plan (UWMP), groundwater from Sonoma Water is used primarily as a drought period supply or when Russian River supplies are otherwise constrained. Because groundwater is a minimal portion of Marin County's water supply, cumulative projects would not interfere substantially with groundwater supply, recharge, or groundwater management. Furthermore, the Marin Water UWMP determined that groundwater is not planned to be used as a water supply source in the future.¹⁰

Marin Water is projected to have sufficient supplies to meet projected demands in normal years, single dry years, and multiple dry years through 2045.¹¹ Additionally, as described in Chapter 5, Effects Found not to be Significant, Marin Water confirmed that it would be able to provide adequate water services to the proposed project and the rest of the projects within its services area

during normal, dry, and multiple dry years. Therefore, cumulative impacts related to groundwater recharge and supply would be less than significant and the proposed project's incremental contribution would not be cumulatively considerable.

Erosion/Siltation, Flooding, Additional Sources of Polluted Runoff, or Impedance of Flood Flows

Cumulative projects could have a significant impact if they were to substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation. Such drainage effects could occur from grade changes at individual project sites, exposure of soils for periods of time during stormwater discharge, or alterations to creek beds.

However, the nearest project is located 0.9 mile from the project site and would be required to comply with the regulations of its NPDES permit. Additionally, any cumulative projects would be required to comply with construction-phase Best Management Practices (BMPs) and requirements for erosion and sediment control plans. These BMPs may include scheduling and timing of grading (soil disturbing) activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, covering of materials stored on-site, and proper location of and maintenance of temporary sanitary facilities. Because of the distance of the nearest cumulative project and with compliance with NPDES permit requirements and BMPs, cumulative impacts would be less than significant.

Additionally, as described in Section 3-9, Hydrology, the proposed project would be required to design and implement a SWPPP to ensure that erosion, siltation, and flooding are prevented or minimized during construction. The SWPPP would include both structural (physical devices or measures) and operational (timing of construction) BMPs that would prevent or reduce the discharge of pollutants directly or indirectly into waterbodies. Additionally, during operation, implementation of the stormwater control plan would prevent erosion and siltation caused by stormwater flows in accordance with the County's NPDES. Therefore, construction and operation impacts related to alteration of drainage patterns resulting in erosion or siltation would be less than significant and the proposed project would not have a cumulatively considerable contribution to less than significant impacts.

Impacts related to impedance of flood flows would only occur during operation. As such, no cumulative construction impedance of flood flow impacts would occur. Cumulative projects would occur in developed areas consistent with the urban nature of the project vicinity and would not be expected to substantially increase the amount of new impervious surfaces. All cumulative development would be required to adhere to existing regulations to address stormwater management in a manner that ensures that flooding would not increase, and flood flows would not be redirected to other areas not currently prone to flooding. All cumulative projects would be required to include stormwater management features and, therefore, cumulative impacts would be

less than significant. Additionally, the proposed project would not have a cumulatively considerable contribution to the less than significant cumulative impact. As described under the proposed Stormwater Treatment Plan, stormwater would be captured in Drainage Management Areas (DMAs) located throughout the project site and would be conveyed to Integrated Management Practices (IMPs). IMPs would make up a total of 8,207 square feet of the project site and would be designed in accordance with all applicable standards with adequate capacity to accommodate the project site during storm events to ensure no net increase in off-site flow of stormwater. Therefore, the proposed project's contribution to cumulative impacts would be less than significant.

Risk of Pollutant Release Due to Inundation

As described in Section 4.9, Hydrology and Water Quality, implementation and operation of the proposed project (as well as the cumulative projects listed in Table 4-1) would require conformance with State and federal regulatory requirements related to hydrology and water quality, including applicable elements of the CWA, NPDES, Porter-Cologne Water Quality Control Act, Federal Emergency Management Agency (FEMA) floodplain standards, and RWQCB Basin Plan. These regulatory requirements constitute a regional basin-wide effort to implement hydrology and water quality protections. Accordingly, there is not a cumulative impact related to pollutant release due to inundation.

Moreover, the proposed project's contribution to this less than significant cumulative impact would not be cumulatively considerable. The project site is not located within a 100-year flood zone or other hazard area. Thus, the project site is not located within a flood hazard area that could be inundated with flood flows and result in release of pollutants. Moreover, the project proposes residential uses only, so even if flood waters were on-site, the proposed project does not represent the type of use that would otherwise degrade water quality (e.g., an industrial land uses that utilize hazardous materials that could adversely affect water quality). Anticipated and potential pollutants generated by the proposed project would be limited to household items and normal and expected materials for the proposed land uses and include sediment, nutrients, pesticides, metals, pathogens, and oil and grease. These materials would be limited to personal use quantities. Impacts related to flood hazards and pollutants would not occur from the proposed project.

Water Quality Control or Sustainable Groundwater Management Plans Consistency

The RWQCB has established regulatory standards and objectives for water quality in San Francisco Bay in its Basin Plan. The cumulative projects listed in Table 4-1 would be subject to compliance with the Basin Plan and/or, as applicable, the County's NPDES program. Because conformance with these requirements would be required for all cumulative projects, cumulative hydrology/water quality impacts would be less than significant. Moreover, the proposed project would not have a cumulative considerable contribution to this less than significant impact. The project site is within the Marin Water service area. Marin Water does not pump groundwater directly. However, a small portion of the Sonoma Water supply (i.e., less than 2 percent) consists of groundwater from the Santa Rosa Plain Subbasin of the Santa Rosa Valley Basin. Thus, the proposed project would not interfere substantially with groundwater supply. Therefore, the proposed project's incremental contribution to impacts related to sustainable groundwater management would not be cumulatively considerable.

Level of Cumulative Significance

Less than significant impact.

4.2.10 - Land Use and Planning

The geographic context for analysis of cumulative impacts related to land use and planning generally includes Marin County including the City of Larkspur, City of San Rafael, and Town of Corte Madera. For the project site and the adjacent San Quentin State Prison, land use is governed by the State of California's Department of General Services (DGS). As discussed in Section 3.10, Land Use and Planning, use of the project site for the proposed project would be consistent with Executive Order N-06-19. DGS retains state sovereignty over the property, and is not subject to local plans, policies, and zoning regulations where it asserts its sovereignty.

There are no applicable Countywide Plan policies or programs that conflict with the proposed project's creation of affordable housing, either in an individual or a cumulative capacity. In fact, the proposed project implements State and regional goals to locate higher-density housing near transit facilities. For instance, for 100 percent affordable housing developments that are located within 0.5-mile of a major transit stop, which would describe the proposed project, height increases of up to three additional stories are permitted above local limits (when they apply; see Government Code § 65915(d)(2)(D)) and such projects shall not be subject to any maximum controls on density (Government Code § 65915(f)(3)(D)(ii)). Meanwhile, under Government Code Section 65583.2(c)(3)(B) and as implemented by AB 1537, to be viable for affordable housing, a property must be zoned to support at least 20 dwelling units per acre (du/acre). The proposed project here, again, has a density of 30.1 acres. Therefore, the proposed project, in implementing State policies designed to increase affordable inventory and decrease carbon footprints, does not conflict with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating a significant environmental effect, and thus has no considerable contribution to any significant cumulative impact. Nor are there any existing or reasonably foreseeable projects adjacent to the project site that would combine with the proposed project to divide an established community. Therefore, the proposed project's contribution would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to land use and planning.

Level of Cumulative Significance

Less than significant impact.

4.2.11 - Noise

The geographic scope of the cumulative noise analysis is limited by the range of potential noise impacts. Noise impacts tend to be localized; therefore, noise impacts for traffic and stationary noise sources are limited to approximately 500 feet from the source. Beyond 500 feet, the contributions of noise from other projects would be greatly attenuated through both distance and intervening structures, and their contribution would be expected to be minimal. The nearest cumulative project is 0.9 mile from the project site. There are no development projects within 500 feet of the project sites that would constitute an existing cumulative impact.

Construction Noise Impacts

The significance threshold for a cumulative construction noise impact would be a substantial temporary noise increase in areas in the vicinity of the potential sites for housing that already experience excessive noise levels from construction activities. There are no development projects undergoing construction within 500 feet of the project sites that would constitute an existing cumulative impact. Current conditions are below established thresholds and there is no cumulative impact. The proposed project's impact on existing ambient conditions in Section 3.11, Noise, and impacts are less than significant. Therefore, implementation of the proposed project would not result in a potentially significant cumulatively considerable contribution to construction noise impacts within 500 feet of the project site. As such, the proposed project, in conjunction with other projects, would result in a less than significant cumulative impact with respect to construction noise.

Traffic Noise Impacts

The significance threshold for a cumulative traffic noise impact would be a substantial permanent increase in traffic noise levels in the vicinity of the project site along any roadway segment that already experiences noise levels in excess of normally acceptable standards for adjacent land uses. As shown in Section 3.11, Noise, Table 3.11-7, modeled traffic noise levels range up to 67.6 A-weighted decibel (dBA) day/night average sound level (L_{dn}) as measured at 50 feet from the centerline of the outermost travel lane. The nearest residential uses along these roadway segments are located a minimum of 100 feet from the centerline of the outermost travel lane. At this distance, and with minimal shielding due to terrain features, these traffic noise levels would be reduced to below 67.0 dBA L_{dn} as measured at existing residential land uses along these modeled roadway segments. These noise levels are compatible with the County's transportation noise level thresholds for residential land uses. Therefore, there is no existing cumulative impact to which the proposed project would contribute. In addition, the proposed project would not result in a maximum traffic noise increase of 0.2 dBA to existing traffic noise levels along any modeled roadway segment. Thus, the proposed project's contribution to the future cumulative condition would be an even smaller percentage increase. This increase, which is well below the 1 dBA increase which could be considered significant for cumulative impacts, would not be considered a significant contribution to the existing traffic noise environment (which, as noted, does not have an existing cumulative impact). As such, the proposed project, in conjunction with other projects located within 500-feet of any of these modeled roadway segments, would result in a less than significant cumulative impact with respect to traffic noise impacts.

Stationary Source Noise Impacts

The significance threshold for a cumulative stationary source operational noise impact would be a substantial temporary noise increase at any location within 500 feet of the proposed project that is already exposed to excessive noise levels from stationary source operational noise. There are no existing stationary noise sources within 500-feet of the project site that produce noise levels in excess of established standards and there is no existing cumulative impact. In addition, as shown in the analysis within Section 3.11, Noise, the proposed project would also not result in stationary source noise levels in excess of identified standards and the proposed project's contribution to existing ambient conditions would not result in a substantial increase over ambient conditions. As

such, the proposed project, in conjunction with other projects, would result in a less than significant cumulative impact with respect to noise impacts associated with stationary sources.

Construction Vibration Impacts

Construction-related groundborne vibration impacts are very localized; therefore, only areas within approximately 50 feet of a construction site could potentially be affected by groundborne vibration resulting from construction activities. There are no development projects undergoing construction within 50 feet of the potential site. Therefore, there is no cumulative groundborne vibration impact, and groundborne vibration levels from implementation of the proposed project would not result in a cumulatively considerable contribution to this less than significant cumulative impact.

Operational Groundborne Vibration Impacts

The only cumulatively considerable contribution to groundborne vibration conditions in the project vicinity would result from introduction of new permanent sources of groundborne vibration to an existing impacted environment. The proposed project includes 100 percent affordable housing implementing State policies designed to increase affordable inventory and does not include any uses that would involve groundborne vibration. Additionally, there are no major sources of groundborne vibration in the vicinity of the project site and the nearest cumulative project is located 0.9 mile from the project site. Therefore, implementation of the proposed project would not result in a potentially significant cumulatively considerable contribution to vibration conditions. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to permanent sources of groundborne vibration.

Level of Cumulative Significance

Less than significant impact.

4.2.12 - Transportation

The geographic scope of the cumulative impact analysis for transportation is the nine Bay Area counties (Marin, Sonoma, Napa, Solano, San Mateo, San Francisco, Santa Clara, Alameda, and Contra Costa) that fall under the purview of the Metropolitan Planning Organization and Metropolitan Transportation Commission. The nearest cumulative project is 0.9 mile from the project site.

Vehicle Miles Traveled

Cumulative projects in the nine-county Bay Area may generate new VMT, which would be added to the roadway network within the geographic context. All cumulative projects would be required to comply with County and local ordinances and General Plan policies that address VMT, as well as mitigate their fair share of impacts related to VMT. Nonetheless, cumulative projects would have a potentially significant impact related to VMT.

As discussed in Section 3.12, Transportation, VMT is, by definition, cumulative. As discussed in Section 3.12, the proposed project would contribute to an increase in VMT but that increase is considered less than significant because the proposed project is below screening thresholds, is located near a transit stop, and contains 100 percent affordable housing. Therefore, the proposed

project's contribution would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to VMT.

Alternative Transportation

Cumulative projects in the nine-county Bay Area would generate alternative transportation users but would be required to provide adequate bicycle and pedestrian facilities and comply with the programs and policies supporting alternative transportation in planning level documents. More specifically, Countywide Policies TR-2.1 and TR-2.2 require new developments to provide adequate bicycle and pedestrian links and facilities. Accordingly, there would be a less than significant cumulative impact to the bicycle, pedestrian and transit system.

As described under Impact TRANS-1, the proposed project would generate bicycle, pedestrian and transit trips. The proposed project would include a sidewalk along the project frontage connecting to Drakes Cove Road as well as a crosswalk across East Sir Francis Drake Boulevard to enable access to the adjacent multiuse Corte Madera Creek Pathway to the south. The multiuse trail provides access to the Larkspur Ferry Terminal located approximately 0.5 mile away. The proposed project would also provide internal pedestrian pathways as well as short- and long-term bicycle storage. Therefore, the proposed project's contribution to alternative transportation impacts would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to alternative transportation.

Roadway Hazards

Impacts related to roadway safety and traffic hazards due to design features are generally site specific. For example, the potential roadway safety issues or traffic hazards related to the design of an intersection are specific to that particular intersection. Cumulative projects would be required to mitigate their impacts, as well as ensure that roadway safety is maintained, and comply with applicable policies in local and regional planning documents. Accordingly, cumulative impacts related to geometric design features are less than significant.

As discussed under Impact TRANS-3, the proposed project considers four different project site access alternatives. For each access alternative, there is sufficient available sight distance, no hazardous geometric roadway design features, and sufficient vehicle que space. Therefore, the proposed project's contribution to roadway hazard related impacts would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to roadway hazards.

Emergency Access

Cumulative projects would be required to ensure that sufficient emergency access is provided and/or maintained in accordance with applicable federal, State, and local regulations. Accordingly, there is a less than significant cumulative impact.

As described in Impact TRANS-4, the proposed project would not result in inadequate emergency access. Therefore, the proposed project's contribution to related impacts would not be cumulatively considerable. As such, the proposed project, in conjunction with other planned and approved projects, would result in a less than significant cumulative impact with respect to emergency access.

Level of Cumulative Significance

Less than significant impact.

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CHAPTER 5: EFFECTS FOUND NOT TO BE SIGNIFICANT

5.1 - Introduction

This chapter is based, in part, on the Notice of Preparation (NOP), dated March 25, 2022, and contained in Appendix A of this Draft EIR. The NOP was prepared to identify the potentially significant effects of the project and was circulated for public review between March 25 and April 25, 2022. Public agencies and individual members of the public provided comments on the recommended scope of this Draft EIR. All NOP comments were considered in the preparation of this EIR.

This chapter provides a brief description of the effects found not to be significant, or found to be less than significant, based, in part, on analysis conducted as part of the preparation of this EIR, as well as input received in response to the NOP. In addition to the analysis provided in this chapter, please note that certain less than significant impacts are addressed in the various EIR topical sections (Sections 3.1 through 3.12).

5.2 - Environmental Effects Found not to be Significant

5.2.1 - Agriculture and Forestry Resources

According to the California Department of Conservation (DOC), the project site does not contain, nor is it adjacent to lands classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.¹ The nearest farmland to the project site, is a site that is classified by the DOC as Farmland of Local Importance, located approximately two miles south of the project site. The project site is currently vacant and does not contain agricultural or farmland uses, and the site has not been historically used for agricultural purposes (it was previously a gun range).

While the proposed project is not subject to local zoning, the project site is zoned as Agriculture Limited (A2-B2) by Marin County (County).² The A2-B2 Zoning District lists affordable housing as a permitted use³ and other permitted residential uses include agricultural worker housing, group homes with six or fewer residents, residential care facilities, and single-family dwellings (attached or detached). However, as noted above, and as discussed in further detail in Section 3.10, Land Use, local land use zoning regulations are not applicable to the site under the principle of state sovereignty. Consistent with the state sovereignty framework, and to ensure this Draft EIR is “meaningful and useful to decision-makers and the public” pursuant to California Environmental Quality Act (CEQA) requirements codified in California Public Resources Code Section 21003, this

¹ California Department of Conservation (DOC). 2016. Farmland Mapping and Monitoring Program: California Important Farmland Finder. Website: <https://maps.conservation.ca.gov/dlrp/ciff/>. Accessed May 12, 2022.

² The proposed project is a State project located on State-owned land. Pursuant to Article XI, Section 7 of the California Constitution, a State agency is not subject to local regulation unless the Legislature expressly waives immunity in a statute or the California Constitution (see also Executive Order N-06-19). The California Department of General Services (DGS) has not waived immunity for the proposed project and local land use plans, policies, and regulations are, therefore, not applicable to the project.

³ Marin County. Marin County Municipal Code. Title 22 Development Code. Article II – Zoning Districts and Allowable Land Uses. Section 22.08.030 Agricultural District Land Uses and Permit Requirements. Website: https://library.municode.com/ca/marin_county/codes/municipal_code?nodeId=TIT22DECO_ARTIIIZODIALLAUS_CH22.08AGRELADI_22.08.030AGDILAUSPERE. Accessed May 12, 2022.

Draft EIR does analyze otherwise inapplicable site-specific use, height, density, or other similar development standards set forth in the underlying County Zoning Ordinance for the A2 Zoning District.

Furthermore, the project site is not under a Williamson Act Contract, nor does it contain forestland or timberland zoning or uses and is not adjacent to any forested land. Thus, the proposed project would not involve changes that could result in the conversion of Farmland to nonagricultural use or the conversion of forest land to non-forest use. As such, the proposed project would not result in significant direct, indirect or cumulative effects related to agriculture and forestry resources.

5.2.2 - Mineral Resources

The Marin Countywide Plan (Countywide Plan) identifies eight sites in the County that have been designated by the State as having significant mineral resources for the North Bay region. These sites contain deposits that qualify as marketable commodities by meeting a threshold value based on gross sales price. Map 3-5 in the Countywide Plan illustrates that the project site is not located on a Mineral Resources Preservation Site.⁴ The nearest site is located approximately two miles south of the proposed project. Therefore, the proposed project would not result in the loss of availability of a known mineral resources that would be of value locally, regionally, or Statewide. As such, the proposed project would not result in direct, indirect or cumulative significant effects related to mineral resources.

5.2.3 - Population and Housing

For purposes of analysis, substantial unplanned population growth is defined as growth exceeding the population projections for the County.

The proposed project would result in the development of 250 housing units. As such, it would induce direct population growth through the development of new housing and indirect growth through the creation of new jobs.

According to the California Department of Finance (CDF), the average household size in the County is 2.4 persons.⁵ The proposed project would result in the development of 250 housing units. Given the average household size in County, the proposed project is expected to accommodate a population increase of up to approximately 600 people.⁶

According to the CDF, as of January 1, 2022, the estimated population for the County was approximately 257,135.⁷ As such, an increase in population by 600 people would be approximately 0.2 percent of the population.

⁴ Marin County Community Development Agency. 2007. Marin Countywide Plan. Built Environment Element Website: https://www.marincounty.org/-/media/files/departments/cd/planning/currentplanning/publications/county-wide-plan/cwp_2015_update_r.pdf?la=en. Accessed May 12, 2022.

⁵ California Department of Finance (CDF). 2022. E-5 Population and Housing Estimates for Cities, Counties, and the State. Website: <https://dof.ca.gov/forecasting/demographics/estimates/estimates-e5-2010-2021/>. Accessed May 12, 2022.

⁶ 2.4 persons per housing unit * 250 housing units = 600 people

⁷ California Department of Finance (CDF). 2022. Estimates-E1. Population Estimates for Cities, Counties, and the State-January 1, 2021 and 2022. Website: <https://dof.ca.gov/forecasting/demographics/estimates-e1/>. Access May 12, 2022.

The 2015-2023 Housing Element predicts that the population of Marin County is expected to steadily increase 0.3 percent to 0.5 percent per year through 2040.⁸ Therefore, it can be assumed that the County will experience a population increase of up to 1,286 persons through 2023, which is the current Housing Element horizon.^{9,10} The County is in the process of finalizing and approving the Housing and Safety Element Update to the Marin Countywide Plan for the 2023 through 2031 planning period. The Environmental Impact Report prepared for the Housing Element Update utilizes projections provided by Association of Bay Area Governments (ABAG) to estimate the County’s total population in 2030 and 2040. The County’s total population is expected to increase by 17,395 by 2030, totaling 274,530 persons. The total population is expected to increase by 25,535 by 2040, totaling 282,670 persons. The anticipated population growth from the proposed project would represent approximately 3.4 percent of the planned growth for the County in 2030 and 2.3 percent of the planned growth for 2040 and is considered consistent with the planned growth.¹¹

Further, the current ABAG Regional Housing Needs Allocation (RHNA) Plan, which assigns a number of housing units to each jurisdiction in ABAG representing its share of the State’s housing needs for the 2023 through 2031 planning period, allocates 14,405 housing units to unincorporated and incorporated Marin County.¹²

Table 5-1: RHNA Allocations for Marin County

Jurisdiction	Very Low Income (<50% of Area Median Income)	Low Income (50-80% of Area Median Income)	Moderate Income (80-120% of Area Median Income)	Above Moderate Income (>120% of Area Median Income)	Total
Marin County	3,071	1,766	1,670	4,329	10,836
Unincorporated Marin County	1,100	634	512	1,323	3,569
Total	4,171	2,400	2,182	1,323	14,405

Source: Association of Bay Area Governments (ABAG) 2022.

The proposed project would contribute 250 units to the very low income, low income, and moderate income RHNA numbers. Thus, the affordable housing units included in the proposed project would be considered planned growth in this context. Therefore, implementation of the proposed project would not induce substantial unplanned population growth in Marin County, but would accommodate growth of affordable units to meet existing housing needs by underserved

⁸ Marin County. Marin Countywide Plan. 2014 Marin County Housing Element 2015-2023. Website: https://www.marincounty.org/-/media/files/departments/cd/planning/currentplanning/publications/county-wide-plan/cwp_2015_update_r.pdf?la=en#page=248&zoom=100,0,0. Accessed May 12, 2022.

⁹ $0.005 * 257,135 \text{ persons} = \sim 1,286 \text{ persons}$

¹⁰ $(1.005^{8*} 257,135) - 257,135 = \sim 10,467$

¹¹ Marin County. 2022. Marin County Housing Element/Safety Element Update Draft Environmental Impact Report. Website: <https://housingelementsmarin.org/marin-county-environmental-review>. Accessed December 30, 2022.

¹² Bay Area Association of Governments (ABAG). 2021. Regional Housing Needs Allocation Plan. Website: <https://abag.ca.gov/tools-resources/digital-library/finalrhnaallocationreport2023-2031-approved0pdf>. Accessed November 10, 2022.

populations who would continue to live in the area but in more distant locations (or potentially in unhoused situations).

Furthermore, because the project site is not currently developed with existing housing, and because the project is not anticipated to displace off-site housing, the project would not displace substantial numbers of existing people or housing in a manner that would necessitate the construction of replacement housing elsewhere.

The proposed project would not result in significant direct, indirect or cumulative effects related to population and housing.

5.2.4 - Public Services

The estimated 600-person increase in population resulting from the proposed project is consistent with the 2015-2023 Housing Element and the Countywide Plan and would help the County meet the County's RHNA goals. Development of the proposed project would result in an anticipated incremental increase in demand for public services such as fire protection, police protection, schools, libraries, parks, and other public facilities. Furthermore, the Addendum to the 2012 Draft Marin County Housing Element Supplement to the 2007 Countywide Plan EIR did not identify any significant impacts to public services resulting from the anticipated population growth.¹³ Based, in part, on consultation with the Central Marin Fire Authority (Central Marin Fire)¹⁴ and the Central Marin Police Authority (Central Marin Police)¹⁵, the construction of new or expanded fire protection and police protection facilities would not be required. Furthermore, the proposed project is considered planned growth and it is not expected that it would adversely affect response times or increase the use of existing public services such that substantial physical deterioration, alteration, or expansion of these facilities would be required, thereby triggering environmental impacts. Accordingly, as discussed below, the proposed project would have a less than significant direct, indirect or cumulative impact on public services.

Fire Services

The Central Marin Fire Authority provides fire protection and emergency medical services to the Town of Corte Madera, the City of Larkspur including incorporated Greenbrae, and several portions of the County Service Area (CSA) inclusive of the Greenbrae Boardwalk, Lucky Dr., and San Quentin. The proposed project is located within the Central Marin Fire Authority's jurisdiction, which operates two stations in the City of Larkspur and two in the Town of Corte Madera. Fire Station 16, located approximately 1.1 miles from the project site at 15 Barry Way, would be responsible for an initial response to the project site.¹⁶ Central Marin Fire maintains a staffing level of 12 firefighters on-duty daily 24 hours a day 365 days a year, which includes a minimum of five firefighter-paramedics as well as operates three fire engines and one paramedic transport ambulance daily. Fire station 16 maintains a staffing level of three firefighters on-duty daily, which include one firefighter-

¹³ County of Marin, California. 2014. Draft 2015-2023 Marin County Housing Element Addendum to the 2012 Draft Marin County Housing Element Supplement to the 2007 Countywide Plan EIR. Website: https://www.marincounty.org/-/media/files/departments/cd/he/2015_2023_he_addendum_seir_final.pdf?la=en. Accessed May 19, 2022.

¹⁴ Martin, Rueben. Fire Chief, Central Marin Fire Authority. Personal communication: letter. September 28, 2022.

¹⁵ Norton, Michael. Chief of Police, Central Marin Police Authority. Personal communication: phone. October 4, 2022

¹⁶ Martin, Rueben. Fire Chief, Central Marin Fire Authority. Personal communication: letter. September 28, 2022.

paramedic.¹⁷ This station's average response time is between seven and nine minutes depending on the time of day. The Countywide Plan identifies a five-minute response time as the critical time period for responding to a structural fire. Central Marin Fire estimates that, based on similarly sized residential buildings, the proposed project would generate approximately 30 to 40 calls for service per year. Although the fire Central Marin Fire is not currently meeting the target response time, this anticipated number of additional calls would not be enough to impact current response times, meaning the proposed project on its own would not cause Central Marin Fire to exceed its goal response time. During consultation with Central Marin Fire, it was confirmed that current staffing levels at Fire Station 16 would meet the demand of the proposed project, and no additional facilities would be required.¹⁸

Central Marin Fire currently maintains a mutual aid agreement with the City of San Rafael Fire Department and the City of Kentfield Fire Departments, which provide a truck response when available as Central Marin Fire does not have a hook and ladder fire truck. Upon initial review of the project, the Central Marin Fire Department advised that the proposed would require a 100-foot aerial ladder truck, which is not available at Central Marin Fire Stations at this time.¹⁹ However, after further discussion with the applicant team and review of the building elevations, the Central Marin Fire Department concluded that the proposed project will not require the 100-foot aerial ladder truck and that the proposed project can be accessed by a 75-foot aerial ladder truck.²⁰ Both departments have trucks with 75-foot aerial ladders, which would be adequate to provide Central Marin Fire, and the departments with which it partners, access to the building roofs of the proposed project.²¹ Furthermore, the project would be designed and constructed in conformance with Fire Department requirements (e.g., as conditions of approval). As such, impacts to fire services would be less than significant.

Police Services

Central Marin Police provides police services to the Town of Corte Madera, City of Larkspur, the Town of San Anselmo, and portions of Greenbrae in the County and would provide police services to the proposed project. Central Marin Police has a total of 58 employees, including 42 sworn officers, and its service area includes approximately 35,000 County residents.²² This is approximately 1.2 officers per 1,000 residents.²³ Given the additional 600 residents estimated to be generated by the proposed project. There would still be approximately 1.2 officers per residents.²⁴ Central Marin Police works closely with the Marin County Sheriff's Departments, which provides aid whenever necessary. The Central Marin Police Headquarters Facility, located at 250 Doherty Drive in Larkspur, is located approximately 1.6 miles southwest from the project site and would be the station serving the project site.²⁵ Central Marin Police receives approximately 40,000 calls for service per year.²⁶

¹⁷ Martin, Rueben. Fire Chief, Central Marin Fire Authority. Personal communication: letter. September 28, 2022.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Martin, Rueben. Fire Chief, Central Marin Fire Authority. Personal communication. letter. November 2, 2022.

²¹ Martin, Rueben. Fire Chief, Central Marin Fire Authority. Personal communication: letter. September 28, 2022.

²² Central Marin Police Authority. 2022. About web page. Website: <https://www.centralmarinpolice.org/27/About>. Accessed October 10, 2022.

²³ $42 \text{ officers} * 1,000 / 35,000 \text{ people} = 1.2 \text{ officers per } 1,000 \text{ people}$

²⁴ $42 \text{ officers} * 1,000 / 35,600 = 1.18 = \sim 1.2 \text{ officers per } 1,000 \text{ people}$

²⁵ Norton, Michael. Chief of Police, Central Marin Police Authority. Personal communication: phone. October 4, 2022.

²⁶ Ibid.

During consultation with Central Marin Police, Chief Norton did not identify an average response time response time for the department; however, he estimated that response times to calls in the service area are typically of a couple of minutes and have never been a concern. Central Marin Police estimates that the proposed project would generate approximately one call for service per resident a year, resulting in an increase of 600 calls for service given the proposed project would include up to 600 residents. During consultation with Central Marin Police, Chief Norton confirmed that current staffing would meet the needs of the proposed project and that no additional or expanded facilities would be required. However, Central Marin Police did express safety concerns regarding increased traffic on East Sir Francis Drake Boulevard. Therefore, Central Marin Police recommends the proposed project implements one of the proposed access alternatives that includes a traffic signal. Section 3.12, Transportation, provides further description of the proposed project's access alternatives.

Additionally, although the proposed project is not subject to local policies, the project applicant would pay impact fees to ensure the project would not adversely affect the provision of police protection services in the area. As such, impacts related to police services would be less than significant.

School Services

There are 15 school districts in the County. The project site would be served by the San Rafael City Schools, which includes the San Rafael Elementary School District and the San Rafael High School District.²⁷ Within these districts, the closest elementary school to the project site is Bahia Vista Elementary School, located 2.8 miles from the project site. The closest middle school to the project site is Davidson Middle School, located approximately 3.4 miles away. The closest high schools to the project site are Madrone High School and San Rafael High School, both located approximately 3.4 miles away. Using the State of California housing unit yield of 0.7 students per unit, this project is estimated to result in up to 175 students, given that the proposed project would develop up to 250 units.²⁸ The San Rafael City Elementary School District is currently at approximately 90 percent capacity given the District's current facility constraints. Therefore, the District has determined that its elementary and middle schools across the District have the capacity to serve students generated by the proposed project.²⁹ Similarly, San Rafael City High School District is currently at approximately 90 percent capacity given the District's current facility constraints. Therefore, the high schools across the District have the capacity to serve students who would be residents of the proposed project.³⁰ Additionally, California State Legislature under Senate Bill (SB) 50 and Government Code Section 65995(3)(h), has determined that payment of school impact fees provides full and complete mitigation for impacts to school facilities. The building containing extremely low to low income affordable housing, owned by Eden Housing Inc., would be required to pay school impact fees. As a result, impacts would be less than significant.

²⁷ County of Marin, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA. Schools and School Districts. Website: <https://www.arcgis.com/apps/webappviewer/index.html?id=ac112c26ecb34b76bd14cae366868d3a>. Accessed May 18, 2022.

²⁸ 250 units * 0.7=175 students

²⁹ Lippi, Ken. Senior Deputy Superintendent, Marin County Office of Education. Personal Communication: email. November 30, 2022.

³⁰ Ibid.

Library Facilities

The County is served by the Marin County Free Library, which has 12 locations throughout the County. The closest location to the project site is the Corte Madera location at 707 Meadowsweet Drive approximately 2.6 miles south of the project site.

In 2016 and 2017, Marin County Free Library served more than 1.1 million visitors. The proposed project is expected to add an additional 600 people to the Marin County Free Library.

In April 1994, voters in Library Zone 2, which includes the City of Novato and the unincorporated areas of Marin County, approved Measure L, which assessed a \$36 per year special tax for each parcel located within the Marin County Free Library District, commencing in fiscal year 1994-1995 and thereafter for the maintenance of library services and restoration of library hours of operation.

In June 2014, voters in the Marin County Free Library District renewed Measure A, which assessed a \$49 per parcel special tax on parcels located in the Marin County Free Library District, effective 2015 through 2024 with annual Consumer Price Index (CPI) adjustments 2016 through 2024. The special tax provides critical funding to bring local libraries up to date, prevent closures, maintain library hours, preserve educational and job-seeking resources for low income residents, prevent staff lay-offs, maintain collections of books, CDs, DVDs, materials and services, provide Americans with Disabilities Act (ADA) accessibility, and ensure local funding that cannot be taken by the State.³¹ In November 2022, voters in the Marin County Free Library District voted to pass Measure B, which provides funding for library access, enhance programs, increase book/digital collections, provide free internet access and computers, upgrade library facilities, by increasing the currently approved library parcel tax to \$98 a year. This tax would ensure that the existing library facilities have adequate capacity to service the additional 600 library users generated by the proposed project. The proposed project would pay the special tax consistent with Measure L, and as such, impacts would be less than significant.

5.2.5 - Parks and Recreation

The County contains a large variety of parks and open space. For example, Remillard Park is located directly south of the project site; Hal Brown Park is approximately 2.2 miles east of the project site; Bayside Park is approximately 5.8 miles northeast of the project site, and Santa Margarita Island Preserve is approximately 6.1 miles north of the project site.

As previously discussed, the proposed project is not subject to the local policies and regulations contained in the Countywide Plan and Municipal code under provisions of state sovereignty. However, for the purposes of this analysis, this Draft EIR will evaluate the proposed project's impact to parks using the parkland requirements contained in Section 22.98.040 of the Municipal Code. The County requires that three acres of land for each 1,000 persons residing within the County shall be devoted to neighborhood and community park and recreational services.

For the purposes of this analysis, this Draft EIR evaluates the proposed project's impact to parks and recreation using the parkland requirements based on a performance threshold requiring that three

³¹ Marin County Free Library. 2022. Parcel Tax exemptions.

acres of land for each 1,000 persons residing in the area shall be devoted to neighborhood and community park and recreational services. There are approximately 28,514 acres of park land in Marin County, when accounting for State Parks, School Playgrounds, Regional Parks, Community Parks, Neighborhood Parks, and Mini-parks.³² Given that the current population of Marin County is 257,135 persons, there are currently about 112.0 park acres per 1,000 persons. As described above, the proposed project would add approximately 600 residents to Marin County. Given this population increase, the park ratio would be approximately 110.6 park acres per 1,000 persons, which is well over the minimum threshold of 3 acres per 1,000 persons. Furthermore, the proposed project would incorporate approximately 35,000 square feet (or about 0.8 acres) of landscaped open space and approximately 35,000 square feet of outdoor amenity space, which would host a variety of passive and active recreational areas for residents including a community terrace, play area, a fenced dog area, and other recreational amenities that would serve project residents. As such, impacts would be less than significant.

The estimated 600-person increase in population resulting from the proposed project would result in an incremental increase in demand for recreational services. This amount of population growth would be consistent with the 2015-2023 Housing Element and the Countywide Plan. Furthermore, the proposed project would incorporate approximately 35,000 square feet of landscaped open space and approximately 35,000 square feet of outdoor amenity space, which would host a variety of passive and active recreational areas for residents including a community terrace, play area, and fenced dog area, and other recreational amenities that would serve project residents. Therefore, the proposed project is considered planned growth and it is not expected that the proposed project would adversely affect park or recreational services such that the project would increase the use of existing parks such that substantial physical deterioration of the facility would occur, thereby triggering environmental impacts. As such, the proposed project would not result in significant direct, indirect or cumulative effects related to recreation.

5.2.6 - Utilities and Service Systems

The proposed project would obtain water from the Marin Municipal Water District (Marin Water).³³ The Ross Valley Sanitary District (RVSD) would collect the proposed project's wastewater and the Central Marin Sanitation Agency (Central Marin Sanitation) would treat the proposed project's wastewater.³⁴ Marin Sanitary Service (Marin Sanitary) would provide solid waste services to the project site.³⁵ The project site would be served by Pacific Gas & Electric Company (PG&E) for electricity and gas.³⁶ However, should the property owner choose, they could opt out of PG&E and be serviced by Marin Clean Energy.

³² County of Marin. Public Lands. Website: <https://data.marincounty.org/stories/s/Public-Lands-in-Marin/7b6n-tzji>. Accessed May 18, 2022.

³³ Marin Municipal Water District (Marin Water). 2020-2022. Website: <https://www.marinwater.org/>. Accessed May 12, 2022.

³⁴ Central Marin Sanitation Agency (Central Marin Sanitation). 2022. Website: <https://www.cmsa.us/>. Accessed May 12, 2022.

³⁵ Marin Sanitary Service. 2022. Website: <https://marinsanitaryservice.com/>. Accessed May 12, 2022.

³⁶ Marin Clean Energy. Website: <https://www.mccleanenergy.org/>. Accessed May 12, 2022.

Water

The following analysis is based, in part, on consultation with Marin Water.³⁷ Marin Water serves more than 191,000 people in the central and southern portions of the County and would serve the proposed project.³⁸ The proposed project would connect to water services through an existing water main located within East Sir Francis Drake Boulevard.³⁹ During consultation with Marin Water, it was confirmed that the proposed project would not require expanded or additional facilities.

During consultation, Marin Water provided an estimated water demand of 0.14 acre-feet per dwelling unit per year. Given the proposed project would have up to 250 units, its annual water demand would be approximately 35 acre-feet per year. Marin Water confirmed that this additional demand could be met with current water supplies, which are projected to be 84,761 acre-feet in the year 2025, given 2025 is a normal year.^{40,41} Marin Water’s storage is above average and there is no moratorium prohibiting new connections.⁴² Table 5-2 below illustrates Marin Water’s ability to provide an additional 35 acre-feet of water to serve the proposed project is normal, dry, and multiple dry years.

Table 5-2: Multiple Dry Years Supply and Demand Comparison

		2025	2030	2035	2040	2045
Normal Year	Supply totals	84,761	85,017	84,751	84,784	84,852
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	46,742	46,972	46,777	46,733	46,645
First Year	Supply totals	79,556	79,560	79,560	79,562	79,567
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	41,537	41,514	41,586	41,511	41,360
Second Year	Supply totals	84,321	84,313	84,342	84,314	84,262
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	46,302	46,267	46,368	46,263	46,055
Third Year	Supply totals	86,430	86,448	86,419	86,453	86,530
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	48,411	48,402	48,445	48,402	48,323

³⁷ Eischens, Joseph. Engineering Support Services Manager, Marin Municipal Water District. Personal communication: phone. September 30, 2022

³⁸ Marin Municipal Water District. 2022. About web page. Website: <https://www.marinwater.org/mission-and-history>. Accessed October 10, 2022.

³⁹ Eischens, Joseph. Engineering Support Services Manager, Marin Municipal Water District. Personal communication: phone. September 30, 2022.

⁴⁰ Ibid.

⁴¹ Marin Municipal Water District. 2021. 2020 Urban Water Management Plan. Table 7-7 Normal Year Supply and Demand Comparison.

⁴² Eischens, Joseph. Engineering Support Services Manager, Marin Municipal Water District. Personal communication: phone. September 30, 2022

		2025	2030	2035	2040	2045
Fourth Year	Supply totals	72,700	72,695	72,728	72,696	72,627
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	34,681	34,649	34,754	34,645	34,420
Fifth Year	Supply totals	69,441	69,432	69,471	69,432	69,328
	Demand totals	38,019	38,046	37,974	38,051	38,207
	Difference	31,422	31,386	31,497	31,381	31,121

Source: Marin Municipal Water District, 2021.

Marin Water would not provide any recycled water to the project site. Irrigation needs for the landscaped portion of the project site could not be determined at the time of consultation with Marin Water. Therefore, as a condition of approval, Marin Water will review design-level project plans for the site to determine whether there are any concerns regarding on-site irrigation. As such, impacts would be less than significant.

Wastewater

Central Marin Sanitation operates a water resource recovery facility in the County, which treats and disposes wastewater as clean effluent in the San Francisco Bay.⁴³ Central Marin Sanitation operates under a Joint Powers Agreement (JPA), which consolidated the treatment of wastewater from three separate local agencies, including San Rafael Sanitation District, RVSD, and Sanitary District No. 2 of Marin County.

The proposed project is expected to generate approximately 35 acre-feet of wastewater. Central Marin Sanitation treated approximately 6,786 acre-feet of wastewater in 2020.

RVSD is a wastewater collections system that transports wastewater to the Central Marin Sanitation treatment plant. Consultation with RVSD confirmed that there is an existing 10-inch diameter sanitary sewer main and the intersection of Drake’s Cove Road and Sir Francis Drake Boulevard and that the existing pipe diameter appears to be sufficient for the proposed additional wastewater flow.⁴⁴ Furthermore, correspondence with Central Marin Sanitation confirmed that its treatment plant would have adequate capacity for the proposed 250 units.⁴⁵ Therefore, impacts would be less than significant.

Solid Waste

The following analysis is based, in part, on consultation with Marin Sanitary.⁴⁶ Marin Sanitary provides weekly garbage, recycling, and compostable collection services to multi-family customers in

⁴³ Central Marin Sanitation Agency (Central Marin Sanitation). 2022. About us web page. Website: <https://www.cmsa.us/about-us/overview/>. Accessed October 11, 2022.
⁴⁴ Benedetti, Philip. Senior, Ross Valley Sanitary District. Personal communication: email. October 27, 2022.
⁴⁵ Dow, Jason. General Manager, Central Marin Sanitation Agency. Personal communication: email. October 31, 2022.
⁴⁶ Rosa, Steve. Program Development Manager, Marin Sanitary Service and Marin Recycling & Resource Recovery. Personal communication: phone. September 27, 2022.

the City of San Rafael, Town of San Anselmo, Town of Ross, City of Kentfield, Community of Kent Woodlands, City of Fairfax, Community of Greenbrae, the City of Larkspur, and unincorporated areas of the County and would service the proposed project. Currently, Marin Sanitary serves more than 750 multi-family buildings and approximately 15,000 multi-family tenants.⁴⁷

According to Marin Sanitary, multi-family apartments buildings, such as the proposed project, would generate approximately 32 gallons of solid waste per unit per week, approximately 20 gallons of recycling per unit per week, and 20 gallons of compost waste per unit per week.⁴⁸ Therefore, the proposed project would generate approximately 8,000 gallons of solid waste, approximately 5,000 gallons of recycling, and approximately 5,000 gallons of compost per week. The proposed project would provide adequate bin space and storage areas on-site to accommodate this estimated waste generation. The proposed project would also provide for the garbage, recycling, and compost bins to be accessed from the garage entry closest to street level to provide easier access for the Marin Sanitary trucks. Marin Sanitary does not see any complications handling the solid waste from the proposed project with current staffing and facilities and does not anticipate that it will require additional hires or facilities.⁴⁹

Solid waste from the project site would be disposed of at the Redwood Landfill in the City of Novato,⁵⁰ which currently has a remaining capacity of approximately 26 million cubic yards and is expected to be operational through 2042.^{51, 52} Marin Sanitary confirmed that the landfill would have adequate capacity for the proposed project. As such, impacts to solid waste would be less than significant.

Furthermore, the estimated 600-person increase in population is consistent with the growth estimates, as discussed above. While the proposed project would result in an incremental increase in demand for water, wastewater treatment, stormwater drainage facilities, electric power, natural gas, telecommunications facilities, and solid waste collection services, the proposed project is considered planned growth, and therefore, it is not expected that the proposed project would adversely affect water supply, wastewater treatment capacity, stormwater drainage capacity, landfill capacity, electric power, natural gas, or telecommunications facilities. Nor would the proposed project result in a substantial increase in the use of existing utilities and service systems such that substantial physical deterioration, alteration, or expansion of these facilities would be required, thereby triggering environmental impacts. As such, the proposed project would not result in significant direct, indirect or cumulative impacts related to utilities and service systems.

5.2.7 - Wildfire

The State Fire Marshal shall identify areas in the State as moderate, high, and very high fire hazard severity zones based on consistent Statewide criteria and based on the severity of fire hazard that is

⁴⁷ Marin Sanitary Service (Marin Sanitary). 2022. Multi-family Services web page. Website: <https://marinsanitaryservice.com/multifamily/>. Accessed October 11, 2022.

⁴⁸ Rosa, Steve. Program Development Manager, Marin Sanitary Service and Marin Recycling & Resource Recovery. Personal communication: phone. September 27, 2022.

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

expected to prevail in those areas. Moderate, high, and very high fire hazard severity zones shall be based on fuel loading, slope, fire weather, and other relevant factors including areas where winds have been identified by the Office of the State Fire Marshal as a major cause of wildfire spread.

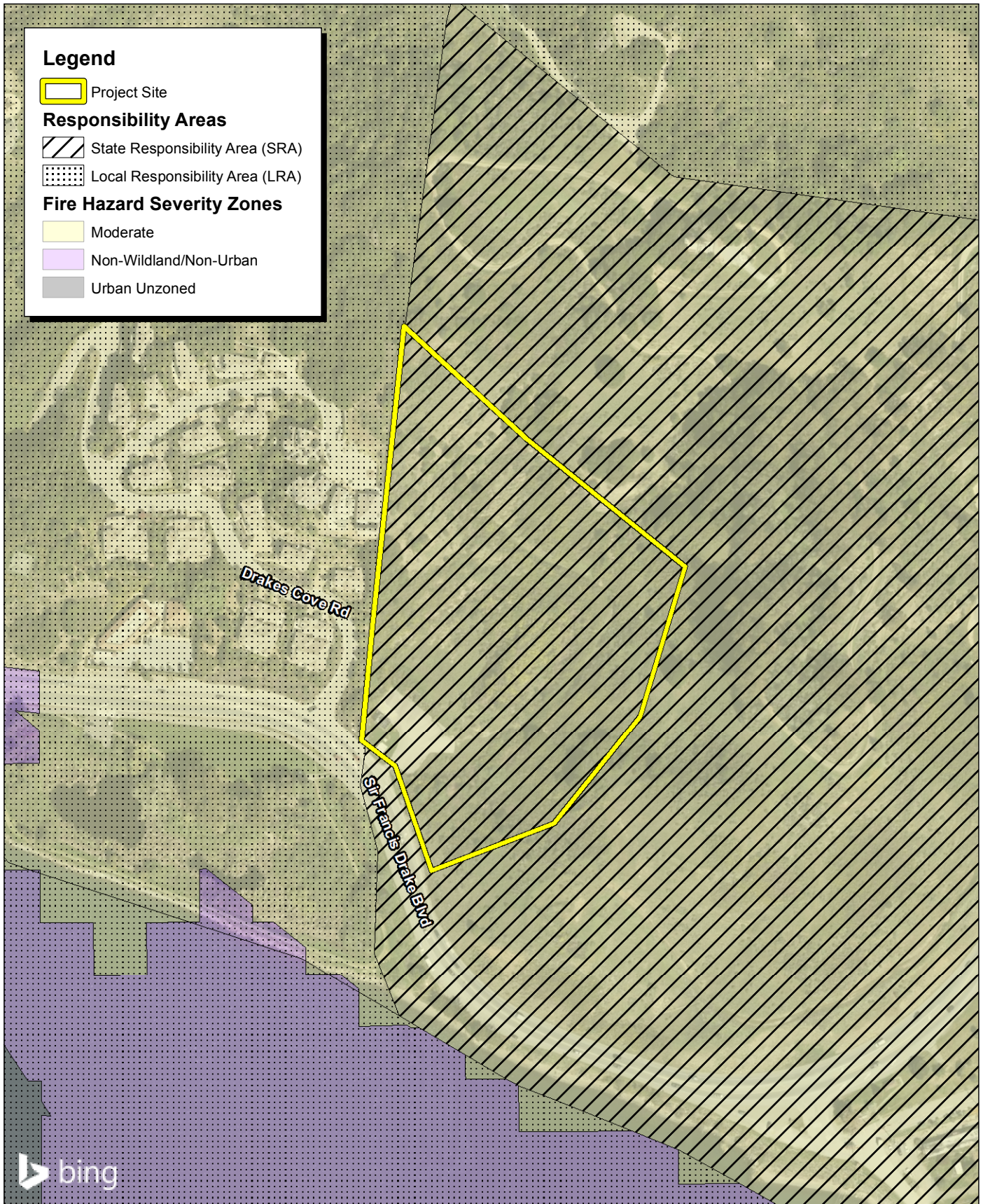
The project site is located in a Moderate Fire Hazard Severity Zone within a State Responsibility Area (SRA) as shown in Exhibit 5-1.⁵³ The project site is located adjacent to land identified as Moderate Fire Hazard Severity Zone within an SRA, as well as land identified as Non-Very High Fire Hazard Severity Zone within a Local Responsibility Area (LRA).^{54,55} The nearest Very High Fire Hazard Severity Zone is located approximately 2.2 miles to the southwest in the City of Larkspur. The project site is surrounded by features that provide fuel breaks in the event of a fire, such as East Sir Francis Drake Boulevard, Drakes Cove Road, and the San Francisco Bay. According to CAL FIRE, there have been two fire incidents reported within a 10-mile radius of the project site.⁵⁶ The Mission Fire Incident burned 12 acres in 2018. The fire did not result in evacuation orders. The Lassen Fire Incident burned 44 acres in 2021. Evacuation orders were made but were then downgraded to evacuation warnings. The proposed project would not exacerbate any wildfire risks. In fact, the proposed project would remove existing vegetation and trees from the project site that would reduce the site's existing fuel load and include irrigated landscaping that would further reduce risks. A sprinkler system would be installed in the proposed buildings, reducing the risk of spreading wildfires. Additionally, the proposed project includes a 25-foot driveway from East Sir Francis Drake Boulevard that would accommodate emergency response vehicles. Impacts to emergency evacuation and emergency access are addressed in Section 3.9 Hazards and Hazardous Materials and Section 3.12 Transportation. As such, the proposed project would not result in significant direct, indirect or cumulative impacts related to wildfire.

⁵³ California Department of Fire and Forestry Protection (CAL FIRE). 2007. Marin County Fire Hazard Severity Zones in SRA. Website: https://osfm.fire.ca.gov/media/6707/fhszs_map21.pdf. Accessed May 12, 2022.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ California Department of Fire and Forestry Protection (CAL FIRE). All Incident Data. Website: <https://www.fire.ca.gov/imapdata/mapdataall.csv>. Accessed May 20, 2022.



Source: Bing Aerial Imagery. County of Marin. CAL FIRE FRAP.



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CHAPTER 6: OTHER CEQA CONSIDERATIONS

6.1 - Significant Unavoidable Impacts

California Environmental Quality Act (CEQA) Guidelines Section 15126 requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the Draft Environmental Impact Report (Draft EIR) must also identify (1) significant environmental effects of the proposed project; (2) significant environmental effects which cannot be avoided if the proposed project is implemented; (3) significant irreversible environmental changes which would be involved in the proposed project should it be implemented; (4) growth-inducing impact of the proposed project; (5) mitigation measures proposed to minimize the significant effects; and (6) alternatives to the proposed project.

This chapter provides a discussion of other CEQA-mandated topics, including significant unavoidable impacts, growth inducement, and significant irreversible environmental changes which would be involved in the proposed project should it be implemented. Chapter 3, Environmental Impact Analysis, describes the significant environmental effects of the proposed project and provides mitigation measures proposed to minimize significant effects. Chapter 7, Alternatives to the Proposed Project, discusses alternatives to the proposed project.

CEQA Guidelines Section 15126.2(c) requires an EIR to describe significant environmental effects of the proposed project that cannot be avoided if the proposed project were implemented.

The proposed project was analyzed for potentially significant impacts related to each of the environmental issues discussed in Sections 3.1 through 3.12. Under CEQA, an EIR must consider the extent to which a project is inconsistent with “applicable general plans” (State CEQA Guidelines Section 15125(d)). The proposed project is a State project located on State-owned land. Pursuant to Article XI, Section 7 of the California Constitution, a State agency is not subject to local regulation unless the Legislature expressly waives immunity in a statute or the California Constitution (see also Executive Order N-06-19). The California Department of General Services (DGS) has not waived immunity for the proposed project and Marin County-adopted land use plans, policies, and regulations are, therefore, not applicable to the project. For this reason, this Draft EIR need not, as a matter of law, consider such plans, policies, and regulations. This evaluation may be used by local agencies for determining, as part of their local processes, the project’s consistency with local plans, policies, and regulations.

The following environmental topics addressed in the Draft EIR were determined to be less than significant, or could be reduced to less than significant levels with mitigation measures:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Transportation

As identified in Section 3.1, Aesthetics, Light, and Glare, through Section 3.12, Transportation, of this Draft EIR, the proposed project would not result in any significant and unavoidable impacts.

6.2 - Growth-inducing Impacts

CEQA requires a discussion of the ways in which a project could be growth inducing. CEQA Guidelines Section 15126.2(d) identifies a project as growth inducing if it would “foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” The CEQA Guidelines do not provide specific criteria for evaluating growth inducement and state that growth in any area is “necessarily beneficial, detrimental, or of little significance to the environment.” CEQA does not require separate mitigation for growth inducement as it is assumed that these impacts are already captured in the analysis of environmental impacts. (See Chapter 3, Environmental Impact Analysis.)

There are two types of growth-inducing impacts that a project may have: direct and indirect. To assess the potential for growth-inducing impacts, the CEQA Guidelines require that an Environmental Impact Report discuss the ways a project could be growth inducing and to discuss the project’s characteristics that may encourage and facilitate activities that individually or cumulatively may affect the environment (CEQA Guidelines § 15126.2, subd. (e)). CEQA Guidelines, as interpreted by the DGS, state that a significant growth-inducing impact may result if the project would:

- Induce substantial population growth in an area (for example, by proposing new homes and commercial or industrial businesses beyond the land use density/intensity envisioned in the general plan);
- Substantially alter the planned location, distribution, density, or growth rate of the population of an area; or
- Include extensions of roads or other infrastructure not assumed in the general plan or adopted capital improvements project list when such infrastructure exceeds the needs of the project and could accommodate future developments.

Direct growth-inducing impacts occur when the development of a project imposes new burdens on a community by directly inducing unplanned population growth, or by leading to the construction of additional developments in the same area. Also included in this category are projects that remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant with excess capacity that could allow additional development in the service area). Construction of these types of infrastructure projects cannot be considered isolated from the development they facilitate and serve. Projects that physically remove obstacles to growth, or projects that indirectly induce growth, may provide a catalyst for future unrelated development in an area such as a new residential community that requires additional commercial uses to support residents. Consistent with the State CEQA Guidelines (§ 15126.2(e)), it must not be assumed that growth in any one area is necessarily beneficial, detrimental or of little significance to the environment.

Direct Population Growth

The proposed project consists of the development of 250 housing units. As such, it would induce direct population growth through the development of new housing and indirect growth through the creation of new jobs.

According to the California Department of Finance (CDF), the average household size in Marin County (County) is 2.40 people.¹ Therefore, as shown in Table 6-1, the proposed project would add an estimated 600 people to the County’s population. As of January 1, 2022, the estimated population for Marin County was approximately 257,135.² As such, an increase in population by 600 people would be approximately 0.2 percent of the population.

Table 6-1: Project-Related Population Growth

Dwelling Units	Persons Per Household	Population Growth	Population Growth as a Percent of County of Marin
250	2.4	600	0.2%
Notes: Marin County’s population in 2022 was estimated at 257,135. Source: California Department of Finance (CDF) 2022.			

The 2015-2023 Marin County Housing Element predicts that the population of the County is expected to steadily increase 0.3 percent to 0.5 percent per year through 2040.³ Therefore, it can be assumed that the County will experience a population increase of up to 1,286 persons through 2023, which is the current Housing Element horizon.^{4,5} The County is in the process of finalizing and approving the Housing and Safety Element Update to the Marin Countywide Plan for the 2023 through 2031 planning period.⁶ The Environmental Impact Report prepared for the Housing Element Update utilizes projections provided by Association of Bay Area Governments (ABAG) to estimate the County’s total population in 2030 and 2040. As shown in Table 6-2, the County’s total population is expected to increase by 17,395 by 2030, totaling 274,530 persons. The total population is expected to increase by 25,535 by 2040, totaling 282,670 persons.

¹ California Department of Finance (CDF). 2022. E-5 Population and Housing Estimates for Cities, Counties, and the State. Website: <https://dof.ca.gov/forecasting/demographics/estimates/estimates-e5-2010-2021/>. Accessed May 12, 2022.

² California Department of Finance (CDF). 2022. Estimates-E1. Population Estimates for Cities, Counties, and the State-January 1, 2021 and 2022. Website: <https://dof.ca.gov/forecasting/demographics/estimates-e1/>. Access May 12, 2022.

³ Marin County. Marin Countywide Plan. 2014 Marin County Housing Element 2015-2023. Website: https://www.marincounty.org/-/media/files/departments/cd/planning/currentplanning/publications/county-wide-plan/cwp_2015_update_r.pdf?la=en#page=248&zoom=100,0,0. Accessed May 12, 2022.

⁴ $0.005 * 257,135 \text{ persons} = \sim 1,286 \text{ persons}$

⁵ $(1.005^{8*} 257,135) - 257,135 = \sim 10,467$

⁶ Marin County. 2022. Marin County Housing Element/Safety Element Update Draft Environmental Impact Report. Website: <https://housingelementsmarin.org/marin-county-environmental-review>. Accessed December 30, 2022.

Table 6-2: Marin County Projected Population Growth Compared to Project-Related Growth

Year	Marin County Total Population Projection	Portion of Total Population in Unincorporated Marin County	Marin County Total Population Increase from 2022 ¹	Project-Related Growth ²	
				Percent of the Projected Total Population	Percent of the Projected Population Increase
2030	274,530	73,490	17,395	0.22%	3.4%
2040	282,670	75,190	25,535	0.21%	2.3%

Notes:
¹ Marin County’s population in 2022 was estimated at 257,135.
² The proposed project is expected to increase the County’s population by 600 persons.
 Source: California Department of Finance (CDF). 2022. Marin County 2022.

As shown above, the anticipated population growth from the proposed project would represent approximately 3.4 percent of the planned growth for the County in 2030 and 2.3 percent of the planned growth for 2040 and is considered consistent with the planned growth.⁷

Further, the current ABAG Regional Housing Needs Allocation (RHNA) Plan, which assigns a number of housing units to each jurisdiction in ABAG representing its share of the State’s housing needs for the 2023 through 2031 planning period, allocates 14,405 housing units to unincorporated and incorporated Marin County, as shown in Table 6-3.⁸

Table 6-3: RHNA Allocations for Marin County

Jurisdiction	Very Low Income (<50% of Area Median Income)	Low Income (50-80% of Area Median Income)	Moderate Income (80-120% of Area Median Income)	Above Moderate Income (>120% of Area Median Income)	Total
Marin County	3,071	1,766	1,670	4,329	10,836
Unincorporated Marin County	1,100	634	512	1,323	3,569
Total	4,171	2,400	2,182	1,323	14,405

Source: Association of Bay Area Governments (ABAG) 2022.

The proposed project would contribute 250 units to the very low income, low income, and moderate income RHNA numbers. Thus, the affordable housing units included in the proposed project would be considered consistent with anticipated growth in this context.

⁷ Marin County. 2022. Marin County Housing Element/Safety Element Update Draft Environmental Impact Report. Website: <https://housingelementsmarin.org/marin-county-environmental-review>. Accessed December 30, 2022.

⁸ Bay Area Association of Governments (ABAG). 2021. Regional Housing Needs Allocation Plan. Website: <https://abag.ca.gov/tools-resources/digital-library/finalrhnaallocationreport2023-2031-approved0pdf>. Accessed November 10, 2022.

Indirect Population Growth

As identified in Chapter 2, Project Description, 135 dwelling units would be available to low income and moderate income Marin County educators working in the County and County employees. As such, these dwelling units are not anticipated to result in an increase of employment opportunities.

Of the remaining 115 dwelling units included in the proposed project, 113 dwelling units would be available to very low income and low income individuals (two units would be manager units) and could result in an increase in employment opportunities. Using the CDF average persons per household estimation, these units could generate approximately 271 persons into the County's workforce.⁹ According to the California Employment Development Department, as of 2018, Marin County's labor force was approximately 127,100 persons and estimated to increase by 6.5 percent by 2026, resulting in approximately 135,300 persons, an increase of approximately 8,200 persons.¹⁰ Thus, if the proposed project were to generate 271 new persons to the County's workforce, it would represent approximately 3 percent of the employment increase for the County through 2028. Therefore, it is reasonable to assume that the proposed project's contributions to the total employment base for the County are not unplanned.

6.3 - Significant Irreversible Environmental Changes

The environmental effects of the proposed project are summarized in the Executive Summary and are analyzed in detail in Section 3, Environmental Impact Analysis, of this Draft EIR.

As mandated by the CEQA Guidelines, the EIR must address any significant irreversible environmental change that would result from implementation of the proposed project. Specifically, pursuant to CEQA Guidelines Section 15126.2(d), such an impact would occur if:

- The proposed project would involve a large commitment of nonrenewable resources;
- Primary and secondary impacts would generally commit future generations to similar uses;
- The proposed project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The proposed consumption of resources is not justified (e.g., the project results in the wasteful use of energy).

The proposed project consists of a 100 percent affordable housing development including the construction of 250 new apartments, totaling 274,060 residential square feet. Implementation of the proposed project would require the long-term commitment of natural resources and land, as discussed in the following paragraphs.

Approval and implementation of actions related to the proposed project would result in an irretrievable commitment of nonrenewable resources such as energy supplies and other construction-related materials. The energy resource demands would be used for construction,

⁹ Calculation: $113 * 2.4 = 271$.

¹⁰ California Employment Development Department. 2021. Long Term Projections (Ten-years), 2018-2028 Occupational Employment Projections, San Rafael Metropolitan Division (Marin County). Website: <https://www.labormarketinfo.edd.ca.gov/data/employment-projections.html>. Accessed November 10, 2022.

heating, and cooling of buildings; transportation of people and goods; heating and refrigeration; lighting; and other associated energy needs.

Environmental changes with implementation of the proposed project would occur as the physical environment is altered through commitments of land and construction materials to the proposed project. There would be an irretrievable commitment of materials used in construction. Nonrenewable resources would be committed primarily in the form of fossil fuels and would include fuel, oil, and gasoline used by vehicles and equipment associated with construction and operation of the proposed project.

The consumption of other nonrenewable or slowly renewable resources would result from the development of the proposed project. These resources would include but would not be limited to lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, and water.

The proposed project is not anticipated to result in significant irreversible environmental damage because, pursuant to CEQA Guidelines Section 15126.2(d), the proposed project does not meet any of the scenarios listed above. Irreversible damage is not anticipated from environmental accidents associated with the proposed project, as it would comply with all applicable local and State regulations regarding handling and storage of hazardous materials. While a large commitment to nonrenewable resources would be required, the proposed project would use the energy efficiently and would not result in the wasteful use of energy.

CHAPTER 7: ALTERNATIVES TO THE PROPOSED PROJECT

7.1 - Introduction

In accordance with California Environmental Quality Act (CEQA) Guidelines Section 15126.6, this Draft Environmental Impact Report (Draft EIR) contains a comparative impact assessment of alternatives to the proposed project. The primary purpose of this section is to provide decision-makers and the general public with a reasonable number of feasible project alternatives that could attain most of the basic project objectives while avoiding or reducing any of the proposed project's significant adverse environmental effects.

However, as demonstrated by the administrative record for this proposed project, all impacts of the proposed project are less than significant or can be mitigated to below a level of significance; therefore, the proposed project does not have any significant and unavoidable impacts. Findings rejecting alternatives are required only if one or more significant environmental effects will not be avoided or substantially lessened by mitigation measures. When approving a project, the California Department of General Services (DGS), as the lead agency, need not make findings rejecting the alternatives described in the Draft EIR where all of the proposed project's significant impacts will be avoided or substantially lessened by mitigation measures. (See *Laurel Hills Homeowners Assn v. City Council* (1978) 83 Cal.App.3rd 515 [if mitigation measures substantially lessen a project's significant environmental effects, the lead agency may approve the project without making findings on the feasibility of the EIR's project alternatives]; see also *Stevens v. City of Glendale* (1981) 125 Cal.App.3rd 986, 996; *No Slo Transit, Inc. v. City of Long Beach* (1987) 197 Cal.App.3rd 241].) Thus, if DGS finds that all of the proposed project's significant adverse effects will be avoided or substantially lessened by mitigation measures, it need not make findings that environmentally superior alternatives are infeasible. (See *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477; *Protect Our Water v. County of Merced* (2003) 110 Cal.App.4th 362, 373; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3rd 692.)

An EIR must describe a reasonable range of alternatives to the proposed project, or to its location, that would feasibly attain most of the project's basic objectives while reducing or avoiding any of its significant effects. The discussion of alternatives is subject to a rule of reason and the scope of alternatives to be analyzed must be evaluated on the facts of each case. Accordingly, analysis of the following five alternatives to the proposed project is provided for discussion purposes and to allow the decision-makers to consider the proposed project in light of hypothetical alternative development scenarios, thereby promoting CEQA's purpose as an information disclosure statute. This analysis is guided by the following considerations set forth under CEQA Guidelines Section 15126.6:

- An EIR need not consider every conceivable alternative to a project;
- An EIR should identify alternatives that were considered by the lead agency but rejected as infeasible during the scoping process;
- Reasons for rejecting an alternative include:

- Failure to meet most of the basic project objectives;
- Infeasibility; or
- Inability to avoid significant environmental effects.

7.1.1 - Significant and Unavoidable Impacts

The proposed project was analyzed for potentially significant impacts related to each of the environmental topic areas discussed in Sections 3.1, Aesthetics, Light, and Glare, through 3.12, Transportation. The results of the analysis demonstrate that the proposed project would not result in any significant and unavoidable impacts.

Findings rejecting alternatives are required only if one or more significant environmental effects will not be avoided or substantially lessened by project design features or mitigation measures. A lead agency need make only one or more of the findings listed in Public Resource Code Section 21081(a) for each significant impact, and no further findings are required if impacts are less than significant or reduced to below a level of significance. (See Public Resources Code [PRC] §21081(a)(1)-(2); CEQA Guidelines Section 15091(a)(1)-(2).) In *Laurel Hills Homeowners Ass'n v. City Council* (1978) 83 Cal.App.3d 515, the court held that, if mitigation measures substantially lessen a project's significant environmental effects, the lead agency may approve the project without making findings on the feasibility of the EIR's project alternatives. Additionally, the court concluded that CEQA does not mandate the choice of the environmentally most desirable project if, through mitigation measures alone, the agency has reduced the project's environmental effects to an acceptable level. (*Laurel Hills, supra*, 83 Cal.App.3rd at 521; see also *Stevens v. City of Glendale* (1981) 125 Cal.3rd 986, 996; *No Slo Transit, Inc. v. City of Long Beach* (1987) 197 Cal.App.3rd 241.)

7.1.2 - Alternatives to the Proposed Project

For discussion purposes, this Draft EIR presents a reasonable range of potentially feasible alternatives to the proposed project for analysis and evaluation of their comparative merits, pursuant to CEQA Guidelines Section 15126.6, discussed above. Where a project does not include any significant and unavoidable impacts and the potential impacts associated with a project can all be reduced to below a level of significance with the incorporation of mitigation, the analysis properly considers alternatives that would also reduce or eliminate those less than significant with mitigation impacts. CEQA Guidelines Section 15126.6(a) states that an EIR need not evaluate every conceivable alternative to a project. For informational purposes, the following analysis is provided for each alternative to allow a meaningful comparison with the proposed project.

The seven alternatives to the proposed project analyzed in this section are as follows:

- **Alternative 1—No Project, No Build Alternative:** Under the No Project, No Build Alternative (Alternative 1), the proposed project would not be constructed. The project site would remain closed, vacant, and no development of any kind would occur. No land use activities would occur.
- **Alternative 2—Stop Sign at Project Driveway Alternative:** Under the Stop Sign at Project Driveway Alternative (Alternative 2), all characteristics and components of the proposed

project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with a stop sign. The existing stop sign at Drakes Cove Road would remain, although the eastbound acceleration lane on East Sir Francis Drake Boulevard from Drakes Cove Road would be converted to a left-turn lane into the project site. Pedestrians would be able to cross East Sir Francis Drake Boulevard to the Class I multiuse path on the south side of the roadway via a High-intensity Activated Crosswalk (HAWK) beacon.¹ This alternative was evaluated as “Access Alternative 1” in the Transportation Impact Study (TIS) prepared by W-Trans, dated December 8, 2022 (included in Appendix I). See Exhibit 7-1 for an illustration of this alternative.

- **Alternative 3—Traffic Signal at Project Driveway with Internal Connection to/from Drakes Cove Road Alternative:** Under the Traffic Signal at Project Driveway with Internal Connection to/from Drakes Cove Road Alternative (Alternative 3), all characteristics and components of the proposed project would remain unchanged, including the installation of a traffic signal at the proposed project driveway. The existing stop sign at Drakes Cove Road would remain. Drivers traveling to and from Drakes Cove Road would be able to route to East Sir Francis Drake Boulevard either via the existing stop sign or could access the traffic signal via an internal roadway through the project site. As anticipated under the proposed project, the eastbound acceleration lane from Drakes Cove Road would be converted to a left-turn lane into the project site. Similar to the proposed project, this alternative would include the installation of a pedestrian crosswalk at its driveway allowing for its residents to access the multiuse path along the south side of Sir Francis Drake Boulevard. However, unlike the proposed project, the advantage of this alternative would be that drivers at Drakes Cove Road wishing to turn left onto East Sir Francis Drake Boulevard or wishing to turn left from East Sir Francis Drake Boulevard onto Drakes Cove Road would be able to complete these movements with the aid of the traffic signal instead of waiting for gaps in traffic to complete the movement. This alternative was evaluated as “Access Alternative 3” in the TIS prepared by W-Trans, dated December 8, 2022 (included in Appendix I). See Exhibit 7-2 for an illustration of this alternative.
- **Alternative 4—Traffic Signal at Drakes Cove Road Alternative:** Under the Traffic Signal at Drakes Cove Road Alternative (Alternative 4), all characteristics and components of the proposed project would remain unchanged, except for the proposed project’s vehicular access. A traffic signal would be installed at the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road. The project would connect to Drakes Cove Road via a private driveway with a stop sign. The acceleration lane from Drakes Cove Road would be converted to a painted median. Additionally, Drakes Cove Road would be widened at its intersection with East Sir Francis Drake Road in order to accommodate both a right-turn lane and a left-turn pocket onto East Sir Francis Drake Boulevard. This alternative was evaluated as

¹ A HAWK beacon is a right-of-way control device that remains dark (does not control vehicle traffic) in the absence of pedestrian traffic but is activated when a pedestrian pushes the crosswalk button. At that point, the beacon flashes yellow for a few seconds before presenting a solid yellow followed by a red indication that requires motor vehicle traffic to stop; the simultaneous “walk” indication allows pedestrians to cross akin to a traditional traffic signal. Sufficient time is provided for the pedestrian to enter the roadway and begin crossing, and then the walk indication transitions to “flashing do not walk” (raised hand) and the traffic indication switches to flashing red, allowing pedestrians to finish crossing and drivers to proceed, if safe, after stopping. Once the “flashing do not walk” indication expires, the signal returns to dark and drivers are able to proceed without stopping.

“Access Alternative 4” in the TIS prepared by W-Trans, dated December 8, 2022 (included in Appendix I).² See Exhibit 7-3 for an illustration of this alternative.

- **Alternative 5—Proposed Project Access with Left-turn Access to Drakes Cove Road Prohibited Alternative:** Under the Proposed Project Access with Left-turn Access to Drakes Cove Road Prohibited Alternative (Alternative 5), all characteristics and components of the proposed project would remain unchanged, including the project’s vehicle access configuration, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. Therefore, under Alternative 5, vehicles traveling eastbound on East Sir Francis Drake Boulevard will no longer be able to turn left onto Drake Cove Road, resulting in a right-in/right-out intersection at Drakes Cove Road. The existing left-turn pocket would be restriped as a through lane for eastbound traffic. The proposed project access was evaluated as “Access Alternative 2” in the TIS prepared for W-Trans, dated December 8, 2022 (included in Appendix I), and the removal of left-turn access to Drake Cove Road was analyzed by the same qualified traffic engineer.³ See Exhibit 7-4 in Chapter 7, Alternatives, for an illustration of this alternative.
- **Alternative 6—All-Electric Building Design Alternative:** Under the All-Electric Building Design Alternative (Alternative 5), all characteristics and components of the proposed project would remain unchanged, including proposed project access, except that the project would be 100 percent powered by electricity. This alternative differs from the proposed project in that it would not utilize natural gas.
- **Alternative 7—Annexation Alternative:** Under the Annexation Alternative (Alternative 7), all characteristics and components of the proposed project would remain unchanged, including the proposed project access, except that the project’s site would be annexed to the City of Larkspur.

These seven alternatives to the proposed project are analyzed below. These analyses compare the proposed project and each individual project alternative for each topical area addressed in the EIR. Because of the nature of the alternatives, potential impacts related to topics discussed in Effects Found not to be Significant are considered not to be significant for any of the alternatives as well. In several cases, the description of the impact may be the same under each alternative when compared with the CEQA Thresholds of Significance (i.e., both the project and the alternative would result in a less than significant impact). The actual degree of impact may be slightly different between the proposed project and each alternative, and this relative difference is the basis for a conclusion of greater or lesser impacts.

7.2 - Project Objectives

As stated in Chapter 2, Project Description, the objectives of the proposed project are to:

² Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: meeting. January 19, 2023.

³ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: email. December 20, 2022.

- Implement Executive Order N-06-19 through the development of affordable housing in a High Housing Needs zone on a site deemed suitable for affordable housing by the Department of General Services (DGS) and the Department of Housing and Community Development (HCD).
- Address the regional housing and employment imbalance in the County by maximizing affordable housing units for moderate-, low-, and extremely low-income households as well as much-needed workforce housing for Marin County educators and County employees, which includes homes in a range of unit sizes and with high-quality architecture, sustainable design elements, and amenities for low-income residents that are commonly incorporated into market-rate housing, such as fitness centers, community rooms, business/computer labs, outdoor terraces, a community courtyard, a fenced dog run, and a children’s play area.
- Cluster residential development on the project site with a thoughtful site design that takes into consideration the natural site topography and preserves significant amounts of open space.

7.3 - Alternative 1—No Project, No Build Alternative

Under Alternative 1, the proposed project would not be constructed. The project site would remain closed, vacant, and no development of any kind would occur. No land use activities would occur.

7.3.1 - Impact Analysis

Aesthetics, Light, and Glare

Under Alternative 1, the project site would not be developed with 250 new apartments available to educators working in Marin County, employees of the County of Marin (County), and extremely low- to moderate-income residents. No vegetation would be removed or impacted. The new residential units, recreational amenities, and road improvements would not be constructed and operated on the project site. There would be no change in visual character, views, nighttime lighting, daytime glare, or shadow, as there would be no change to the existing topography or vegetation/landscaping. Thus, there would be no aesthetics impacts under this alternative.

The project impacts related to aesthetics would be less than significant (see Section 3.1, Aesthetics); however, as it would not involve any development, Alternative 1 would have an incrementally lower level of aesthetic impacts compared to the project.

Air Quality

Under Alternative 1, short-term construction and long-term operational air emissions would not occur as no construction or land use changes would take place, no project operations would be established, and no project-related traffic or stationary source emissions would be generated by residents occupying the new apartments. Although the proposed project as mitigated would not result in significant emissions of air quality pollutants, the air quality impacts associated with Alternative 1 would be less than the proposed project.

Biological Resources

Under Alternative 1, the project site would not be developed with affordable housing. There would be no change related to wildlife or habitat on-site. Alternative 1 would not have potential impacts to special-status bats or nesting birds, nor would it impact Arroyo willow thickets or coast live oak. Thus, there would be no biological resources impacted under this alternative. Although the project impacts related to biological resources would be less than significant with mitigation (see Section 3.3, Biological Resources), Alternative 1 would have a lower level of biological resources impact compared to the project

Cultural Resources and Tribal Cultural Resources

Under Alternative 1, no development related ground-disturbing activity would occur and, therefore, no direct impacts would occur with respect to existing and or undiscovered cultural resources or tribal cultural resources because ground disturbance from the construction of the proposed project and supporting infrastructure would not occur. However, even without development related activity, if unknown cultural resource sites exist, they will remain vulnerable. The potential for inadvertent discovery remains and it is possible that cultural resources or tribal cultural resources sites may also be disclosed or altered over time due to geologic or weather conditions. If these sites are not fully documented, information from these sites could be lost. Nonetheless, the potential for direct impacts to cultural resources associated with the Alternative 1 would be less than the proposed project.

Energy

Because no development would occur under this alternative, there would be no energy uses associated construction or operation. Therefore, compared to the proposed project, direct energy impacts would be eliminated under this alternative; however, the proposed project would place future residents and employees within close proximity to existing transit facilities, lowering the amount of fuel consumed, which would result in an overall decrease in per capita transportation energy consumption when compared with State averages. This benefit would not be realized under Alternative 1.

Geology and Soils

Because no development would occur under this alternative, soil disturbance associated with grading and building activities would not occur. No new buildings, landscaping, utilities, or other infrastructure would be constructed on the project site; thus, there would be no impacts associated with landslides, soil stability, or slopes as would occur under the proposed project. Therefore, compared to the proposed project, geology and soil impacts would be eliminated under this alternative

Greenhouse Gas Emissions

This alternative would not include any development that would contribute to global climate change through direct emissions of greenhouse gas (GHG) emissions from on-site area sources or vehicle trips generated. Accordingly, direct impacts would be less than the proposed project. However, the proposed project would place future residents and employees within close proximity to existing

transit facilities, lowering the amount of fuel consumed, which would result in an overall decrease in per capita transportation energy consumption when compared with State averages. This benefit would not be realized under Alternative 1.

Hazards and Hazardous Material

Under Alternative 1, the existing environmental conditions would remain and no development would occur on-site. Existing groundwater monitoring for hazardous materials would continue to be implemented under existing management practices. Under the No Project, No Build Alternative, no soils would be excavated or moved on-site. Impacts would be less than the proposed project.

Hydrology and Water Quality

Alternative 1 would avoid potential short-term and long-term impacts to water quality because grading and construction activities would not occur. Under Alternative 1, the existing conditions would remain; however, no new Low Impact Development (LID) measures would be implemented, such as improved landscaped areas to serve as bioretention areas, would be constructed.

Land Use and Planning

Alternative 1 would have no impacts to land use as the project site would remain in its current state and existing land uses would remain. Continuation of the current use of the land would not conflict with any land use plan or policy or conflict with any habitat or community conservation plan. Impacts in this regard would be the same as the proposed project

Noise

With no development occurring on-site, no new noise would be generated by construction, operations, or traffic generated by the proposed housing. Therefore, any noise-sensitive land uses in the vicinity of the project site would not experience any change in noise levels. Therefore, short-term and long-term noise impacts would be less compared to that of the proposed project.

Transportation

Alternative 1 would have no impact on traffic operations, transit, or pedestrian facilities as no new transportation demand would occur. However, Alternative 1 would not include construction of a crosswalk across East Sir Francis Drake Boulevard which would connect the project site to the existing trail. Nor would this alternative include any stop controls to ensure safety of pedestrians. Relative to the project, impacts would be of lesser magnitude under Alternative 1 because it would not generate any new transportation demands.

7.3.2 - Conclusion

Under Alternative 1, no physical changes would occur on the project site and there would not be a potential for new environmental impacts to occur. Although this alternative would not allow the project to move forward at this time, it would not preclude development at a future date. Alternative 1 would incrementally reduce or eliminate short-term, long-term, and cumulative impacts in all categories when compared to the proposed project. However, Alternative 1 would not develop any housing units that would be located near major transit, as the project proposes;

therefore, the incremental reductions in energy and GHG emissions associated with reduced travel distances and the improvement of the jobs to housing ratio would not be realized. Accordingly, this alternative would satisfy none of the project objectives, rendering it infeasible under CEQA.

7.4 - Alternative 2—Stop Sign at Project Driveway Alternative

Under Alternative 2, all characteristics and components of the proposed project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with a stop sign. The existing stop sign at Drakes Cove Road would remain, although the eastbound acceleration lane on East Sir Francis Drake Boulevard from Drakes Cove Road would be converted to a left-turn lane into the project site. Pedestrians would be able to cross East Sir Francis Drake Boulevard to the Class I multiuse path on the south side of the roadway via a HAWK beacon. This alternative was evaluated as “Access Alternative 1” in the TIS prepared by W-Trans, dated December 8, 2022 (included in Appendix I). Exhibit 7-1 provides an illustration of this alternative.

7.4.1 - Impact Analysis

Aesthetics, Light, and Glare

Under Alternative 2, all characteristics and components of the proposed project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with stop control at the project access approach only and a traffic signal would not be installed to ensure safety of pedestrians using the crosswalk facilities. The introduction of a stop control at East Sir Francis Drake Boulevard would not result in any additional light or glare compared to the proposed project and would not substantially alter views of the project. In the absence of the pedestrian traffic signal anticipated in the proposed project, this alternative would rely on a HAWK beacon that would be activated when a pedestrian pushes the crosswalk button. When activated, the beacon would flash yellow for a few seconds before presenting a solid yellow followed by a red indication that would require motor vehicle traffic to stop; the simultaneous “walk” indication would allow pedestrians to cross, akin to a traditional traffic signal. The lights would be visible only during the time provided for the pedestrian to enter the roadway and begin crossing, and then the walk indication would transition to “flashing do not walk” (raised hand) and the traffic indication would switch to flashing red, allowing pedestrians to finish crossing and drivers to proceed, if safe, after stopping. Once the “flashing do not walk” indication expires, the signal would return to dark and drivers would be able to proceed without stopping. This would introduce a different source of light to the project area. However, Alternative 2 would also comply with all applicable State regulations relating light and glare, including regulations in Title 24 of the California Code of Regulations Building Energy Efficiency Standards California Building Code (California Code of Regulations [CCR] Title 24)—including Title 24, Part 6—includes Section 132 of the Building Energy Efficiency Standards, which regulates lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Additionally, when compared to the proposed project, substantially the same area of the project site would be developed with the same number of residential uses of the same height, style, and design. This would result in the same impacts related to light and glare as well as the visual quality of the site and its surroundings compared to the proposed project. Accordingly, aesthetics, light, and glare impacts would be the same under Alternative 2 as under the proposed project.

Air Quality

Under Alternative 2, all characteristics and components of the proposed project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with stop sign at the project driveway and a HAWK beacon would not be installed to ensure safety of pedestrians using the crosswalk facilities. There would be no change compared to the proposed project.

Biological Resources

Under Alternative 2, all characteristics and components of the proposed project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with stop sign at the project driveway and a HAWK beacon would not be installed to ensure safety of pedestrians using the crosswalk facilities. There would be no change compared to the proposed project.

Cultural Resources and Tribal Cultural Resources

Under Alternative 2, all characteristics and components of the proposed project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with stop sign at the project driveway and a HAWK beacon would not be installed to ensure safety of pedestrians using the crosswalk facilities. There would be no change compared to the proposed project.

Energy

Under Alternative 2, all characteristics and components of the proposed project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with stop sign at the project driveway and a HAWK beacon would not be installed to ensure safety of pedestrians using the crosswalk facilities. Although there would be slightly less energy utilized with the existing stop controls compared to a traffic signal, the change would be incremental and there would be no change in significance compared to the proposed project.

Geology and Soils

Under Alternative 2, the development footprint would be substantially the same as the proposed project. However, although this alternative would include a crosswalk as proposed in the project, there would be incrementally less grading and earth work is associated with the installation of a HAWK beacon compared to traffic signal anticipated in the proposed project. As such, there would be incrementally less ground disturbance and related impacts to geology and soils. Impacts to geology and soils would be less than significant, similar to, but incrementally less than, the proposed project.

Greenhouse Gas Emissions

Under Alternative 2, all characteristics and components of the proposed project would remain unchanged, except that the proposed project would connect to East Sir Francis Drake Boulevard with a stop sign at the project driveway and a HAWK beacon would not be installed to ensure safety of

pedestrians using the crosswalk facilities. Emissions associated with this alternative would be the same as the proposed project. There would be no change compared to the proposed project.

Hazards and Hazardous Material

Under Alternative 2, the development footprint and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Hydrology and Water Quality

Under Alternative 2, the development footprint and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Land Use and Planning

Under Alternative 2, the development footprint and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Noise

The proposed project's construction-related vibration impacts would be less than significant. Although this alternative would not include a traffic signal, similar short-term noise impacts from grading and construction activities would occur with Alternative 2 as the development footprint would be essentially the same as the proposed project. The construction timing, duration, and equipment would be similar to the proposed project. Therefore, the less than significant short-term noise impacts that would occur with the proposed project also would occur with Alternative 2. As the number of housing units would be the same as the proposed project, potential operational noise impacts would also be the same as the proposed project.

Transportation

This alternative proposes the same degree of development, construction schedule, and number of housing units as the proposed project; therefore, the volume of construction and operational traffic would be the same as the proposed project. Under Alternative 2 (identified as Alternative 1 in the TIS), the PM peak-hour delay at East Sir Francis Drake Boulevard/Drakes Cove Road would increase from 24.3 seconds Level of Service (LOS) C to 74.3 seconds (LOS F) due to the conversion of the acceleration lane for drivers turning left onto East Sir Francis Drake Boulevard from Drakes Cove Road into a left-turn lane for drivers to turn into the project site. Without the acceleration lane, drivers on Drakes Cove Road turning left would need to wait for gaps to appear in both directions rather than just the westbound direction, increasing the approach delay. Additionally, the AM-peak-hour would likely incur a similar effect, except no southbound drivers were noted turning left during the peak-hour when the counts were performed. Accordingly, traffic delays would be greater under this alternative compared to the proposed project. However, automobile delay is no longer considered a significant impact for the purposes of CEQA (PRC § 21099(b)(2)); therefore, such impacts need not be compared to the proposed project's impacts.

This alternative includes the same fire access road as the proposed project, which allows for emergency vehicle access to the site. In terms of traffic and pedestrian safety, the HAWK beacon

allows for pedestrians to safely cross East Sir Francis Drake Boulevard. However, unlike the proposed project, this alternative does not contain a traffic signal at the project driveway at East Sir Francis Drake Boulevard. Therefore, drivers wishing to turn left into the project driveway from East Sir Francis Drake Boulevard and drivers wishing to turn left onto East Sir Francis Drake Boulevard from the project driveway would need to do so without the assistance of a traffic signal. Therefore, this alternative would have slightly increased traffic safety impacts as compared to the proposed project.

7.4.2 - Conclusion

Under Alternative 2, the development footprint and project operations would remain the same as the proposed project. Accordingly, the majority of impacts under this alternative would be the same as those under the proposed project. Alternative 2 would incrementally reduce the project's already less than significant impacts related to energy and geology due to the elimination of the signal light and accompanying infrastructure needed to install it. However, Alternative 2 would have slightly increased traffic delays and safety impacts, although they would still be less than significant. This alternative ultimately does not substantially lessen any significant impacts of the proposed project.

7.5 - Alternative 3—Traffic Signal at Project Driveway with Internal Connection to/from Drakes Cove Road Alternative

Under Alternative 3, all characteristics and components of the proposed project would remain unchanged, including the installation of a traffic signal at the proposed project driveway. The existing stop sign at Drakes Cove Road would remain. Drivers traveling to and from Drakes Cove Road would be able to route to East Sir Francis Drake Boulevard either via the existing stop sign or by accessing the traffic signal via an internal roadway through the project site. As anticipated under the proposed project, the eastbound acceleration lane from Drakes Cove Road would be converted to a left-turn lane into the project site. Similar to the proposed project, this alternative would include the installation of a pedestrian crosswalk at its driveway allowing residents to access the multiuse path along the south side of Sir Francis Drake Boulevard. However, unlike the proposed project, the advantage of this alternative would be that drivers at Drakes Cove Road wishing to turn left onto East Sir Francis Drake Boulevard or wishing to turn left from East Sir Francis Drake Boulevard onto Drakes Cove Road would be able to complete these movements with the aid of the traffic signal instead of waiting for gaps in traffic to complete the movement. This alternative was evaluated as "Access Alternative 3" in the TIS prepared by W-Trans, dated December 8, 2022 (included in Appendix I). Exhibit 7-2 provides an illustration of this alternative. At the present time, this alternative is not feasible because the project applicant does not have the legal rights to construct circulation improvements on property owned by the residential development located to the west of the project site. Feasibility would require that the neighboring Homeowners' Association (HOA) grant or commit to grant the project applicant the necessary property rights prior to any project approval. It is potentially legally feasible insofar as the HOA grants or commits to grant the necessary property rights.

7.5.1 - Impact Analysis

Aesthetics, Light, and Glare

Under Alternative 3, all characteristics and components of the proposed project would remain unchanged, including the installation of a traffic signal at the proposed project driveway, except that drivers would be able to route between Drakes Cove Road and the project site from East Sir Francis Drake Boulevard via an internal roadway. This alternative would also include project access on Drakes Cove Road via a stop sign. As identified by this Draft EIR, the proposed project would result in an increase in light and glare as the project site is currently vacant and does not have existing sources of light. However, under Alternative 3, the headlights on vehicles traveling on the proposed internal roadway toward Drakes Cove Road or north on Drakes Cove Road toward the project driveway at night may increase light impacts on adjacent residential properties to the west of the project site. While light impacts generated from vehicle headlights would be intermittent and the existing vegetation along Drakes Cove Road may screen some of the headlights from these vehicles, light impacts to neighboring residences would likely still occur. Accordingly, aesthetics, light, and glare impacts would be the slightly greater under the Signalized Project Access with Internal Connection to/from Drakes Cove Road Alternative than under the proposed project.

Air Quality

Under Alternative 3, the development footprint would differ slightly from the proposed project to accommodate the conversion of the proposed project's eastbound acceleration lane from Drakes Cove Road to a left-turn lane into the project site and to include an internal access road to Drakes Cove Road. The addition of the internal access road would involve slightly more grading and construction; however, this conversion does not involve any substantial changes to the project footprint or change in construction equipment or construction schedule; accordingly, construction-related air quality impacts would be the same as the proposed project. Additionally, project operations under this alternative would be the same as the proposed project. Impacts would be the same as the proposed project.

Biological Resources

Under Alternative 3, the development footprint would differ slightly from the proposed project to accommodate the conversion of the proposed project's eastbound acceleration lane from Drakes Cove Road to a left-turn lane into the project site and the addition of an internal access. Accordingly, this alternative would result in slightly more grading and removal of vegetation to accommodate the additional internal access point; however, the addition of the internal access road would not result in the removal of any identified heritage oaks. Additionally, all mitigation measures discussed in Section 3.3, Biological Resources, would apply to reduce potential impacts to below a level of significance. Accordingly, construction-related biology impacts would be less than significant, similar to the proposed project, although slightly greater due to the incremental increase in removed vegetation. Project operations under this alternative would be the same as the proposed project. Operation impacts to biological resources would be the same as the proposed project.

Cultural Resources and Tribal Cultural Resources

Under Alternative 3, the development footprint and project operations would be substantially the same as the proposed project, although slightly increased due to the additional ground disturbance associated with the construction of the internal access road. Impacts would be less than significant, similar to the proposed project, though slightly increased.

Energy

Under Alternative 3, the construction schedule and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Geology and Soils

Under Alternative 3, the construction footprint and project operations would be substantially the same as the proposed project, though slightly increased due to the addition of the internal access road. Construction impacts would be less than significant, similar, but slightly increased compared to the proposed project. This alternative would result in the construction of the same number and size of housing units as compared to the proposed project over approximately the same area as the proposed project. These buildings and structures would be exposed to the same level of risk from geologic hazards as the proposed project. Operation impacts would be the same as the proposed project.

Greenhouse Gas Emissions

Under Alternative 3, the development footprint would differ slightly from the proposed project to accommodate the conversion of the proposed project's eastbound acceleration lane from Drakes Cove Road to a left-turn lane into the project site and the addition of an internal access road; however, this conversion does not involve any substantial changes in construction equipment or construction schedule. Accordingly, construction-related GHG emissions would be the same as the proposed project. Additionally, project operations under this alternative would be the same as the proposed project. Impacts would be the same as the proposed project.

Hazards and Hazardous Material

Alternative 3 would include the same uses on the same scale as the proposed project. Because this alternative would include the same scale of development as the proposed project, construction activity would be expected to involve the transport, use, and disposal of hazardous materials, such as diesel fuels, aerosols, and paints. The addition of the access road would slightly change the development footprint compared to the proposed project. However, the duration of these actions would only be temporary and limited to the period of construction. In addition, the use of these materials would be subject to the Hazardous Materials Transportation Act, California Public Resources Code, and other State and local regulations that would limit the use of hazardous materials and reduce the associated risks of exposure. Therefore, this alternative would generally have the same construction-related potential hazards and hazardous materials impacts as the proposed project. As with the proposed project, Mitigation Measure (MM) HAZ-2 would be required to ensure that potentially contaminated soils are properly removed from the site and mitigated. Accordingly, construction impacts would be the same as the proposed project, although slightly

increased due to the increase in soil disturbance. This alternative proposed the same residential development as the proposed project and does not involve the type or quantity of hazardous materials that could pose a significant environmental accident. Therefore, there would be no operational impacts related to hazardous emissions the same as the proposed project.

Hydrology and Water Quality

Under Alternative 3, the inclusion of the internal access road would involve slightly more grading activity compared to the proposed project. Although construction activities have the potential to generate increased sedimentation, compliance with applicable stormwater regulations would minimize the potential to degrade water quality in downstream water bodies to the maximum extent possible. Compliance with these regulations require construction-phase Best Management Practices (BMPs) for erosion control, sediment control, and pollution prevention and outline grading requirements for erosion and sediment controls. As a result, construction-related project impacts related to surface and groundwater and respective water quality would be less than significant under this alternative, similar to, but slightly more than, the proposed project.

Under Alternative 3, project operations would be the same as the proposed project. The number and size of residences would be the same as the proposed project and, accordingly, Marin Water is projected to have sufficient supplies to meet projected demands during normal, dry, and multiple dry years under this alternative. Therefore, impacts related to groundwater recharge and supply would be less than significant similar to the proposed project. Operational impacts would be the same as the proposed project.

Land Use and Planning

Under Alternative 3, the size and scale of the residential project would remain the same as the proposed project. Impacts would be the same as the proposed project.

Noise

Under Alternative 3, the construction schedule and construction equipment utilized would be the same as the proposed project; therefore, impacts would be the same. Similar to the proposed project, development of this alternative would generate construction noise associated with the use of heavy equipment for site grading and excavation, installation of utilities, paving, and building fabrication. The construction of the internal roadway connecting to Drakes Cove Road would shift the acoustical center of the construction noise slightly closer to the closest residences west of the project site. However, this would only slightly increase temporary noise levels from construction and would not result in a significant impact. Under this alternative, use of internal roadways during operation would differ slightly from the proposed project to accommodate the conversion of the proposed project's eastbound acceleration lane from Drakes Cove Road to a left-turn lane into the project site; however, this alternative involves a minor change in the functionality of the currently proposed eastbound acceleration lane from Drakes Cove Road into a left-turn lane. This change would not result in any increase in traffic noise, and project operations under this alternative would be substantially the same as the proposed project. Therefore, impacts from temporary construction noise would be slightly greater as compared to the proposed project, but not significantly, and impacts from traffic noise would be the same as the proposed project.

Transportation

This alternative proposes the same degree of development, construction schedule, and number of housing units as the proposed project; therefore, the volume of construction and operational traffic would be the same as the proposed project. The Signalized Project Access with Internal Connection to/from Drakes Cove Road Alternative (Alternative 3 in the Traffic Impact Study) would result in similar operations at East Sir Francis Drake Boulevard/Project Access as Alternative 2 – LOS B during both peak-hours. By allowing drivers to route between Drakes Cove Road and the signal at East Sir Francis Drake Boulevard/Project Access, it is assumed that drivers turning left onto or off East Sir Francis Drake Boulevard would opt to use the signal to complete these movements. This would improve safety and would greatly reduce delay during the PM peak-hour at East Sir Francis Drake Boulevard/Drakes Cove Road compared to the proposed project and the Existing Controls at Project Access alternative as the left-turn movements were the primary contributor toward LOS F operation. For the morning peak-hour, there were no left turns out of Drakes Cove Road observed; therefore, the operational analysis of this returned the same result as the proposed project for the AM peak-hour at East Sir Francis Drake Boulevard/Drakes Cove Road. However, automobile delay is no longer considered a significant impact for the purposes of CEQA (PRC § 21099(b)(2)), and therefore such impacts need not be compared to the proposed project's impacts.

This alternative includes the same fire access road as the proposed project, which allows for emergency vehicle access to the site. In terms of pedestrian safety, this alternative includes the same traffic signal as the proposed project. In terms of vehicles safety, this alternative allows vehicles to make left turns into the project site from East Sir Francis Drake Boulevard and left turns from the project site to East Sir Francis Drake Boulevard with the protection of a traffic signal. Furthermore, the alternative has the advantage of allowing drivers at Drakes Cove Road wishing to turn left onto East Sir Francis Drake Boulevard or wishing to turn left from East Sir Francis Drake Boulevard onto Drakes Cove Road to complete these movements with the aid of the traffic signal instead of waiting for gaps in traffic to complete the movement. Additionally, this alternative is not expected to increase Vehicle Miles Traveled (VMT) as it provides duplicate access rather than new vehicle trips.⁴ Therefore, with the addition of the internal roadway, traffic safety impacts would be similar to, but slightly decreased, compared to the less than significant traffic safety impacts of the proposed project.

7.5.2 - Conclusion

Under Alternative 3, the development footprint and project operations would remain the same as the proposed project. All characteristics and components of the proposed project would remain unchanged, including the proposed project driveway and traffic signal, except that drivers would be able to route between Drakes Cove Road and the project site from East Sir Francis Drake Boulevard via an internal roadway. This alternative would also include project access on Drakes Cove Road with a stop control. Accordingly, the majority of impacts under this alternative would be the same as those under the proposed project. Alternative 3 would incrementally reduce the proposed project's already less than significant impacts related to transportation safety. However, Alternative 3 would have slightly increased aesthetics, light, and glare, biological resources, cultural and tribal cultural

⁴ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: meeting. January 19, 2023.

resources, geology and soils impacts, hazards and hazardous materials, and noise due to the configuration of the internal and surrounding roadways and additional ground disturbance and construction associated with the access road proposed in this alternative. The feasibility of this alternative is dependent on the neighboring HOA granting, or committing to grant, the necessary property rights to the project applicant for construction and operation of the internal roadway connecting the project to Drakes Cove Road. It is potentially legally feasible insofar as the HOA grants or commits to grant the necessary property rights.

7.6 - Alternative 4—Traffic Signal at Drakes Cove Road Project Alternative

Under Alternative 4, all characteristics and components of the proposed project would remain unchanged, except for the project’s vehicular access. A traffic signal would be installed at the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road. The project would connect to Drakes Cove Road via a private driveway with a stop sign. The acceleration lane from Drakes Cove Road would be converted to a painted median. Additionally, Drakes Cove Road would be widened at its intersection with East Sir Francis Drake Road in order to accommodate both a right-turn lane and left-turn pocket onto East Sir Francis Drake Road. This alternative was evaluated as “Access Alternative 4” in the TIS prepared by W-Trans, dated December 8, 2022 (included in Appendix I); however, the removal of left-turn access to Drake Cove Road was not evaluated in the TIS but was analyzed by a qualified traffic engineer.⁵ See Exhibit 7-3 for an illustration of this alternative. At the present time, this alternative is not feasible because the project applicant does not have the legal rights to construct circulation improvements on property owned by the residential development located to the west of the project site. Feasibility would require that the neighboring HOA grant or commit to grant the project applicant the necessary property rights prior to any project approval. It is potentially legally feasible insofar as the HOA grants or commits to grant the necessary property rights.

7.6.1 - Impact Analysis

Aesthetics, Light, and Glare

Under Alternative 4, all characteristics and components of the proposed project would remain unchanged, except for the project’s vehicular access. Building heights and design elements would be the same as the proposed project. This alternative would result in signalization of the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road, with the project driveway provided on Drakes Cove Road only such that all project trips would access East Sir Francis Drake Boulevard via Drakes Cove Road and would, therefore, slightly move the location of the signal light compared to the proposed project. The project access would include a stop signal upon exit from the proposed project. As identified by this Draft EIR, the proposed project would result in an increase in light and glare as the project site is currently vacant and does not have existing sources of light. However, under Alternative 4, the headlights on vehicles traveling on the proposed internal roadway toward Drakes Cove Road or north on Drakes Cove Road toward the project driveway at night may increase light impacts on adjacent residential properties to the west of the project site. While light impacts generated from vehicle headlights would be intermittent and the existing vegetation along Drakes

⁵ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: meeting. January 19, 2023.

Cove Road may screen some of the headlights from these vehicles, light impacts to neighboring residences would likely still occur. Accordingly, aesthetics, light, and glare impacts would be the slightly greater under Alternative 4 than under the proposed project.

Air Quality

Under Alternative 4, the development footprint would differ slightly from the proposed project to accommodate project access on Drakes Cove Road. The addition of the driveway and widening of the Drakes Cove Road intersection would involve slightly more grading and construction; however, this conversion does not involve any substantial changes to the project footprint or in construction equipment or construction schedule; accordingly, construction-related air quality impacts would be the same as the proposed project. Additionally, project operations under this alternative would be the same as the proposed project. Accordingly, construction-related air quality impacts would be the same as the proposed project. Additionally, project operations under this alternative would be the same as the proposed project and impacts would be the same as the proposed project.

Biological Resources

Under Alternative 4, the development footprint would differ slightly from the proposed project to accommodate the project driveway off Drakes Cove Road. The construction of the driveway would involve the removal of trees and shrubs necessary to construct the access road; however, no identified heritage oaks would be removed. All identified mitigation, including MM BIO-1c, would be applied to ensure that only trees necessary for the construction of the proposed project would be removed and to require pre-construction surveys to mitigate impacts to any nesting species. Similar to the proposed project, impacts to biological resources would be less than significant with mitigation. Additionally, project operations under this alternative would be the same as the proposed project. Impacts would be less than significant, although slightly more compared to the proposed project due to the slight increase in vegetation that would be removed under this alternative.

Cultural Resources and Tribal Cultural Resources

Under Alternative 4, construction and project operations would be substantially the same as the proposed project, although slightly increased due to the additional ground disturbance associated with the construction of the driveway off Drakes Cove Road and the widening of the Drakes Cove Road intersection. Impacts would be less than significant, similar to the proposed project, though slightly increased due to the slight increase in ground disturbance.

Energy

Under Alternative 4, the construction schedule and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Geology and Soils

Under Alternative 4, the construction footprint and project operations would be substantially the same as the proposed project, though slightly increased due to the addition of the driveway off Drakes Cove Road and widening of the Drakes Cove Road intersection. Construction impacts would

be less than significant, similar, but slightly increased compared to the proposed project. This alternative would result in the construction of the same number and size of housing units as compared to the proposed project over approximately the same area as the proposed project. These buildings and structures would be exposed to the same level of risk from geologic hazards as the proposed project. Operation impacts would be the same as the proposed project.

Greenhouse Gas Emissions

Alternative 4 would result in the development of the same size and scope of residential units with the same anticipated population. During construction, this alternative would have similar GHG emissions as the proposed project. Construction efforts would be approximately equal, and the same equipment would be used for each alternative. Accordingly, GHG impacts would be the same as the proposed project.

Hazards and Hazardous Material

This alternative would include the same scale of development and construction schedule as the proposed project; accordingly, construction activity would be expected to involve the same transport, use, and disposal of hazardous materials, such as diesel fuels, aerosols, and paints, as the proposed project. The same as the proposed project, the duration of these actions under this alternative would only be temporary and limited to the period of construction. In addition, the use of these materials would be subject to the Hazardous Materials Transportation Act, California Public Resources Code, and other State and local regulations that would limit the use of hazardous materials and reduce the associated risks of exposure. Therefore, this alternative would generally have the same construction-related potential hazards and hazardous materials impacts as the proposed project. As with the proposed project, MM HAZ-2, would be required to ensure that potentially contaminated soils are properly removed from the site and mitigated. Accordingly, construction impacts would be the same as the proposed project, although slightly increased due to the increase in soil disturbance associated with the addition of the driveway off Drakes Cove Road. This alternative proposes the same residential development as the proposed project and does not involve the type or quantity of hazardous materials that could pose a significant environmental accident. Therefore, there would be no operational impacts related to hazardous emissions the same as the proposed project.

Hydrology and Water Quality

Because of the construction of the driveway off Drakes Cove Road and widening of the Drakes Cove Road intersection, under this alternative, a slightly greater amount of land would be covered with impervious surfaces compared to the proposed project. In compliance with Regional Water Quality Control Board (RWQCB) requirements, this alternative would include a comprehensive proposed Stormwater Treatment Plan. Similar to the proposed project, stormwater would be captured in Drainage Management Areas (DMAs) located throughout the project site and would be conveyed to Integrated Management Practices (IMPs), detention basins that are appropriately sized to capture estimated stormwater flows. Implementation of the stormwater control plan would prevent untreated water from entering nearby surface and groundwater. Therefore, operation-related

project impacts related to surface and groundwater and respective water quality would be less than significant similar to the proposed project.

This alternative would develop the same number and size of residential units and would therefore have the same water demand at operation as the proposed project. As discussed in Section, 3.9 Hydrology and Water Quality, Marin Water is projected to have sufficient supplies to meet projected demands in normal years, single dry years, and multiple dry years through 2045. Additionally, as described in Chapter 5, Effects Found not to be Significant, Marin Water confirmed that it would be able to provide adequate water services to the proposed project and the rest of its services area during normal, dry, and multiple dry years. Therefore, impacts related to groundwater recharge and supply would be less than significant, the same as the proposed project.

Land Use and Planning

Under Alternative 4, the size and scale of the residential project would remain the same as the proposed project. Impacts would be the same as the proposed project.

Noise

Under Alternative 4, the location and timing of construction would be the same as the proposed project, accordingly, construction-related vibration impacts would be less than significant the same as the proposed project. Similar short-term noise impacts from grading and construction activities would occur with Alternative 4, as the construction timing, duration, and equipment would be similar to the proposed project. The construction of the internal roadway connecting to Drakes Cove Road would shift the acoustical center of the construction noise slightly closer to the closest residences west of the project site. However, this would only slightly increase temporary noise levels from construction and would not result in a significant impact. Therefore, the less than significant short-term noise impacts that would occur with the proposed project also would occur under this alternative, although slightly increased under this alternative. As the number of housing units and anticipated population would be the same as the proposed project, potential operational noise impacts would also be the same as the proposed project.

Transportation

Under Alternative 4, East Sir Francis Drake Boulevard/Drakes Cove Road would operate at LOS B during both peak-hours. This alternative would have the a lower minor approach delay at East Sir Francis Drake Boulevard/Drakes Cove Road and East Sir Francis Drake Boulevard/Project Access compared to the proposed project with the addition of project access on Drakes Cove Road. Therefore, traffic delays would be similar, but slightly improved, compared to the proposed project. However, automobile delay is no longer considered a significant impact for the purposes of CEQA (PRC § 21099(b)(2)), and therefore, such impacts need not be compared to the proposed project's impacts.

This alternative includes the same fire access road as the proposed project, which allows emergency vehicle access to the site. In terms of traffic safety, this alternative includes signalization of the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road, which allows vehicles to turn left off Drakes Cove Road from East Sir Francis Drake Boulevard with the aid of a traffic signal. Thus,

both the proposed project and Alternative 4 allow for vehicles traveling to the proposed development and exiting the proposed development from East Sir Francis Drake Boulevard to do so with the aid of a traffic signal because the only entrance and exit to the project would be on Drake Cove Road. Additionally, this alternative would also benefit drivers unrelated to project traffic by allowing drivers turning left onto Drakes Cove Road from East Sir Francis Drake Boulevard and drivers turning left onto East Sir Francis Drake Boulevard from Drakes Cove Road to do so with the aid of a traffic signal. Therefore, when compared to the proposed project, this alternative would slightly decrease impacts on surrounding roadways. Additionally, VMT is expected to be the same as the proposed project. Therefore, under this alternative, impacts would be less than significant, both slightly increased and decreased, compared to the less than significant traffic safety impacts of the proposed project.

7.6.2 - Conclusion

Under Alternative 4, the development footprint and project operations would remain the same as the proposed project. All characteristics and components of the proposed project would remain unchanged, except for project access. This alternative would result in signalization of the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road with project access provided on Drakes Cove Road only such that all project trips would access East Sir Francis Drake Boulevard via Drakes Cove Road and would also include project access on Drakes Cove Road with a stop sign. Accordingly, the majority of impacts under this alternative would be the same as those under the proposed project. Alternative 4 would incrementally reduce the proposed project's already less than significant impacts related to transportation safety. However, Alternative 4 would have slightly increased aesthetics, light, and glare, biological resources, cultural and tribal cultural resources, geology and soils impacts, hazard and hazardous materials, and noise impacts due to the internal and surrounding roadway configuration and additional ground disturbance and construction associated with the access road proposed in this alternative. The feasibility of this alternative is dependent on the neighboring HOA granting, or committing to grant, the necessary property rights to the project applicant for construction and operation of the internal roadway connecting the project to Drakes Cove Road. It is potentially legally feasible insofar as the HOA grants or commits to grant the necessary property rights.

7.7 - Alternative 5—Proposed Project Access with Left-turn Access to Drakes Cove Road Prohibited Alternative

Under Alternative 5, all characteristics and components of the proposed project would remain unchanged, including the project's vehicle access configuration, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. Therefore, under Alternative 5, vehicles traveling eastbound on East Sir Francis Drake Boulevard will no longer be able to turn left onto Drake Cove Road, resulting in a right-in/right-out intersection at Drakes Cove Road. The existing left-turn pocket would be restriped as a through lane for eastbound traffic. The proposed project access was evaluated as "Access Alternative 2" in the TIS prepared for W-Trans, dated December 8, 2022 (included in Appendix I); however, the removal of left-turn access to Drake Cove Road was not evaluated in the TIS but was analyzed by a qualified traffic engineer. See Exhibit 7-4 in Chapter 7, Alternatives, for an illustration of this alternative.

7.7.1 - Impact Analysis

Aesthetics, Light, and Glare

Under Alternative 5, all characteristics and components of the proposed project would remain unchanged, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. The elimination of the left-turn lane from East Sir Francis Drake Boulevard would not result in any additional light or glare compared to the proposed project and would not substantially alter views of the project. When compared to the proposed project, substantially the same area of the project site would be developed with the same number of residential uses of the same height, style and design. This would result in the same impacts related to light and glare as well as the visual quality of the site and its surroundings compared to the proposed project. Accordingly, aesthetics, light, and glare impacts would be the same under Alternative 5 as under the proposed project.

Air Quality

Under Alternative 5, all characteristics and components of the proposed project would remain unchanged, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. There would be no change related to air quality under this Alternative as compared to the proposed project.

Biological Resources

Under Alternative 5, all characteristics and components of the proposed project would remain unchanged, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. There would be no change related to biological resources under this alternative as compared to the proposed project.

Cultural Resources and Tribal Cultural Resources

Under Alternative 5, all characteristics and components of the proposed project would remain unchanged, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. There would be no change related to cultural resources and tribal cultural resources under this alternative as compared to the proposed project.

Energy

Under Alternative 5, all characteristics and components of the proposed project would remain unchanged, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. This alternative would contain the same project components and stop controls; therefore, energy consumption would be the same under the proposed project. There would be no change related to energy under this alternative as compared to the proposed project.

Geology and Soils

Under Alternative 5, the development footprint would be the same as the proposed project. However, this alternative would prohibit left turns from East Sir Francis Drake Boulevard to Drakes

Cove Road by restriping the left-turn lane for through travel. Therefore, there would be an amount of grading, and earth work is associated with this alternative. Impacts to geology and soils would be less than significant, and the same as, the proposed project.

Greenhouse Gas Emissions

Under Alternative 5, all characteristics and components of the proposed project would remain unchanged, except for the elimination of the existing left-hand turn pocket on East Sir Francis Drake Boulevard at the Drakes Cove Road intersection. Restricting left turns requires drivers to detour around the prohibition, increasing VMT and roadway occupancy. Therefore, a driver wishing to turn left eastbound from East Sir Francis Drake Boulevard onto Drakes Cove Road would need to find a place to turn around or approach Drakes Cove Road from the Andersen Drive or Interstate 580 (I-580) side of East Sir Francis Drake Boulevard rather than U.S. Highway 101 (US-101) or Larkspur Landing side. For a northbound driver on US-101 heading toward Drakes Cove Road, this could add up to 2.8 miles of distance to bypass East Sir Francis Drake Boulevard, exit US-101 at Bellam Boulevard, turn left onto Andersen Drive, then right onto East Sir Francis Drake Boulevard. A driver leaving Drakes Cove Road and heading toward I-580 East would need to either turn around somewhere in Larkspur Landing or add up to 2.6 miles to their trip by entering US-101 North at East Sir Francis Drake Boulevard then transferring to I-580 East. Thus, due to the increase of VMT, emissions associated with this alternative would be increased as compared to the less than significant impacts of the proposed project, though the increase is nominal because the percentage of drivers choosing the foregoing, alternative routes is not significant, and many drivers may choose shorter, alternative routes (e.g., turning around in a nearby commercial center).

Hazards and Hazardous Materials

Under Alternative 5, the development footprint and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Hydrology and Water Quality

Under Alternative 5, the development footprint and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Land Use and Planning

Under Alternative 5, the development footprint and project operations would be the same as the proposed project. Impacts would be the same as the proposed project.

Noise

The proposed project's construction-related vibration impacts would be less than significant. Short-term noise impacts from grading and construction activities would be the same as the proposed project under Alternative 5 as the development footprint would be the same as the proposed project. The construction timing, duration, and equipment would be similar to the proposed project. Therefore, the less than significant short-term noise impacts that would occur with the proposed project also would occur with Alternative 5. As the number of housing units would be the same as the proposed project, potential operational noise impacts would also be the same as the proposed project.

Transportation

This alternative proposes the same degree of development, construction schedule, and number of housing units as the proposed project; therefore, the volume of construction and operational traffic would be the same as the proposed project. Additionally, this alternative includes the same fire access road as the proposed project. Under Alternative 5, there would be left-turn prohibitions at East Sir Francis Drake Boulevard to Drakes Cove Road (right-in/right-out access only). Restricting left turns would require drivers to detour around the prohibition, increasing VMT and roadway occupancy. However, this increase in VMT would be nominal overall.⁶ According to the TIS prepared for the Draft EIR, approximately three vehicles utilize the left-turn lane at the Drakes Cove Road and East Sir Francis Drake Boulevard intersection during the AM peak-hour period and five vehicles utilize it during the PM peak-hour period. Thus, prohibiting the left-turn movements at East Sir Francis Drake Boulevard to Drakes Cove Road intersection would slightly improve safety as compared to the proposed project by eliminating any potential collisions that could occur between the small volume of vehicles utilizing the left-turn lane and traffic heading westbound on East Sir Francis Drake Boulevard without the aid of signalization.⁷ While this alternative would slightly improve traffic safety as compared to the proposed project, this alternative would not be significantly safer than the proposed project.⁸ Thus, traffic safety impacts would be slightly decreased and VMT would be slightly increased as compared to the proposed project.

7.7.2 - Conclusion

Under Alternative 5, the development footprint and project operations would remain the same as the proposed project. Accordingly, the impacts under this alternative would be the same as those under the proposed project. While traffic delays would be the same as the proposed project, vehicle safety would be improved by prohibiting left turns on to Drakes Cove Road. This alternative ultimately does not substantially lessen any significant impacts of the project.

7.8 - Alternative 6—All-Electric Building Design Alternative

This alternative would include all-electric energy connections. This includes heat pump space heating, electric resistance reheat coils, electric water heater with storage tank, heat pump water heating, increasing electrical capacity, and eliminating natural gas connections that would have been present under the proposed project's mixed fuel new construction.

7.8.1 - Impact Analysis

Aesthetics, Light, and Glare

Under Alternative 6, all outward design elements would be the same as the proposed project. When compared to the proposed project, the same area of the project site would be developed with the same number of residential uses of the same height, style, and design. This would result in the same

⁶ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: meeting. January 19, 2023.

⁷ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: email. December 20, 2023.

⁸ Carstens, Kevin. Traffic Engineer, W-Trans. Personal Communication: meeting. January 19, 2023.

impacts related to light and glare as well as the visual quality of the site and its surroundings compared to the proposed project.

Air Quality

The proposed project has less than significant impacts related to air quality. Alternative 6 would have similar, although incrementally reduced, impacts due to the use of 100 percent electricity and elimination of gas appliances. Reduction in criteria pollutant emissions would result from the elimination of the products of natural gas combustion at the project site (e.g., NOx), but these would potentially be replaced with indirect combustion emissions from remote, but regional, power sources within the same air quality basin or region of influence. Typically, air quality impacts are only significantly reduced when the energy from a building operation is the major source of energy use for a project. The potential for air quality impacts under this alternative would remain less than significant, though slightly reduced, from the proposed project.

Biological Resources

Potential impacts to biological resources are related primarily to the area proposed for disturbance and less to the type of energy uses that would occur on the project site. Under this alternative, a similar amount of the project site would be disturbed when compared to the proposed project, and the potential for impacts to biological resources would remain unchanged when compared to the proposed project.

Cultural Resources and Tribal Cultural Resources

Potential impacts to cultural resources are related primarily to the area proposed for disturbance and less to the type of energy uses that would occur on the project site. Under this alternative, a similar amount of the project site would be disturbed when compared to the proposed project, and the potential for impacts to cultural resources would remain unchanged when compared to the proposed project.

Energy

Under Alternative 6, the building design would substitute electric heating and cooling infrastructure in place of natural gas infrastructure, eliminating new natural gas infrastructure and usage during project operations. By proactively implementing an all-electric building design, under this alternative, the proposed project's reliance on natural gas use would be eliminated. The proposed project would more easily be able to utilize renewable energy from on-site or nearby energy production to offset the electrical energy use requirements of project operations, including from building heating/cooling and water heating. As compared to the proposed project, this alternative would not contribute to wasteful or inefficient energy usage. Accordingly, energy impacts would be less than significant similar to, but slightly less than, the proposed project.

Geology and Soils

Potential impacts to geology and soil resources are related primarily to the area proposed for disturbance and less to the type of energy uses that would occur on the project site. Under this alternative, a similar amount of the project site would be disturbed when compared to the proposed

project, and the potential for impacts to geology and soils would remain unchanged when compared to the proposed project.

Greenhouse Gas Emissions

As discussed in Section 3.7, Greenhouse Gases, the proposed project's GHG emissions were determined to be less than significant in accordance with the reduction measures identified in the Marin County's Climate Action Plan (CAP). Under this alternative, the proposed project's reliance on natural gas energy use would be decreased and the proposed project would more easily be able to utilize renewable energy from on-site or nearby energy production to offset the energy required by project operations. This will reduce GHG emissions since it replaces natural gas use and CO₂ emissions from fuel combustion with a potentially less emissions-intensive source of energy: electricity from a grid that is increasingly transitioning to renewable sources. Therefore, this alternative would also result in less than significant GHG impacts, though slightly decreased impacts when compared to the proposed project.

Hazards and Hazardous Materials

Potential impacts related to hazards and hazardous are related primarily to the area proposed for disturbance and the proposed land use and less to the type of energy uses that would occur on the project site. Under this alternative, a similar amount of the project site would be disturbed when compared to the proposed project and this alternative would also propose residential uses the same as the proposed project; therefore, the potential for impacts related to hazards and hazardous materials would remain unchanged when compared to the proposed project.

Hydrology and Water Quality

Potential impacts related to hydrology and water quality are related primarily to the area proposed for disturbance and the proposed land use and less to the type of energy uses that would be utilized in the building. Under this alternative, a similar amount of the project site would be disturbed when compared to the proposed project and this alternative would also propose residential uses the same as the proposed project; therefore, the potential for impacts related to hydrology and water quality would remain unchanged when compared to the proposed project.

Land Use and Planning

Potential impacts related to land use and planning are related primarily to the proposed land use and less to the type of energy uses that would be utilized in building design. Under this alternative, the same residential uses as the proposed project would be constructed; therefore, the potential for impacts related to land use and planning would remain unchanged when compared to the proposed project.

Noise

Potential impacts to noise are related primarily to the area proposed for disturbance during construction and the proposed land use at operation and less to the type of energy uses that would occur on the project site. Under this alternative, a similar amount of the project site would be disturbed when compared to the proposed project and the both the construction schedule and type

of construction activity would be the same as the proposed project; therefore, the potential for construction noise impacts would remain unchanged when compared to the proposed project. At operation, Alternative 6 would involve the same number and size of residential units. Therefore, operational impacts would remain the same as the proposed project.

Transportation

Alternative 6 would involve no changes to traffic or transportation compared to the proposed project.

7.8.2 - Conclusion

Under Alternative 6, the development footprint and project operations would remain the same as the proposed project, including all access routes and proposed signalization. This alternative would impose a 100 percent electric building design and would eliminate any natural gas and/or mixed fuel considered in the proposed project. Alternative 6 would incrementally reduce the project's already less than significant impacts related to air quality, energy, and GHG emissions due to the elimination of any mixed fuel. All other impacts would be the same as the proposed project. Accordingly, this alternative does not substantially lessen any significant project impacts.

7.9 - Alternative 7—Annexation Alternative

Under Alternative 7, all characteristics and components of the proposed project would remain unchanged, including the proposed project access, except that the project's site would be annexed to the City of Larkspur. The only substantial change between this alternative and the proposed project would be a difference in service providers for public services and utilities. As discussed above, potential impacts related to topics discussed in Effects Found not to be Significant are considered not to be significant for any of the alternatives. However, due to the nature of this Alternative, further analysis for public services, utilities, and service systems is provided below.

The proposed project would be served by the Central Marin Fire Authority (Central Marin Fire) for fire services; the Central Marin Police for police services; the San Rafael City School District for school services; and the Marin County Free Library for library services. The proposed project would obtain water from the Marin Municipal Water District (Marin Water). The Ross Valley Sanitary District (RSVD) would collect the proposed project's wastewater and the Central Marin Sanitation Agency (Central Marin Sanitation) would treat the proposed project's wastewater. The Marin Sanitary Service (Marin Sanitary) would provide solid waste services to the project site.

Under Alternative 7, the proposed project would still be served by Central Marin Fire and Central Marin Police.⁹ School services for students in the City of Larkspur would typically be provided by the Larkspur-Corte Madera School District and the Kentfield School District; however, students in the City of Larkspur located north of the Corte Madera Creek and east of US-101 are served by the San Rafael City Elementary and High Schools. Therefore, students generated from the proposed project would attend schools in the San Rafael City Elementary and High Schools, which is consistent with

⁹ City of Larkspur. 2022. Public Works Department web page. Website: <https://www.ci.larkspur.ca.us/110/Public-Works-Department>. Accessed January 10, 2023.

the proposed project.¹⁰ However, library services would be provided by Larkspur Library, which has a collection of 50,000 books, DVDs, audiobooks, and magazines and shares its collections with five other libraries including the Marin County Free Library.¹¹

Under Alternative 7, consistent with the proposed project, water would be obtained by Marin Water, wastewater would be collected by RSVD and treated by Central Marin Sanitation, and solid waste services would be provided by Marin Sanitary Service.¹² Similarly, under both the proposed project and Alternative 7, the project site would be served by Pacific Gas & Electric Company (PG&E) for electricity and gas. However, should the property owner choose, they could opt out of PG&E and be serviced by Marin Clean Energy. Thus, the only difference in service providers under this Alternative compared to the proposed project is library services.

Presently, the Larkspur Library currently has insufficient space and facilities to serve the existing City or Larkspur population. Constructing a new library has been part of the City's 2050 Capital Expenditure Plan since 2001. In November 2021, the Larkspur City Council decided to proceed to permanently move Larkspur Library functions to the Rose Lane parcel at the intersection of Rose Lane and Doherty Drive designated as "The Commons."¹³ The City of Larkspur is currently working to identify funding to develop a new library at The Commons. A potential new library at The Commons was assessed as part of the CEQA review of the Rose Lane Subdivision. Previous CEQA documents adopted for the subdivision found that all development impacts would be reduced to a less than significant level.¹⁴

7.9.1 - Impact Analysis

Aesthetics, Light, and Glare

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to aesthetics, light, and glare compared to the proposed project.

Air Quality

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to air quality compared to the proposed project.

Biological Resources

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to biological resources compared to the proposed project.

¹⁰ City of Larkspur. 2022. Larkspur General Plan 2040 Draft Environmental Impact Report, Chapter 4.13, Public Services & Recreation. Website: <http://www.cityoflarkspur.org/144/General-Plan-Update>. Accessed January 10, 2023.

¹¹ Larkspur Library. 2022. About us web page, Collection. Website: <https://www.ci.larkspur.ca.us/716/About-Us>. Accessed January 10, 2023.

¹² City of Larkspur. 2022. Larkspur General Plan 2040 Draft Environmental Impact Report, Chapter 4.15, Utilities & Service Systems. Website: <http://www.cityoflarkspur.org/144/General-Plan-Update>. Accessed January 10, 2023.

¹³ City of Larkspur. 2022. Larkspur General Plan 2040 Draft Environmental Impact Report, Chapter 4.13, Public Services & Recreation. Website: <http://www.cityoflarkspur.org/144/General-Plan-Update>. Accessed January 10, 2023.

¹⁴ City of Larkspur. 2022. Larkspur General Plan 2040 Draft Environmental Impact Report, Chapter 4.15, Utilities & Service Systems. Website: <http://www.cityoflarkspur.org/144/General-Plan-Update>. Accessed January 10, 2023.

Cultural Resources and Tribal Cultural Resources

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to cultural resources and tribal cultural resources compared to the proposed project.

Energy

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to energy compared to the proposed project.

Geology and Soils

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to GHG emissions compared to the proposed project.

Hazards and Hazardous Materials

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to hazards and hazardous materials compared to the proposed project.

Hydrology and Water Quality

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to hydrology and water quality compared to the proposed project.

Land Use and Planning

As discussed in Chapter 3.10, Land Use and Planning, of this Draft EIR, the project site is owned by the State of California, and the proposed project would develop the property for State use. As such the project is not subject to local zoning or the Subdivision Map Act and development on the site is not required to conform to existing local land use regulation under the principles of State Sovereignty. Therefore, under Alternative 7, there would be no change from the proposed project because local land use policies do not apply to the proposed project.

Noise

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to noise compared to the proposed project.

Transportation

Under Alternative 7, all project components would be the same as the proposed project. Alternative 7 would involve no changes to transportation compared to the proposed project.

7.9.2 - Conclusion

Under Alternative 7, the development footprint and project operations would remain the same as the proposed project, including all access routes and proposed signalization. This alternative would annex the proposed project to the City of Larkspur. All public service and utility providers that would serve the proposed project would be the same under this alternative, except for library services, which would be provided by the Larkspur Library. While the Larkspur Library currently does not meet the needs of the City’s existing population, a potential new library was assessed as part of the CEQA review of the Rose Lane Subdivision and was found that all related development impacts would be reduced to a less than significant level. As evaluated above in each of the topical areas, there would be no changes compared to the proposed project under this alternative. Therefore, impacts would be the same as the proposed project.

7.10 - Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(2) requires identification of an environmentally superior alternative. The qualitative environmental effects of each alternative in relation to the proposed project are summarized in Table 7-1.

Table 7-1: Summary of Alternatives

Environmental Topic Area	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7
Aesthetics, Light, and Glare	<	=	=>	=>	=	=	=
Air Quality	<	=	=	=	=	=<	=
Biological Resources	<	=	=>	=>	=	=	=
Cultural Resources and Tribal Cultural Resources	<	=	=>	=>	=	=	=
Energy	<	=<	=	=	=	=<	=
Geology and Soils	<	=<	=>	=>	=	=	=
Greenhouse Gas Emissions	<	=	=	=	=>	=<	=
Hazards and Hazardous Materials	<	=	=>	=>	=	=	=
Hydrology and Water Quality	<	=	=	=	=	=	=
Land Use and Planning	<	=	=	=	=	=	=
Noise	<	=	=>	=>	=	=	=
Transportation	<	=>	=<	=<	=>	=	=

As demonstrated by Table 7-1, Alternative 1 (No Project, No Build Alternative) is the environmentally superior alternative as it would reduce impacts in all environmental topic areas. However, as per CEQA Guidelines Section 15126(e)(2), if the No Project Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives. Therefore, Alternative 6 (All-Electric Building Design Alternative) is the environmentally superior alternative as impacts in the majority of the environmental topic areas would be the same as the proposed project, with slightly reduced impacts in Air Quality, Greenhouse Gas Emissions, and Energy, and would not slightly increase impacts in any way.

7.11 - Alternatives Rejected From Further Consideration

CEQA Guidelines 15126.6(c) requires an EIR to discuss alternatives that were initially considered but rejected from further consideration. The following are alternatives that were initially considered but rejected from further consideration for the reasons described below.

7.11.1 - Alternate Location Alternative

Guidelines Section 15126.6(f)(2) sets forth considerations to be used in evaluating an alternative location. The section states that if a lead agency concludes that no feasible alternative locations exist for the proposed action, it must disclose its reasons for that conclusion. In this case, an alternative location does not constitute a feasible alternative because the project location in question was identified pursuant to Executive Order (EO) N-06-19 and no other sites of similar size consistent with the requirements in EO N-06-19 are located in Marin County.¹⁵ Thus, this alternative was initially considered but rejected.

7.11.2 - Lower Density/Smaller Building Footprint Alternative

During the Notice of Preparation (NOP) period for this Draft EIR, several commenters requested that a smaller building footprint or lower building density be considered and analyzed in the Draft EIR. This alternative was initially considered but rejected from further consideration because reducing the number of units would not meet the project objectives for the proposed project. As identified in Section 7.2, the project objectives are to provide as many affordable housing units as possible as directed by EO N-06-19 to address the regional housing and employment imbalance in Marin County. Separately and independently, State policies directed at addressing the State's housing crisis warrant the provision of as many housing units as possible where feasible. EO N-06-19, incorporated herein by this reference, provides that "California is experiencing an acute affordable housing crisis that stifles economic growth, contributes to the homelessness epidemic, consumes an ever-growing share of the paychecks of working families, and holds millions of households back from realizing the California Dream," and thus directs efforts to satisfy the goal of maximizing land resources in order to build affordable housing units. The presence of units will further facilitate the ability of local government to satisfy Regional Housing Need Allocations assigned by the HCD, as documented in State and local documents, incorporated herein by this reference. Accordingly, an alternative that reduces unit count is not feasible because a key project objective is not only to provide affordable

¹⁵ Statewide Affordable Housing Sites. Website: [Statewide Affordable Housing Opportunities Sites \(arcgis.com\)](https://arcgis.com). Accessed December 2, 2022.

units but units that are of equal quality and have equal amenities as market-rate units. Therefore, it is not feasible to provide the same number of units but with smaller footprints and less amenities.

A permutation of this alternative that was considered contemplated the provision of the same units as the proposed project but in a configuration that has a smaller geographic footprint, so as to occupy less of the project site. To develop 250 affordable housing units within a smaller building footprint would require the proposed project to increase the number of levels and, thus, the overall building height. If the proposed project were to be configured into one high-rise tower under this alternative that occupies a developable footprint that is approximately 70 percent of the proposed project's footprint, the building height would be approximately 120 feet at its tallest points. In terms of aesthetics impacts, a high-rise design would be taller than the surrounding residences and would obstruct the ridgeline north and east of the project site, which would constitute a significant visual impact. The average height of this tower would be 50 to 80 percent taller than the proposed project (the proposed project is approximately 60 feet tall at its tallest points but on average is approximately 50 feet tall). It would exceed the height of surrounding trees, which stand 30 to 60 feet tall, by 60 to 90 feet. The building height would also be approximately 80 feet taller than (or approximately triple the height of) homes in the adjacent neighborhood, which stand three stories and approximately 40 feet tall at their tallest point. Compared to the ridgeline north and east of the project site, which reach a maximum approximate height of 215 feet and 315 feet above the North American Vertical Datum of 1988 (NAVD 88),¹⁶ respectively, the top of the taller, alternative building would be approximately 180 feet above NAVD88. In aggregate, the building would be experienced as a more imposing structure that is not in scale with the surrounding landscape or modest structures, and constitute a significant, adverse change to the character of the area.

While this would accomplish a smaller building footprint and decrease impacts caused by the replacement of open space, this would substantially increase the aesthetic impacts of the proposed project by significantly altering the visual character and creating significant land use incompatibilities with the surrounding communities. Thus, this alternative was initially considered but rejected.

¹⁶ The North American Vertical Datum of 1988 (NAVD 88) is the official vertical datum of the United States and serves as a reference surface of zero elevation to which heights are referred to over a large geographic extent. The NAVD88 is approximately three feet below the mean sea level.

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Source: W-Trans, 07/21/2022.

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[View description of exhibit.](#)

Exhibit 7-1 Alternative 2 - Stop Sign at Project Driveway Alternative

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Source: W-Trans, 07/21/2022.

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Exhibit 7-2
Alternative 3 - Traffic Signal at Project Driveway
with Internal Connection to/from Drakes Cove Road Alternative

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Source: W-Trans, 07/21/2022.

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Exhibit 7-3 Alternative 4 - Traffic Signal at Drakes Cove Road Alternative

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STATE OF CALIFORNIA DEPARTMENT OF GENERAL SERVICES
OAK HILL APARTMENTS PROJECT
ADMINISTRATIVE DRAFT ENVIRONMENTAL IMPACT REPORT

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Source: W-Trans, 07/21/2022.

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Exhibit 7-4 Alternative 5 - Proposed Project Access with Left-turn Access to Drakes Cove Road Prohibited Alternative

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CHAPTER 8: PERSONS AND ORGANIZATIONS CONSULTED/LIST OF PREPARERS

8.1 - Lead Agency

8.1.1 - California Department of General Services

Real Estate Services Division

Manager of Environmental Services.....	Daniel O’Brien
Senior Environmental Planner	Terry Ash
Asset Enhancement Manager	Jonathan Heim
Senior Real Estate Officer	Joshua Palmer

8.1.2 - Public Agencies

Federal Agencies

United States Army Corps of Engineers

Senior Project Manager.....	Bryan Matsumoto
-----------------------------	-----------------

State Agencies

California Department of Corrections

Director of Facility Planning.....	Dean L. Borg
Deputy Director	Chris Lief
Associate Director.....	Keith Beland
Associate Director.....	Sohall Shaikh
Supervising Environmental Planner.....	Peter Connelly

California Department of Housing and Community Development

Housing Community Development Specialist	Michael Coulom
--	----------------

Local Agencies

County of Marin

Director of Community Development	Tom Lai
Deputy Director of Housing and Federal Grants	Leelee Thomas
Current Planning Manager	Jeremy Tejirian
Environmental Planning Manager	Rachel Reid

City of Larkspur

Community Development Director	Elise Semonian
--------------------------------------	----------------

8.1.3 - Private Parties and Organizations

Eden Housing, Inc.

Associate Director of Real Estate Development.....Teddy Newmyer
Associate Project DeveloperTim Gorman

Education Housing Partners

Thompson Dorfman LLC

Principal Bruce Dorfman
Project Manager..... Joanna Julian

8.2 - List of Preparers

8.2.1 - Lead Consultant

FirstCarbon Solutions

Project Director Mary Bean
Project Director Jason Brandman
Project Manager..... Rachel Krusenoski
Environmental Services Analyst Maddie Dolan
Legal Counsel Megan Starr, JD
Director of Cultural Resources Dana DePietro, PhD, RPA
Archaeologist Stefanie Griffin
Historian and Cultural Resource Analyst..... Ti Ngo
Senior Biologist Bernhard Warzecha
Biologist..... Robert Carroll
Director of Noise and Air Quality Phil Ault, LEED® AP
Air Quality Specialist Lance Park
Air Quality Specialist Jessica Coria
Publications Manager Susie Harris
Publications Coordinator Alec Harris
Document Specialist..... Melissa Ramirez
GIS/Graphics Karlee McCracken
GIS/Graphics Sebastian Macias

8.2.2 - Technical Subconsultants

BKF Engineers

Vice President Chris Mills
Project Manager..... Michael Steele

Cameron-Cole

Principal Scientist and Western Region Manager Michael Stephenson
Scientist Dustin Metz

Geologist..... Amy Robson

HortScience Bartlett Consulting

Managing Consulting Urban Forester..... Darya Barar
Consulting Arborist and Urban Forester..... Allegra Mautner
Arborist and Urban Forester..... Brenda Wong

Miller Pacific Engineering Group

Geotechnical Engineer..... Daniel S. Caldwell
Engineering Geologist..... Michael Jewett

SVA Architects

Chief Executive Officer and Partner..... Ernie Vasquez
Principal..... Nathan Herrero
Architect..... Bill Koster

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Senior Principal..... Dalene J. Whitlock, PE, PTOE
Traffic Engineer..... Kevin Carstens, PE, ITE, MBA

8.2.3 - Legal Counsel

Hanson Bridgett LLP

Partner..... Sean Marciniak
Associate..... Ellis F. Raskin

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Accessibility Figure Descriptions

Exhibit 2-1 Regional Location Map

Exhibit 2-1 shows the regional location of the project site within the San Francisco Bay Area. The project site is located in Marin County, east of the City of Larkspur. The project site is located near the San Francisco Bay.

Exhibit 2-2a Local Vicinity Map

Exhibit 2-2a shows the project site boundary and its surroundings. The project site is a polygon shape north of East Sir Francis Drake Boulevard and Remillard Park. South of Remillard Park is the Corte Madera Channel and the Corte Madera Marsh Ecological Reserve. West of the project site is a residential area along Drakes Cove Road and Larkspur Ferry Terminal. North of the project site is an undeveloped area and Interstate 580. East of the project site is an undeveloped area and San Quentin State Prison.

Exhibit 2-2b Proposed Project Site

Exhibit 2-2b shows the project site boundary at a closer distance. A junction box and a hydrogen peroxide dosing odor control facility are located at the southern end of the project site next to an existing driveway. East Sir Francis Drake Boulevard is southern of the project site. A Class I multi use path is located along the southern part of East Sir Francis Drake Boulevard.

Exhibit 2-3 Building Height Site Map

Exhibit 2-3 shows a bird's eye view of the project site. It contains several text boxes showing roof elevation, grade elevation, and the height to roof at several areas of the project site. The grade elevation ranges from 33-feet to 87-feet and increases from the southern part to the northern part of the project site. The height to roof ranges from 30-feet to 60-feet.

The project site contains two main buildings. The front building is at the southern end of the project site and the back building is at the northern end of the project site.

The southernmost portion of the front building has a roof elevation of 67-feet, a grade elevation of 33-feet, and a height to roof elevation of 34-feet. The portion of the building directly north of this has a roof elevation of 87-feet, grade elevations range from 37 to 47 feet, and height to roof elevations range from 50 to 40 feet. The next most northern portion of the building has a roof elevation of 107-feet, a grade elevation of 57-feet, and a height to roof elevation of 50-feet. The largest portion of the building, which wraps around the east and north ends of an open space amenity at Level 4 and is just north of the portion previously described, has a roof elevation of 117-feet. Grade elevations range from 61 to 67-feet and height to roof elevations range from 50 to 56-feet. There are two portions of the building west of the level 4 open space amenity and south of the largest portion of the building. The more southern portion has a roof elevation of 97-feet, a grade elevation of 37-feet, and a height to roof elevation of 60-feet. The more northern portion has a roof elevation of 107-feet, a grade elevation of 54-feet, and a height to roof elevation of 53-feet.

The primary portion of the back building has a roof elevation of 127-feet, with grade elevations ranging from 67-feet to 87-feet, and height to roof elevations ranging from 60-feet to 40-feet. There is one small

portion of the building, at its southwestern corner that has a roof elevation of 117-feet. There are 3 additional small portions of the building at the northwest corner of the project site as well. The northernmost portion of these has a roof elevation of 117-feet, a grade elevation of 87-feet, and a height to roof elevation of 30-feet. The other two portions have a roof elevation of 107-feet, a grade elevation of 77-feet, and a height to roof elevation of 30-feet.

There are four open spaces amenities, one of which is at the ground level, one of which is at level 4 and at an elevation of 67-feet, one of which is at level 5 and at an elevation of 77-feet, one of which is at level 6 and an elevation of 87-feet, and one located at the western portion of the project site.

Lastly, there are three project site entrances. These include two entries at East Sir Francis Drake Boulevard, which is south of the project site, and at Drakes Cove Road, which is west of the project site, as well as an emergency vehicle access road at East Sir Francis Drake Boulevard, which wraps around the east and north sides of the project site. Pedestrian pathways provide access from project driveways to each building.

Exhibit 2-4 Conceptual Site Plan

Exhibit 2-4 displays a conceptual site plan of the proposed residential development from a bird's eye view. The exhibit shows two access points to the proposed project: the project driveway from East Sir Francis Drake Boulevard and the potential alternative entrance off of Drakes Cove Road. There is also a fire line for the proposed project that begins at East Sir Francis Drake Boulevard directly east of the project site and curves up and around the project site. The fire lane continues around the east and north sides of the project site up to 70-feet in elevation.. Both the main entrance and alternate entrance connect to a driveway that leads up the center of the project site, up to 45-feet in elevation. There is a large rectangular residential building in the center of the figure with a 12,000 square foot open space amenity in the center of the building. A second residential building is shown at the top of the image. Two open space amenities are shown connected to this second building. Pedestrian pathways are included throughout the property and connect the driveways, buildings, and amenities to one another.

Exhibit 2-5 Building Cross Section

Exhibit 2-5 displays three different cross sections of the proposed project. There is an overall north/south cross-section, an east/west cross section of the Eden building (or the northernmost building), and an east/west cross section of the Eden Housing partner or EHP building (or the southernmost building).

The overall north/south cross section shows EHP at the left of the figure and the Eden building at the right of the figure. Levels 1 through 3 contain 3 bedrooms, building service, lobby space, and parking within the EHP building. The Eden building Levels 1-3 are underground. A portion of the EHP building has two additional floors, containing building service, lobby space, as well as 2-bedroom and three-bedroom apartments. Another portion of the EHP building has 5 additional floors. The fourth floor of this portion contains an amenity, and visitor parking. The fifth, sixth, seventh, and eighth floor of this portion contains 1-bedroom and 2-bedroom apartments. The Eden building is at Levels 6 through 9. Level 6 of the Eden building contains a kitchen, a stairway, and 3-bedroom apartments. Levels 7 through 9 of the Eden building contain 3-bedroom apartments.

There is an amenity courtyard at the fourth floor between the southernmost and northernmost portions of the EHP building and at the fifth and sixth floors between the northernmost portion of the EHP building and the Eden building. There is a black dotted line showing the approximate existing grade, which is approximately 37 feet where the front of the EHP building would be and approximately 90 feet where the back of the Eden building would be. There is a red dotted line showing where the approximate grade at the east side of the proposed buildings would be. There is a blue dotted line showing where the approximate grade at the west side of the proposed buildings would be.

The east/west cross section of the Eden building shows Levels 4 through 9 and illustrates three different portions of the Eden building (east, middle, and west). Level 4 of the Eden Building is underground. Level 5 at the eastern portion of the Eden building is partially underground, but it also contains 3-bedroom apartments. Between the east portion and middle portion is a lobby courtyard. The middle portion contains an office and is partially underground at Level 5. The west portion is underground at Level 5. Levels 6 through 8 have 3-bedroom apartments in the eastern portion, studios and 1-bedroom apartments in the middle portion, and 3-bedroom apartments and stairs at the west portion. There is an amenity courtyard located between the middle and west portion at Level 6. Level 9 contains studio bedrooms and 3-bedrooms in the eastern portion, studios and 1-bedrooms in the middle portion, and 3-bedrooms and stairs in the western portion.

The east/west cross section of the EHP building shows Levels 1 through 8. Levels 1 through 3 are primarily parking and the westernmost area is two levels of bicycle parking and one level of 2-bedroom apartments. Above Level 3, there is an eastern and western portion of the building, separated by an amenity courtyard at Level 4. The eastern portion has Levels 4 through 8 and contains 1-bedroom and 2-bedroom apartments at every floor. The western portion has Levels 4 through 7 and also contains 1-bedroom and 2-bedroom apartments at every floor. There is a black dotted line that shows the approximate existing grade, which is about 70 feet where the east of the EHP building would be and about 52 feet where the west of the EHP building would be.

Exhibit 2-6 Proposed Building Massing

Exhibit 2-6 is a three-dimensional rendering of the proposed project as an aerial view from the southwest. It shows the proposed building massing on a topographic rendering of the proposed project site. This drawing has elevation contours showing elevation at various points of the project site and its immediate surroundings. The northmost building is a three to five level building built into the hillside. It is a rectangular building with three portions protruding from it towards the south, similar to a downward facing capital "E" shape. The eastern portion of the building is four levels built on a higher portion of the hillside. The middle portion is five levels, and the western portion is four levels except for a small area at its southern end, which is three levels.

The southernmost building is rectangular in shape with various levels. A parking garage is shown on part of the bottom two levels with rest of the building on top of it. There is open space in the middle above the parking garage, and the rest of the apartments surround the open space. The building, excluding the parking garage, has two to five levels of apartments with the northeastern portion holding five levels respectively. Balconies protrude from the apartments facing the open space in the center. The southern portion of the building shows balconies facing outward with apartments lowering to ground level.

There are two driveways shown leading up to the project side. One is the main project driveway which provides access to both the northern building and the southern building. The other is the fire access lane, which wraps around the eastern and northern ends of the project site.

Exhibit 2-7 Project Access Alternatives

Exhibit 2-7 displays four alternatives that were assessed by the Transportation Impact Study for the project access.

Access Alternative 1 is at the top left corner of the figure. Access Alternative 1 includes one main entrance to the project site on East Sir Francis Drake Boulevard. There is a Stop Sign at the main project driveway off of East Sir Francis Drake Boulevard and a HAWK Beacon on East Sir Francis Drake Boulevard at the project driveway intersection. It also changes the existing eastbound acceleration lane on East Sir Francis Drake Boulevard to a left-turn lane into the project driveway. A crosswalk is included from the project driveway to the Class I Multi-use path at the south side of East Sir Francis Drake Boulevard.

Access Alternative 2 is at the top right corner of the figure. Access Alternative 2 includes one main entrance to the project site on East Sir Francis Drake Boulevard. There is a traffic signal on East Sir Francis Drake Boulevard where the main project driveway is located. It also changes the existing eastbound acceleration lane on East Sir Francis Drake Boulevard to a left-turn lane into the project driveway. A crosswalk is included from the project driveway to the Class I Multi-use path at the south side of East Sir Francis Drake Boulevard.

Access Alternative 3 is at the bottom left corner of the figure. Access Alternative 3 includes two project site entrances, one of which is the main project driveway on East Sir Francis Drake Boulevard, and one of which is an internal access road to Drakes Cove Road, west of the project site. There is a stop sign included here for vehicles leaving the project site. There is a traffic signal on East Sir Francis Drake Boulevard where the main project driveway is located. It also changes the existing eastbound acceleration lane on East Sir Francis Drake Boulevard to a left-turn lane into the project driveway. A crosswalk is included from the project driveway to the Class I Multi-use path at the south side of East Sir Francis Drake Boulevard.

Access Alternative 4 is at the bottom right corner of the figure. Access Alternative 4 includes a project site entrance on Drakes Cove Road, west of the project site. There is a stop sign included here for vehicles leaving the project site. There is a traffic signal at East Sir Francis Drake Boulevard and Drakes Cove Road. The existing acceleration land on East Sir Francis Drake boulevard is changed to a painted median. No crosswalk is included.

Exhibit 3.1-1 Map of Project Viewpoints

Exhibit 3.1-1 displays the project site as a polygon shape north of East Sir Francis Drake Boulevard and east of Drakes Cove Road, as well as the location of four viewpoints of the project site, to be analyzed in the EIR. One viewpoint, marked by a red dot, is located just west of the project site at a roundabout in the Drakes Cove Community. The second viewpoint, marked by an orange dot, is located in the San Francisco Bay southwest of the project site and close to Remillard Park. The third viewpoint, marked by a green dot, is located just south of the project site on East Sir Francis Drake Boulevard. The fourth viewpoint, marked by a pink dot, is located on East Sir Francis Drake Boulevard southwest of the project site, just past the Drakes Cove Community.

Exhibit 3.1-2a View from Drakes Cove Community

Exhibit 3.1-2a is a rendering of the proposed project viewed from the Drakes Cove Community, located directly west of the project site. The view is from a higher elevation than the proposed buildings and is facing southeast. The proposed buildings are depicted in the center of the image in shades of brown, grey, and white. Solar panels are on top of both buildings. Both buildings contain shared balconies, and the south building contains private balconies for several units. There is an entrance to the parking area located between both buildings. The San Francisco Bay is visible beyond the view of the project site. The hillside contains many trees and shrubs and surrounds the project site to the north, east, and west. An outdoor open space amenity is illustrated south of the northernmost building and west of the southernmost building. The project site contains landscaping throughout. The project driveways and buildings are built into the hillside, scaling with the height of the land.

Exhibit 3.1-2b View from San Francisco Bay

Exhibit 3.1-2b shows a rendering of the proposed project viewed from south of Remillard Park at the San Francisco Bay. A pedestrian pathway is shown along the coast. The proposed buildings are shown in shades of brown, grey, and white with the hillside to the north. Several windows and balconies from the proposed apartments face toward San Francisco Bay. Additionally, the buildings rise to various heights throughout the development. Residences in Drakes Cove Community are depicted on the western part of the image with a higher elevation on the hillside than the proposed project. A number of trees and landscaping features are illustrated surrounding both developments.

Exhibit 3.1-2c View from East Sir Francis Drake Boulevard

Exhibit 3.1-2c shows a before and after photo of the proposed project viewed from East Sir Francis Drake Boulevard just south of the project site. Photograph 1, Before Photo, shows the views available before development begins. A junction box, a hydrogen peroxide dosing odor control facility, and an approximately 11,500-square-foot asphalt pad surrounded by wire fence and a metal gate are shown on the western portion of the image. Telephone wires and lights are located along the edges of the asphalt pad and along East Sir Francis Drake Boulevard. Behind these existing features are views of trees, brush, and the hillside.

Photograph 2, After Photo, is a rendering of the proposed project. There is a landscaped setback from East Sir Francis Drake Boulevard with a sign that reads "Oak Hill". There is a traffic signal at the intersection between the proposed project access and East Sir Francis Driveway. Additionally, pedestrian crosswalks are illustrated across East Sir Francis Drake Boulevard and across the proposed project access road. The proposed buildings are shown in shades of brown, black, and white. The southernmost building is shown close to East Sir Francis Drake Boulevard, while the northernmost building is visible to the northwest of the southern building. Building elevations are at varying heights. Portions of the ridgeline to the north are visible to the northwest.

Exhibit 3.1-2d View from East Sir Francis Drake Boulevard Looking Northeast

Exhibit 3.1-2d shows a before and after photo of the proposed project viewed from approximately 0.12 miles west on the multi-use path along the southern side of East Sir Francis Drake Boulevard. Photograph 1, the Before Photo, shows existing development including East Sir Francis Drake Boulevard

in the center of the image, a commercial building on the bottom left portion of the image, a parking lot for Remillard Park on the bottom right, and the Drakes Cove Community on the top left portion of the image. The existing hillside and shrubland at the project site are shown in the distance down East Sir Francis Drake Boulevard.

Exhibit 3.1-2d shows a rendering of the proposed project viewed from approximately 0.12 miles west of the project site on the multi-use path along the southern side of East Sir Francis Drake Boulevard. A parking lot for Remillard Park is located just south of the multi-use path. Drakes Cove Community is depicted along the north side of East Sir Francis Drake Boulevard, on the left side of the image, along with a commercial building. The proposed project site is illustrated directly in front of the viewpoint in the distance. The proposed residential buildings are shown in shades of brown, grey, and white with the ridgeline visible behind the site. A landscaped setback on the proposed project site separates the proposed buildings from East Sir Francis Drake Boulevard. East Sir Francis Drake Boulevard is depicted with several cars driving both east and west in the center of the image.

Exhibit 3.3-1 Soils Map

Exhibit 3.3-1 shows the soils classification on the proposed project site from an aerial view of the project site. The 10.43 study area is outlined in yellow. 10.08 acres of the site have a classification of 183 or *Tocaloma-Saurin association, steep*. 0.35 acres in the southwest portion of the project site have a classification of 203 or *Xerothents, fill*.

Exhibit 3.3-2 CNDDDB Special-Status Species Occurrences (2-mile radius)

This exhibit has been omitted from the Public Review Draft EIR as it contains confidential information. The map shows the California Natural Diversity Database (CNDDDB) special-status species occurrences within a 2-mile radius of the project site as of July 2021.

Exhibit 3.3-3 Land Cover and Vegetation Communities

Study Area, 10.43 acres Tributary, Culvert, Land Cover and Vegetation Communities

BA: Baccharis pilularis Shrubland Alliance - .76 acres

BR: Avena spp. - Bromus spp. Herbaceous Semi-Natural Alliance - 2.12 acres

C: Cortaderia jubata, C. seloana Semi-Natural Herbaceous Stands - .12 acres

CY: Cytisus scoparius-Genista monspessulana-Cotonoeaster spp. Shrubland Semi-Natural Alliance - 5.52 acresQ:

Quercus agrifolia Woodland Alliance - .74 acres

S: Stipa pulchra Herbaceous Alliance - .57 acres

SA: Salix lasiolepis Shrubland Alliance - .31 acres

UD: Urban/Developed - .29 acres

Exhibit 3.3-4 Impacts on Biological Resources

Exhibit 3.3-4 displays the 10.43-acre study area in yellow, the 2.09-acre Study Area Expansion in black, and the 8.23 Limit of Disturbance (LOD) as well as the acreage of Land Cover and Vegetation Communities within each area. The study area is the project site plus the additional area studied. The Study expansion area is an extension of the project site to all areas that would be disturbed.

Baccharis pilularis Shrubland Alliance (BA) makes up 0.76-acres in the study area, 0.01-acres in the Expansion, 0.17-acres is the LOD. Avena spp. – Bromus spp. Herbaceous Semi-Natural Alliance (BR) makes up 2.12-acres of the Study Area 0.68-acres of the Expansion, and 1.77-acres of the LOD. 6ec Cortaderia jubata, C. seloana Semi-Natural Herbaceous Stands I makes up 0.12-acres of the Study Area, 0.00-acres of the Expansion, and -.10-acres of the LOD. The Ctsus scoparulus-Genista monspessulana-Cotonoeaster spp. Shrubland Semi-Natural Alliance (CY) makes up 5.52-acres of the Study Area, 0.35-acres of the expansion, and 5.17 acres of the limit of disturbance.

12 tributaries and culverts are labeled within the Study Area and described in a table. Tributary 1-1 has a length of 46 feet, a width of 4 feet, an impact length of 29 feet and an Impact Area of 116 square feet. It is located in the northern portion of the Study Area.

Tributary 1-2 has a length of 41 feet, a width of 1 foot, an impact length of 17 feet, and an impact area of 17 square feet. It is located in the northern portion of the Study Area south of 1-1.

Tributary 1-3 has a length of 265 feet, a width of 5 feet, an impact length of 240 feet, and an impact area of 1,200 square feet. It is located in the northern portion of the Study Area west of 1-2.

Tributary 1-4 has a length of 316 feet, a width of 1 foot, an impact length of 316 feet, and an impact area of 216 square feet. It is located in the middle portion of the Study Area south of 1-3.

Tributary 1-5 has a length of 186 feet, a width of 14 feet, an impact length of 186 feet, and an impact area of 2,604 square feet. It is located in the southern portion of the Study Area south of 1-4.

Tributary 1-6 has a length of 92 feet, a width of 16 feet, an impact length of 92 feet, and an impact area of 1,472 square feet. It is located in the southern portion of the Study Area south of 1-5.

Tributary 2-1 has a length of 139 feet, a width of 3 feet, an impact length of 139 feet, and an impact area of 417 square feet. It is located in the northern portion of the Study Area.

Tributary 3-1 has a length of 161 feet, a width of 3 feet, an impact length of 161 feet, and an impact area of 483 square feet. It is located in the middle and west portion of the Study Area.

Tributary 4-1 has a length of 185 feet, a width of 4 feet, an impact length of 185 feet, and an impact area of 740 square feet. It is located in the south and west portion of the Study Area.

Tributary 5-1 has a length of 87 feet, a width of 1 foot, an impact length of 23 feet, and an impact area of 23 feet. It is located in the south and east portion of the Study Area.

Culvert 5-2 has a length of 46 feet, a width of 1 foot, an impact length of 0 feet and an impact area of 0 square feet. It is located in the south and east portion of the Study Area south of 5-1.

Tributary 5-3 has a length of 28 feet, a width of 1 foot, an impact length of 0 feet, and an impact area of 0 feet. It is located in the south and east portion of the Study Area south of 5-2.

Culvert 5-4 has a length of 7 feet, a width of 1 foot, an impact length of 0 feet, and an impact area of 0 feet. It is located in the south and east portion of the Study Area south of 5-4.

Exhibit 3.6-1 Active Fault Map

Exhibit 3.6-1 shows active faults in the San Francisco Bay Area, from areas north of Sonoma County to areas near Monterey. There is a textbox in the top right corner stating that there is a 72 percent probability of one or more earthquakes with a magnitude greater than 6.7 from 2014 to 2043 in the San Francisco Bay Region. There is an explanation key demarcating major place boundary faults with a black line, lesser-known smaller faults with a yellow line, and urban areas in purple.

A textbox at the left of the figure lists small faults in the region by name and numbers 1 through 32. The Wright Way Fault (1) is a smaller fault at the very top of the figure. The Collayami Fault (2) is a smaller fault just south of 1. The Mysterious Ridge Fault (3) is a small fault towards the northeastern portion of the map. The Bennet Valley Fault (4) is a small fault east of Santa Rosa. The West Napa Fault (5) is a small fault northwest of Napa. The Trout Creek Fault (6) is a small fault towards the northeastern portion of the map. The Gordon Valley Fault (8) is a small fault towards the northeastern portion of the map. The Midland Fault (9) is a small fault towards the eastern portion of the map. The Frankline Fault (10) and the Southhampton Fault (11) are small faults north of Oakland. The Los Medanos- Roe Island Fault (12) is a small fault northeast of Oakland. The Pittsburg-Kirby Hills Fault (13) is a small fault in the

eastern portion of the map. The Clayton Fault (14) is a small fault in the eastern portion of the map. The Mt. Diablo North Fault (15) is a major plate, but lesser-known fault located east of Oakland. The Mt. Diablo South Fault (16) is a major plate, but lesser-known fault located southeast of 15. The Pilarcitos Fault (17) is a small fault located near San Mateo County. The Las Positas Fault (18) is a small fault located south of 16. The Orestimba Fault (19) is a small fault located toward the eastern portion of the map. The Monte Vista-Shannon Fault (20) is a small fault located west of San Jose. The Silver Creek Fault (21) is a small fault located east of San Jose. The Ortigalita North Fault (22) is a small fault located in the southeastern portion of the Map. The Ortigalita South Fault (23) is a small fault located south of 22. The Sargent fault (24) is a small fault located in the southern portion of the map. The Zayante-Vergeles Fault (25) is a small fault located east of Santa Cruz and Monterey Bay. The San Joaquin Fault (26) is a small fault located in the southeast portion of the map. The Reliz Fault (27) is a small fault located in the southern portion of the map. The Quien Sabe Fault (28) is a small fault located in the southeastern portion of the map. The Monterey Bay Tularcitos Fault (29) is a small Fault that runs through Monterey and is located at the southernmost portion of the map. The Mission Fault (30) is a small fault located northeast of San Jose. The Butano Fault (31) is a small fault located north of Santa Cruz. The Dunnigan Hills Fault (32) is located in the northeastern portion of the map.

There are 12 major plate faults depicted. The San Andreas Fault and The Hayward Fault are the closest to the project site, both coming within 12.5 miles of it. The San Andreas Fault extends up the Northern California Coast and begins extending slightly southeast towards central California after it reaches San Francisco. It has a 22% probability of having an earthquake of magnitude 6.7 or greater between the years of 2014 to 2043. The Hayward Fault extends from the northern part of the San Francisco Bay to an area southeast of San Jose. It has a 33% probability of having one or more earthquakes of magnitude 6.7 or greater between the years of 2014 to 2043.

Extending from Marin County along the Coast beyond Monterey area is the San Gregorio Fault. The Rodgers Creek Fault extends from Mendocino County to nearly the northern part of the San Francisco Bay. The Macama Fault is in the northern portion of the figure just east of the Rodgers Creek Fault. The Hunting Creek Fault is in the northeast portion of the map. Berryessa Fault, Green Valley Fault, and Concord Fault are each south of the Hunting Creek Fault and one another. The Greenville Fault is located in the eastern portion of the map. The Calaveras Fault begins east of Oakland and terminates inland east of Salinas. The Paicines Fault is located directly south of the Calaveras Fault.

Exhibit 3.6-2 Historic Earthquake Map

Exhibit 3.6-2 shows a map with dots representing the magnitude of earthquakes. This figure shows earthquakes with a magnitude between 2.0 and 6.9 that have occurred in the San Francisco Bay Area between 2985 and 2014. These are demarcated by blue dots that increase in size and darkness with an increase in magnitude. It also shows earthquakes with a magnitude of 5.0 and greater that have occurred in the San Francisco Bay Area between 1830 and 2021. These are demarcated by red dots that increase in size with an increase in magnitude. The project site is marked centrally between the San Andreas Fault and the Rogers Creek Fault. The map shows that there have been several earthquakes of 2.0-3.0 in magnitude within a 12.5-mile radius of the project site. Additionally, it shows that there has been one earthquake of 4.0-5.0 in magnitude and one earthquake of 5.0-6.0 in magnitude within a 12.5-mile radius of the project site. The map shows that there have been 20 earthquakes with a magnitude of 5.0 or more within a 50-mile radius of the project site since 1830.

Exhibit 3.6-3 Liquefaction Susceptibility Map

Exhibit 3.6-3 shows the liquefaction susceptibility of the project site and the surrounding area. The proposed project site lies within an area of “very low” liquefaction susceptibility. A majority of Remillard Park to the south of the project site, an area west of the Drake’s Cove community, and a large portion of San Quentin State Prison shows a moderate to high liquefaction susceptibility. The area around East Sir Francis Drake Boulevard west of Remillard park, an area north of Andersen Drive, as well as a large portion of San Quentin Prison are shown to have a very high liquefaction susceptibility. The portion of the San Francisco Bay illustrated in this map has very low to high liquefaction susceptibility.

Exhibit 3.8-1 Proposed Down-Range Excavation Area

Exhibit 3.8-1 shows the proposed down-range excavation area for the project. It shows a 10.43-acre study area denoted by a grey grid overlaying the 8.34-acre project site denoted by a polygon outlined with yellow. An 8.23-acre red polygon overlays the eastern portion of the study area representing the limits of grading. This red polygon begins on the central portion of the project site and extends slightly north and east of the project site. A green rectangle overlaid with parallel lines to the northeast of the project site on the border of the red polygon shows the approximate location of the bunker. Two blue rectangles in the center of the study area within the project site represent potential gun range excavation areas. Four red dots are marked within each potential gun range excavation area denoting soil sample locations.

Exhibit 3.9-1 FEMA Flood Map

Exhibit 3.9-1 shows the Federal Emergency Management Agency’s (FEMA) Flood Map of the project site and the surrounding area. The project site is denoted by a yellow polygon in the center of the map with Remillard Park and San Francisco Bay to the south, San Quentin to the east, Drakes Cove Community to the west, and open space to the north. FEMA flood zones are denoted by light blue and dark blue, respectively. Light blue indicates an area in Zone X – 500 year, and dark blue indicates an area in Zone A – 100 year. Text at the bottom of the figure states, “Zone A: This identifies areas inundated by 1% annual chance flooding” and “Zone X 500yr: This identifies an area inundated by .02% annual chance flooding and an area inundated by 1% annual chance of flooding with average depth of less than 1 foot with drainage areas less than 1 square mile or an area protected by levees from 1% annual chance flooding.”

The central and southern portion of the project site are marked with light blue, indicating a Zone X flood area. The remainder of the site is not marked as a flood zone. Remillard Park and the coast of San Francisco Bay are marked with dark blue, indicating they are in a Zone A flood area. Drakes Cove Community is not located in a flood zone, but parts of Miwok Park and the commercial area east of Drakes Cove Community are located in Zone X. Areas directly northeast of the project site are not located in a flood zone. However, the northeast corner of the map is located in Zone A marked by dark blue.

Exhibit 3.9-2 Sea Level Rise and Tsunami Hazard Map

Exhibit 3.9-2 shows the sea level rise and tsunami inundation area. The Sea Level Rise Inundation is represented by blue lines varying in darkness with the lightest being 0 to 2 feet and the darkest being 10 to 12 feet in depth. The coast south of Remillard Park is marked as having slight sea level rise inundation

of 2 to 8 feet above mean higher high water (MHHW). The area along the coast east of Remillard Park and south of East Sir Francis Drake Boulevard is marked as having sea level rise inundation of 2-4 feet. Neither the project site nor the project vicinity is shown as flooding due to sea level rise. The figure also shows that the project site is not located in a Tsunami Hazard Area. However, the map shows that the land just south of East Sir Francis Drake Boulevard is located in a California Tsunami Inundation Map for Emergency Planning. It includes a large portion of Remillard Park.

Exhibit 3.11-1 Noise Monitoring Locations

Exhibit 3.11-1 shows the conceptual site plan for the proposed project site, as seen in Exhibit 2-4, from a bird's eye view with two noise monitoring locations within the project site.

Two roads are shown entering the facility from East Sir Francis Drake Boulevard, one of which is a fire lane. An alternate entrance road is shown off of Drakes Cove Road. The main entrance and alternate entrance lead to a driveway that leads up to the northern end of the building up to 45-feet in elevation. The fire lane continues around the east and north sides of the project site up to 70-feet in elevation. There is a large rectangular residential building in the center of the figure with a 12,000 square foot open space amenity in the center of the building. A second residential building is shown at the top of the image. Two open space amenities are shown connected to this second building. Pedestrian pathways are included throughout the property and connect the driveways, buildings, and amenities to one another.

A short-term measurement location point, marked by a green dot, is located in the southwestern portion of the project site on what would be the proposed project driveway from East Sir Francis Drake Boulevard. A 24-hour measurement location site, marked by an orange dot, is located in the eastern portion of the site, on what would be the southeastern portion of the southernmost building.

Exhibit 3.12-1 Study Area and Existing Lane Configurations

Exhibit 3.12-1 shows four road intersections that were analyzed in the Transportation Impact Study prepared for the EIR, represented by numbers one through four. There are zoomed in renderings of the intersections located at the bottom of the figure. Black lines identify several road segments studied: Larkspur Landing Circle, Drakes Cove Rd, Andersen Drive, and East Sir Francis Drake Boulevard. The project site is shown as a green polygon east of Drakes Cove Road and North of East Sir Francis Drake Boulevard.

The first intersection is located at Larkspur Landing Circle and East Sir Francis Drake Boulevard located west of the project site. A rendering shows this is a three-way intersection with a stop light controlling traffic. There is a median on East Sir Francis Drake Boulevard east of the intersection. Arrows on this rendering illustrate that cars can turn left or right from Larkspur Landing Circle onto East Sir Francis Drake Boulevard, and vehicles can turn left or right from East Sir Francis Drake Boulevard onto Larkspur Landing Circle.

The second intersection is located at Drakes Cove Road and East Sir Francis Drake Boulevard just west of the project site. A rendering shows this is a three-way intersection with a stop sign on Drakes Cove Road for left or right turns onto East Sir Francis Drake Boulevard. Arrows indicated on the rendering show vehicles can turn right or left from East Sir Francis Drake Boulevard onto Drakes Cove Road. There is an acceleration lane east of the intersection on East Sir Francis Drake Boulevard.

The third intersection is East Sir Francis Drake Boulevard and the proposed project's driveway at the southern end of the project site, which is also identified as the Access Alternative 1 analyzed in the Transportation Impact Study, prepared for the EIR. A rendering of this intersection shows this intersection would have a stop sign controlling traffic for left or right turns off the project site. Arrows on the rendering show that vehicles could turn left or right from East Sir Francis Drake Boulevard onto the proposed access road.

The fourth intersection is located Andersen Drive and East Sir Francis Drake Boulevard to the northeast of the proposed project site. A rendering shows this is a three-way intersection controlled by a stop sign on Andersen Drive for left and right turns onto East Sir Francis Drake Boulevard.

Exhibit 3.12-2 Existing Traffic Volumes

Exhibit 3.12-2 shows the existing traffic volumes at the four intersections that were analyzed in the Transportation Impact Study that was prepared for the EIR, represented by numbers one through four on a map of the project area. There are zoomed in renderings of the intersections and the existing traffic volumes at each intersection during the a.m. and p.m. peak hour periods located at the bottom of the figure. Black lines identify several road segments studied: Larkspur Landing Circle, Drakes Cove Rd, Andersen Drive, and East Sir Francis Drake Boulevard. The project site is shown as a green polygon east of Drakes Cove Road and North of East Sir Francis Drake Boulevard.

The first intersection is located at Larkspur Landing Circle and East Sir Francis Drake Boulevard located west of the project site. A rendering shows that there is a traffic signal control at that intersection and identifies that, during the a.m. peak hour period, there were 40 vehicles that turned left onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, 600 vehicles that were traveling east on East Sir Francis Drake Boulevard continued to travel east through the intersection, 23 vehicles that turned right onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 41 vehicles that turned left onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 59 vehicles that turned right onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, and 1,356 vehicles that were traveling west on East Sir Francis Drake Boulevard and continued west through the intersection. During the p.m. peak hour period, there were 28 vehicles that turned left onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, 1,386 vehicles that were traveling east on East Sir Francis Drake Boulevard continued to travel east through the intersection, 18 vehicles that turned right onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 70 vehicles that turned left onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 44 vehicles that turned right onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, and 680 vehicles that were traveling west on East Sir Francis Drake Boulevard and continued west through the intersection.

The second intersection is located at Drakes Cove Road and East Sir Francis Drake Boulevard just west of the project site. A rendering shows that there is a stop sign for drivers traveling south on Drakes Cove Road wishing to turn left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, 3 vehicles turned left onto Drakes Cove Road from East Sir Francis Drake Boulevard, 647 vehicles that were traveling east on East Sir Francis Drake Boulevard and continued east through the intersection, 4 vehicles turned right onto East Sir Francis Drake Boulevard from Drakes Cove Road, 0 vehicles that turned left onto East Sir Francis Drake Boulevard from Drakes Cove Road, 5 vehicles that turned right onto Drakes Cove Road from East Sir Francis Drake Boulevard, and 1,428 vehicles that were traveling west on East Sir Francis Drake Boulevard and continued west

through the intersection. During the p.m. peak hour period, 5 vehicles turned left onto Drakes Cove Road from East Sir Francis Drake Boulevard, 1,453 vehicles that were traveling east on East Sir Francis Drake Boulevard and continued east through the intersection, 4 vehicles turned right onto East Sir Francis Drake Boulevard from Drakes Cove Road, 6 vehicles that turned left onto East Sir Francis Drake Boulevard from Drakes Cove Road, 5 vehicles that turned right onto Drakes Cove Road from East Sir Francis Drake Boulevard, and 728 vehicles that were traveling west on East Sir Francis Drake Boulevard and continued west through the intersection.

The third intersection is East Sir Francis Drake Boulevard and the proposed project's driveway at the southern end of the project site, which is also identified as the Access Alternative 1 analyzed in the Transportation Impact Study, prepared for the EIR. A rendering of this intersection shows that there is a proposed stop sign for vehicles leaving the project site that would turn either left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, 0 vehicles turned left into the proposed project's driveway from East Sir Francis Drake Boulevard, 643 vehicles were traveling east on East Sir Francis Drake Boulevard and continued east through the intersection, 0 vehicles turned right onto East Sir Francis Drake Boulevard from the proposed project's driveway, 0 vehicles turned left onto East Sir Francis Drake Boulevard from the proposed project's driveway, 0 vehicles turned right into the proposed project's driveway from East Sir Francis Drake Boulevard, and 1,428 vehicles were traveling west on East Sir Francis Drake Boulevard and continued west through the intersection. During the p.m. peak hour period, 0 vehicles turned left into the proposed project's driveway from East Sir Francis Drake Boulevard, 1,455 vehicles were traveling east on East Sir Francis Drake Boulevard and continued east through the intersection, 0 vehicles turned right onto East Sir Francis Drake Boulevard from the proposed project's driveway, 0 vehicles turned left onto East Sir Francis Drake Boulevard from the proposed project's driveway, 0 vehicles turned right into the proposed project's driveway from East Sir Francis Drake Boulevard, and 728 vehicles were traveling west on East Sir Francis Drake Boulevard and continued west through the intersection.

The fourth intersection is located Andersen Drive and East Sir Francis Drake Boulevard to the northeast of the proposed project site. A rendering of the intersection shows that there is a stop sign from drivers traveling south on Andersen Drive wishing to turn left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, 67 vehicles turned left onto Andersen Drive from East Sir Francis Drake Boulevard, 570 vehicles that were traveling east on East Sir Francis Drake Boulevard and continued east through the intersection, 97 vehicles turned right onto East Sir Francis Drake Boulevard from Andersen Drive, 27 vehicles turned left onto East Sir Francis Drake Boulevard from Andersen Drive, 143 vehicles turned right onto Andersen Drive from East Sir Francis Drake Boulevard, and 1,325 vehicles were traveling west on East Sir Francis Drake Boulevard and continued west through the intersection. During the p.m. peak hour period, 47 vehicles turned left onto Andersen Drive from East Sir Francis Drake Boulevard, 1,403 vehicles that were traveling east on East Sir Francis Drake Boulevard and continued east through the intersection, 53 vehicles turned right onto East Sir Francis Drake Boulevard from Andersen Drive, 69 vehicles turned left onto East Sir Francis Drake Boulevard from Andersen Drive, 97 vehicles turned right onto Andersen Drive from East Sir Francis Drake Boulevard, and 674 vehicles were traveling west on East Sir Francis Drake Boulevard and continued west through the intersection.

Exhibit 3.12-3 Project Traffic Volumes

Exhibit 3.12-3 shows the anticipated traffic volumes generated by implementation of the proposed project at the four intersections that were analyzed in the Transportation Impact Study that was prepared for the EIR, represented by numbers one through four on a map of the project area. There are zoomed in renderings of the intersections and the existing traffic volumes at each intersection during the a.m. and p.m. peak hour periods located at the bottom of the figure. Black lines identify several road segments studied: Larkspur Landing Circle, Drakes Cove Rd, Andersen Drive, and East Sir Francis Drake Boulevard. The project site is shown as a green polygon east of Drakes Cove Road and North of East Sir Francis Drake Boulevard.

The first intersection is located at Larkspur Landing Circle and East Sir Francis Drake Boulevard located west of the project site. A rendering shows that there is a traffic signal control at that intersection and identifies that, during the a.m. peak hour period, the proposed project would generate 17 additional vehicles traveling east on East Sir Francis Drake Boulevard that would continue to travel east through the intersection, 1 additional vehicle that would turn left onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 3 additional vehicles that would turn right onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, and 47 additional vehicles traveling west on East Sir Francis Drake Boulevard that would continue west through the intersection. During the p.m. peak hour period, the proposed project would generate 47 additional vehicles traveling east on East Sir Francis Drake Boulevard that would continue to travel east through the intersection, 3 additional vehicles that would turn left onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 2 additional vehicles that would turn right onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, and 31 additional vehicles traveling west on East Sir Francis Drake Boulevard that would continue west through the intersection.

The second intersection is located at Drakes Cove Road and East Sir Francis Drake Boulevard just west of the project site. A rendering shows that there is a stop sign for drivers traveling south on Drakes Cove Road wishing to turn left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, the proposed project would generate 18 additional vehicles traveling east on East Sir Francis Drake Boulevard that would continue to travel east through the intersection and 50 additional vehicles traveling west on East Sir Francis Drake Boulevard that would continue to travel west through the intersection. During the p.m. peak hour period, the proposed project would generate 50 additional vehicles traveling east on East Sir Francis Drake Boulevard that would continue to travel east through the intersection and 33 additional vehicles traveling west on East Sir Francis Drake Boulevard that would continue to travel west through the intersection.

The third intersection is East Sir Francis Drake Boulevard and the proposed project's driveway at the southern end of the project site, which is also identified as the Access Alternative 1 analyzed in the Transportation Impact Study, prepared for the EIR. A rendering of this intersection shows that there is a proposed stop sign for vehicles leaving the project site that would turn either left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, the proposed project would generate 18 vehicles that turning left into the proposed project's driveway from East Sir Francis Drake Boulevard, 50 additional vehicles turning right onto East Sir Francis Drake Boulevard from the proposed project's driveway, 17 additional vehicles turning left onto East Sir Francis Drake Boulevard from the proposed project's driveway, and 5 additional vehicles turning right into the proposed project's driveway from East Sir Francis Drake Boulevard. During the p.m. peak hour period, the proposed project would generate 50 vehicles that turning left into the proposed project's driveway

from East Sir Francis Drake Boulevard, 33 additional vehicles turning right onto East Sir Francis Drake Boulevard from the proposed project's driveway, 10 additional vehicles turning left onto East Sir Francis Drake Boulevard from the proposed project's driveway, and 17 additional vehicles turning right into the proposed project's driveway from East Sir Francis Drake Boulevard.

The fourth intersection is located Andersen Drive and East Sir Francis Drake Boulevard to the northeast of the proposed project site. A rendering of the intersection shows that there is a stop sign from drivers traveling south on Andersen Drive wishing to turn left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, the proposed project would generate 7 additional vehicles turning left onto Andersen Drive from East Sir Francis Drake Boulevard, 10 additional vehicles traveling east on East Sir Francis Drake Boulevard would continue east through the intersection, 2 additional vehicles turning right onto East Sir Francis Drake Boulevard from Andersen Drive, and 3 additional vehicles traveling west on East Sir Francis Drake Boulevard would continue west through the intersection. During the p.m. peak hour period, the proposed project would generate 4 additional vehicles turning left onto Andersen Drive from East Sir Francis Drake Boulevard, 6 additional vehicles traveling east on East Sir Francis Drake Boulevard would continue east through the intersection, 7 additional vehicles turning right onto East Sir Francis Drake Boulevard from Andersen Drive, and 10 additional vehicles traveling west on East Sir Francis Drake Boulevard would continue west through the intersection.

Exhibit 3.12-4 Existing Plus Project Traffic Volumes

Exhibit 3.12-4 shows the existing traffic volumes plus the anticipated traffic volumes generated by implementation of the proposed project at the four intersections that were analyzed in the Transportation Impact Study that was prepared for the EIR, represented by numbers one through four on a map of the project area. There are zoomed in renderings of the intersections and the existing traffic volumes at each intersection during the a.m. and p.m. peak hour periods located at the bottom of the figure. Black lines identify several road segments studied: Larkspur Landing Circle, Drakes Cove Rd, Andersen Drive, and East Sir Francis Drake Boulevard. The project site is shown as a green polygon east of Drakes Cove Road and North of East Sir Francis Drake Boulevard.

The first intersection is located at Larkspur Landing Circle and East Sir Francis Drake Boulevard located west of the project site. A rendering shows that there is a traffic signal control at that intersection and identifies that, during the a.m. peak hour period, 40 vehicles would turn left onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, 617 vehicles traveling east on East Sir Francis Drake Boulevard would continue to travel east through the intersection, 23 vehicles would turn right onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 42 vehicles would turn left onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 62 vehicles would turn right onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, and 1,403 vehicles would travel west on East Sir Francis Drake Boulevard and would continue west through the intersection. During the p.m. peak hour period, 28 vehicles would turn left onto Larkspur Landing Circle from East Sir Francis Drake Boulevard, 1,433 vehicles traveling east on East Sir Francis Drake Boulevard would continue to travel east through the intersection, 18 vehicles would turn right onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 73 vehicles would turn left onto East Sir Francis Drake Boulevard from Larkspur Landing Circle, 46 vehicles would turn right onto Larkspur Landing Circle from East Sir Francis Drake Boulevard,

and 711 vehicles would travel west on East Sir Francis Drake Boulevard and would continue west through the intersection.

The second intersection is located at Drakes Cove Road and East Sir Francis Drake Boulevard just west of the project site. A rendering shows that there is a stop sign for drivers traveling south on Drakes Cove Road wishing to turn left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, 3 vehicles would turn left onto Drakes Cove Road from East Sir Francis Drake Boulevard, 665 vehicles would travel east on East Sir Francis Drake Boulevard and would continue east through the intersection, 4 vehicles would turn right onto East Sir Francis Drake Boulevard from Drakes Cove Road, 0 vehicles would turn left onto East Sir Francis Drake Boulevard from Drakes Cove Road, 5 vehicles would turn right onto Drakes Cove Road from East Sir Francis Drake Boulevard, and 1,478 vehicles traveling west on East Sir Francis Drake Boulevard would continue west through the intersection. During the p.m. peak hour period, 5 vehicles would turn left onto Drakes Cove Road from East Sir Francis Drake Boulevard, 1,503 vehicles would travel east on East Sir Francis Drake Boulevard and would continue east through the intersection, 4 vehicles would turn right onto East Sir Francis Drake Boulevard from Drakes Cove Road, 6 vehicles would turn left onto East Sir Francis Drake Boulevard from Drakes Cove Road, 5 vehicles would turn right onto Drakes Cove Road from East Sir Francis Drake Boulevard, and 757 vehicles traveling west on East Sir Francis Drake Boulevard would continue west through the intersection.

The third intersection is East Sir Francis Drake Boulevard and the proposed project's driveway at the southern end of the project site, which is also identified as the Access Alternative 1 analyzed in the Transportation Impact Study, prepared for the EIR. A rendering of this intersection shows that there is a proposed stop sign for vehicles leaving the project site that would turn either left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, 18 vehicles would turn left into the proposed project's driveway from East Sir Francis Drake Boulevard, 643 vehicles traveling east on East Sir Francis Drake Boulevard would continue east through the intersection, 50 vehicles would turn right onto East Sir Francis Drake Boulevard from the proposed project's driveway, 17 vehicles would turn left onto East Sir Francis Drake Boulevard from the proposed project's driveway, 5 vehicles would turn right into the proposed project's driveway from East Sir Francis Drake Boulevard, and 1,428 vehicles traveling west on East Sir Francis Drake Boulevard would continue west through the intersection. During the p.m. peak hour period, 50 vehicles would turn left into the proposed project's driveway from East Sir Francis Drake Boulevard, 1,455 vehicles traveling east on East Sir Francis Drake Boulevard would continue east through the intersection, 33 vehicles would turn right onto East Sir Francis Drake Boulevard from the proposed project's driveway, 10 vehicles would turn left onto East Sir Francis Drake Boulevard from the proposed project's driveway, 17 vehicles would turn right into the proposed project's driveway from East Sir Francis Drake Boulevard, and 728 vehicles traveling west on East Sir Francis Drake Boulevard would continue west through the intersection.

The fourth intersection is located Andersen Drive and East Sir Francis Drake Boulevard to the northeast of the proposed project site. A rendering of the intersection shows that there is a stop sign from drivers traveling south on Andersen Drive wishing to turn left or right onto East Sir Francis Drake Boulevard. This rendering shows that, during the a.m. peak hour period, 74 vehicles would turn left onto Andersen Drive from East Sir Francis Drake Boulevard, 580 vehicles traveling east on East Sir Francis Drake Boulevard would continue east through the intersection, 99 vehicles would turn right onto East Sir Francis Drake Boulevard from Andersen Drive, 27 vehicles would left onto East Sir Francis Drake

Boulevard from Andersen Drive, 143 vehicles would turn right onto Andersen Drive from East Sir Francis Drake Boulevard, and 1,328 vehicles traveling west on East Sir Francis Drake Boulevard would continue west through the intersection.

Exhibit 5-1 Fire Hazard Severity Zones

Exhibit 5-1 shows a map with the project site outlined in the center of the map. There is a legend at the top left corner of the figure showing Responsibility Areas and Fire Hazard Severity Zones. A large portion of the map, including the entirety of the project site and the area south and west of the project site is located in a State Responsibility Area (SRA) as denoted by parallel black lines. The area to the west of the project site is located in a Local Responsibility Area (LRA). An area at the northeast corner of the map is also located in an LRA. The map also shows Fire Hazard Severity Zones denoted by different colors—yellow denotes a moderate severity zone, purple denotes a non-wildland/non-urban severity zone, and grey denotes areas as urban, unzoned. The majority of the map is located within a moderate severity zone, including the project site. The San Francisco Bay as well as a small portion of East Sir Francis Drake Boulevard and small piece of Remillard Park are located in a purple, non-wildland/non-urban zone.

Exhibit 7-1 Alternative 2 – Stop Sign at Project Driveway Alternative

Exhibit 7-2 shows an alternative to the proposed project analyzed in the EIR. It displays an aerial view of the existing project site with a rendering of the proposed project driveway off of East Sir Francis Drake Boulevard, including a symbol representing a high-intensity activated crosswalk beacon, also known as a HAWK Beacon, at the intersection of the proposed project driveway off East Sir Francis Drake Boulevard to allow for pedestrian crossing across East Sir Francis Drake Boulevard. The project driveway would have two lanes: one lane for vehicles entering the project site and one lane for vehicles exiting the project site. The lane exiting to the project site to Sir Francis Drake Boulevard would have a stop sign and shows arrows notating that vehicles would be allowed to turn left or right onto East Sir Francis Drake Boulevard. The eastbound acceleration lane on East Sir Francis Drake Boulevard from Drakes Cove Road is converted to a left-turn lane arrow into the project site.

Exhibit 7-2 Alternative 3 – Traffic Signal at Project Driveway with Internal Connection to/from Drakes Cove Road Alternative

Exhibit 7-2 shows an alternative to the proposed project analyzed in the EIR. It displays an aerial view of the existing project site with a rendering of the proposed project driveway off East Sir Francis Drake Boulevard, including a symbol representing a traffic signal at the intersection of the proposed project driveway and East Sir Francis Drake Boulevard. The project driveway would have two lanes: one lane for vehicles entering the project site and one lane for vehicles exiting the project site. A left turn-lane for eastward access to the project site from East Sir Francis Drake Boulevard is also shown via a left-turn arrow in the rendering. The rendering also shows an internal connection road from the proposed project driveway to and from Drakes Cove Road, where there is a second entrance to the project site. The road curves northwest from East Sir Francis Drake Boulevard to Drakes Cove Road through the project site. The project driveway off of Drakes Cove Road would have two lanes: one lane for vehicles entering the project site and one lane for vehicles exiting the project site. Additionally, there is a stop sign at the project access on Drakes Cove Road shown controlling left and right turns onto Drakes Cove Road from the project site.

Exhibit 7-3 Alternative 4 – Traffic Signal at Drakes Cove Road Alternative

Exhibit 7-3 shows an alternative to the proposed project analyzed in the EIR. It displays an aerial view of the existing project site with a rendering of a traffic signal at the intersection of East Sir Francis Drake Boulevard and Drakes Cove Road. The map shows a painted median on East Sir Francis Drake Boulevard east of Drakes Cove Road. Additionally, it shows that Drakes Cove Road would be widened at its intersection with East Sir Francis Drake Boulevard to allow for a lane for vehicles turning on to Drake Cove Road from East Sir Francis Drake Boulevard, a lane for vehicles turning right onto East Sir Francis Drake Boulevard, and a pocket-left turn for vehicles turning left onto East Sir Francis Drake Boulevard. The rendering also shows a project driveway on Drakes Cove Road. A stop sign at the project's driveway would control left and right turns onto Drakes Cove Road.

Exhibit 7-4 Alternative 5 – Proposed Project Access with Left-turn Access to Drakes Cove Road Prohibited Alternative

Exhibit 7-4 shows an alternative to the proposed project analyzed in the EIR. It displays an aerial view of the existing project site with a rendering of the proposed project driveway off East Sir Francis Drake Boulevard, including a symbol representing a traffic signal at the intersection of the proposed project driveway and East Sir Francis Drake Boulevard. The project driveway would have two lanes: one lane for vehicles entering the project site and one lane for vehicles exiting the project site. A left turn-lane for eastward access to the project site from East Sir Francis Drake Boulevard is also shown via a left-turn arrow in the rendering. Additionally, a red "X" on the existing eastbound left-turn lane onto Drakes Cove Road denotes prohibited left-turn access onto Drakes Cove Road from East Sir Francis Drake Boulevard. A right turn arrow is rendered at Drakes Cove Road for cars turning onto Sir Francis Drake Boulevard.