

PUBLIC REVIEW DRAFT

**NILES CANYON TRAIL PROJECT
ENVIRONMENTAL IMPACT REPORT**

STATE CLEARINGHOUSE NO. 2021060647

ALAMEDA COUNTY, CALIFORNIA

LSA

March 2024

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STATE CLEARINGHOUSE NO. 2021060647

ALAMEDA COUNTY, CALIFORNIA

Submitted to:

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March 2024

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LIST OF ABBREVIATIONS AND ACRONYMS

$\mu\text{g}/\text{m}^3$	micrograms per cubic centimeter
2023 Phase I ESA	Phase I Environmental Site Assessment prepared for the project site in 2023
AADT	Annual Average Daily Traffic
ABAG	Association of Bay Area Governments
ACFD	Alameda County Fire Department
ACM	asbestos-containing material
ACWD	Alameda County Water District
ADA	Americans with Disabilities Act
Archaeological Report	Archaeological Resources Inventory Report
Basin Plan	Water Quality Control Plan
BMP	best management practice
BPMP	Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas
CAAQS	California ambient air quality standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalEPA	Environmental Protection Agency
CALGreen	California Green Building Standards Code
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board

CARE	Community Air Risk Evaluation
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geological Survey
CH ₄	methane
City	City of Fremont
Clean Air Plan	BAAQMD 2017 Clean Air Plan
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CoIWMP	Countywide Integrated Waste Management Plan
County	County of Alameda
CPRR	Central Pacific Railroad
CUPA	Certified Unified Program Agency
DB	decibels
DBA	A-weighted decibels
DBH	diameter at breast height
DOT	United States Department of Transportation

DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EACCS	East Alameda County Conservation Strategy
EBRPD	East Bay Regional Park District
EIR	Environmental Impact Report
EOP	Alameda County Emergency Operations Plan
ESA	Environmental Site Assessment
EV	electric vehicle
FCAA	federal Clean Air Act
FESA	federal Endangered Species Act
FFD	Fremont Fire Department
FHWA	Federal Highway Administration
FMC	Fremont Municipal Code
FPD	Fremont Police Department
FTA	Federal Transit Administration
FTA Manual	FTA Transit Noise and Vibration Impact Assessment Manual
FUSD	Fremont Unified School District
GHG	greenhouse gas
HMBPs	Hazardous Materials Business Plans
HMTA	Hazardous Materials Transportation Act of 1975
HTWTP	Harry Tracy Water Treatment Plant
L _{eq}	equivalent continuous sound level
LHMP	Alameda County Local Hazard Mitigation Plan
LID	Low Impact Development

L _{max}	maximum noise level
LOS	level of service
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
mg/l	milligram per liter
mgd	million gallons per day
MLD	Most Likely Descendant
MM	Mitigation Measure
MMI	Modified Mercalli Intensity
mph	miles per hour
MPO	Metropolitan Planning Organization
MRP	San Francisco Bay Region Municipal Regional Storm-water NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008
msl	mean sea level
MTC	Metropolitan Transportation Commission
N ₂ O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NEHRP	National Earthquake Hazards Reduction Program
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NOP	Notice of Preparation

NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NWIC	Northwest Information Center
O ₃	ozone
OHP	California Office of Historic Preservation
OPR	California Office of Planning and Research
OWTS	on-site wastewater treatment systems
Pb	lead
PLA	Pacific Locomotive Association
PM ₁₀	particulate matter less than 10 microns in aerodynamic diameter
PM _{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
PNAs	polynuclear aromatic hydrocarbons
PPV	peak particle velocity
PRC	California Public Resources Code
Preliminary Engineering Report	Niles Canyon Trail Preliminary Engineering Report
project	Niles Canyon Trail Project
Project Study Report	Expanding Regional Trail Connectivity in Niles Canyon Project Study Report
QSP	Qualified SWPPP Practitioner
RCM	Regulatory Compliance Measure
RCRA	Resource Conservation and Recovery Act of 1976
RMS	root-mean-square
RWQCB	Regional Water Quality Control Board
SCP	stormwater control plan

SCS	Sustainable Communities Strategy
SFPUC	San Francisco Public Utilities Commission
SFRWS	San Francisco Regional Water System
SIP	State Implementation Plan
SLF	Sacred Lands File
SMP	Soil Management Plan
SO ₂	sulfur dioxide
SPRR	Southern Pacific Railroad
SR	State Route
SRA	State Responsibility Area
SSO	site-specific surface water quality objectives
SVP	Society of Vertebrate Paleontology
SVWTP	Sunol Valley Water Treatment Plant
SWP	State Water Project
TAC	toxic air contaminant
TPH	total petroleum hydrocarbons
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USD	Union Sanitary District
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank
VdB	vibration in decibels
VMT	vehicle miles traveled

WDID	Waste Discharge Identification Number
WEAP	Worker Environmental Awareness Program

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1.0 INTRODUCTION

1.1 PURPOSE OF THIS EIR

In compliance with the California Environmental Quality Act (CEQA), this Environmental Impact Report (EIR) describes the potential environmental impacts of the proposed Niles Canyon Trail Project (project). The County of Alameda (County) is the project proponent and the CEQA Lead Agency for environmental review.

The purpose of this EIR is to inform County decision-makers, responsible agencies, and the general public about the proposed project and the potential physical environmental consequences of project implementation. This EIR also examines alternatives to the proposed project and recommends mitigation measures to reduce or avoid potentially significant physical environmental impacts, to the extent feasible. This EIR will be used as an informational document by the County Board of Supervisors, responsible agencies, and the public in their review of the proposed project and associated approvals described below and in more detail in Chapter 3.0, Project Description.

This EIR evaluates Phase 1 (Vallejo Mill to Palomares Road) of the Niles Canyon Trail Project at a project level. Phases 2 and 3 are evaluated at a program level. The *State CEQA Guidelines* (Section 15168) state that a Program EIR may be prepared on a series of actions that can be characterized as one large project and are related either geographically, as logical parts in the chain of contemplated actions, in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. This EIR will facilitate environmental review of these subsequent trail phases. It is assumed that subsequent trail phases would receive project-specific environmental evaluation, as necessary, during the development review process for each phase.

1.2 PROPOSED PROJECT

The project site consists of an approximately 6-mile trail alignment through Niles Canyon between the Niles District in the City of Fremont and the unincorporated community of Sunol in Alameda County. The project site is defined as the proposed trail alignment, which would be approximately 14 feet wide and extend approximately 6 miles in length. The majority of the proposed trail alignment would be within public right-of-way (e.g., City of Fremont, Caltrans) or on lands owned by public agencies, including East Bay Regional Park District, the County, and the San Francisco Public Utilities Commission. The proposed trail would also traverse some private properties.

The proposed multi-use trail would be developed in three phases. Each phase would be independent in service and function. The phases are:

- **Phase 1—Vallejo Mill to Palomares Road.** The first phase would complete the connection from Vallejo Mill to Palomares Road. To provide independent utility, the project would create a new crossing of State Route (SR) 84 parallel to the Farwell Bridge.

- **Phase 2—Palomares Road to Old Highway 84/Union Pacific Railroad (UPRR) Access Road.** The second phase would begin at Palomares Road and end at Old Highway 84/UPRR Access Road on the south side of SR 84.
- **Phase 3—Old Highway 84/UPRR Access Road to Sunol.** The final phase would complete the trail between Niles and Sunol, extending from the UPRR Access Road to the community of Sunol, along the north side of SR 84 through the Brightside Rail Yard.

The multi-use trail would be open to hikers, bicyclists, and equestrians. The proposed trail would consist of a 10-foot wide, all-weather surface with 2-foot shoulders on either side composed of decomposed granite. The trail surface would likely consist of 4 inches of asphalt concrete atop 6 inches of class II aggregate base. The trail would meet accessibility guidelines, meaning that the grade in the direction of travel would be less than 5 percent and the cross slope would be no more than 2 percent. The trail design would incorporate several different barrier options to separate trail users from railroad and highway traffic. These barriers would be designed to accommodate wildlife passage. In addition, retaining walls would need to be installed in some locations to accommodate slope cuts. These walls would be sculpted concrete with soil nail tiebacks.

The project would include provisions of staging areas with sufficient parking to avoid impacts to surrounding neighborhoods from visitors' vehicles. A staging area would be created at Palomares Road and existing staging areas would support the need for parking.

1.3 EIR SCOPE

The County circulated a Notice of Preparation (NOP) notifying responsible agencies and interested parties that an EIR would be prepared for the proposed project. The NOP was published on November 16, 2020, and the NOP was mailed to public agencies, organizations, and individuals likely to be interested in the potential impacts of the proposed project. A scoping session was held via teleconference and video conference on Thursday, July 15, 2021, to solicit feedback regarding the scope and content of the EIR. Both verbal comments during the scoping session and 10 written comments on the NOP were received by the County and considered during preparation of this EIR. Copies of the NOP, comment letters, and a transcription of the verbal comments received are included in Appendix A.

The following environmental topics are addressed in Chapter 4.0, Setting, Impacts, and Mitigation Measures, of this EIR:

- 4.1 Aesthetics
- 4.2 Air Quality
- 4.3 Biological Resources
- 4.4 Cultural Resources
- 4.5 Geology and Soils
- 4.6 Hazards and Hazardous Materials
- 4.7 Hydrology and Water Quality
- 4.8 Land Use and Planning
- 4.9 Noise

- 4.10 Public Services
- 4.11 Recreation
- 4.12 Transportation
- 4.13 Tribal Cultural Resources
- 4.14 Utilities and Service Systems

The following topics were determined not to result in significant impacts, and are addressed in Chapter 5.0, Other CEQA Considerations of this EIR: agriculture and forestry resources, energy, greenhouse gas emissions, mineral resources, population and housing, and wildfire.

1.4 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- **Chapter 1.0 – Introduction:** Discusses the overall EIR purpose, provides a summary of the proposed project, describes the EIR scope, and summarizes the organization of the EIR.
- **Chapter 2.0 – Summary:** Provides a summary of the impacts that would result from implementation of the proposed project, describes mitigation measures recommended to reduce or avoid potentially significant environmental impacts, and describes the alternatives to the proposed project.
- **Chapter 3.0 – Project Description:** Provides a description of the project site, project background, project objectives, proposed project, and uses of this EIR.
- **Chapter 4.0 – Setting, Impacts, and Mitigation Measures:** Describes the following for each environmental technical topic: existing conditions (setting), potential environmental impacts and their level of significance, and mitigation measures recommended to mitigate identified impacts. Potential adverse impacts are identified by levels of significance: less than significant impact, significant impact, and significant and unavoidable impact. The significance of each impact is categorized before and after implementation of any recommended mitigation measures(s).
- **Chapter 5.0 – Alternatives:** Provides an evaluation of two alternatives to the proposed project in addition to the CEQA-required No Project alternative.
- **Chapter 6.0 – Other CEQA Considerations:** Provides an analysis of effects found not to be significant, growth-inducing impacts, unavoidable significant environmental impacts, and significant irreversible changes.
- **Chapter 7.0 – Report Preparation:** Identifies preparers of the EIR and references used.
- **Appendices:** The appendices contain the NOP and comment letters on the NOP (Appendix A), technical calculations, and other documentation prepared in conjunction with this EIR.

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2.0 SUMMARY

This chapter provides an overview of the proposed project and findings identified in this Environmental Impact Report (EIR), prepared pursuant to the California Environmental Quality Act (CEQA), including a discussion of alternatives and cumulative project impacts.

2.1 PROJECT UNDER REVIEW

This EIR has been prepared to evaluate the potential environmental consequences of implementation (i.e., construction and operation) of the proposed Niles Canyon Trail Project (project). The project area consists of an approximately 6-mile trail alignment through Niles Canyon between the Niles District in the City of Fremont and the unincorporated community of Sunol in Alameda County. The project area is defined as the proposed trail alignment, which would be approximately 14 feet wide and extend approximately 6 miles in length.

The project corridor begins at Niles Plaza, located west of Mission Boulevard in the Niles District within Fremont, and extends along Niles Boulevard, across Alameda Creek on Mission Boulevard, and along the existing Alameda Creek Trail. This portion of the project corridor is within a developed, urban area. Land uses along the project corridor include primarily commercial and civic uses, with some residential development.

A portion of the project corridor extends along Old Canyon Road into the Mission Clay property, which is privately owned. Land uses along Old Canyon Road are primarily single-family residential. Mission Clay is a former clay pipe manufacturer at the end of Old Canyon Road. The property is currently owned by BBG KRG Inc. Although the San Francisco Public Utilities Commission (SFPUC) owns most of the driveway up the parcel, BBG KRG maintains an access easement. The Mission Clay site is contaminated with hydrocarbons and the Regional Water Quality Control Board is overseeing soil treatment and remediation under Case 01S0795.

From the Mission Clay property, the project corridor traverses primarily undeveloped, open space land owned by public agencies, including the East Bay Regional Park District and SFPUC, as well as California Department of Transportation (Caltrans) right-of-way and Union Pacific Railroad (UPRR) right-of-way.

The eastern end of the project corridor, on the north side of State Route 84 (SR-84), runs upslope of the Niles Canyon Railway and on the north side of the Niles Canyon Railway Yard. The Pacific Locomotive Association (PLA) is a nonprofit entity that operates the Niles Canyon Railway as a museum illustrating railroad operations specifically during the period of 1910 to 1960. Trains travel between Niles and Sunol from February to December. PLA operates both historic diesel and steam locomotives along the corridor, typically with four passenger cars at a maximum allowable speed of 30 miles per hour (mph). However, the trains typically operate at about 20 mph. The Niles Canyon Railway Yard provides an area for storage and repair of train equipment and facilities.

From the Niles Canyon Railway Yard, the project corridor continues east through undeveloped property, then along Old Canyon Road and Foothill Boulevard adjacent to residential development to its terminus at the Sunol Station.

The proposed project would construct a 6-mile, Class 1, multi-use trail between the Niles District in Fremont and the unincorporated community of Sunol through Niles Canyon in Alameda County. The multi-use trail would be open to hikers, bicyclists, and equestrians. The proposed trail would consist of a 10-foot-wide, all-weather surface with 2-foot shoulders on either side composed of decomposed granite or aggregate. The trail surface would likely consist of 4 inches of asphalt concrete atop 6 inches of Class II aggregate base. The trail would meet accessibility guidelines, meaning that the grade in the direction of travel would be less than 5 percent and the cross-slope would be no more than 2 percent. Stormwater runoff would be directed to the trail shoulders. No lighting is proposed.

The trail design would incorporate several different barrier options to separate trail users from railroad and highway traffic. These barriers would be designed to accommodate wildlife passage. In addition, retaining walls would need to be installed in some locations to accommodate slope cuts. These walls would be sculpted concrete with soil nail tiebacks.

The trail would feature marker posts at frequent intervals along the route. These marker posts could be used by trail users in need of emergency services to provide a reference for fire, police, or other personnel. Emergency personnel would receive training related to the marker system, including the best way to access people requiring assistance.

The trail is proposed to be developed in three phases. Each phase would be independent in service and function. The phases are:

- **Phase 1—Vallejo Mill to Palomares Road.** The first phase would complete the connection from Vallejo Mill to Palomares Road. To provide independent utility, the project would create a new crossing of SR-84 parallel to the Farwell Bridge.
- **Phase 2—Palomares Road to Old Highway 84/UPRR Access Road.** The second phase would begin at Palomares Road and end at Old Highway 84/UPRR Access Road on the south side of SR-84.
- **Phase 3—Old Highway 84/UPRR Access Road to Sunol.** The final phase would complete the trail between Niles and Sunol, extending from the UPRR Access Road to the community of Sunol, along the north side of SR 84 through the Brightside Rail Yard.

This EIR analyzes the environmental impacts of all three phases, with Phase 1 evaluated at the project level and Phases 2 and 3 evaluated at a programmatic level.

Refer to Chapter 3.0, Project Description, for a complete description of the project's location, context, and objectives, details of the proposed project itself, and a summary of required approvals and entitlements.

2.2 POTENTIAL AREAS OF CONTROVERSY

A total of nine commenters submitted written responses to the Notice of Preparation (NOP), which was published on June 28, 2021, in addition to the verbal comments received at the public scoping session held on July 27, 2021. The NOP and comments received are included in Appendix A.

Comments in response to the NOP generally identified the following areas of potential concern and were considered in the noted topical sections of the EIR:

- Aesthetics, including impacts to Scenic Highway (addressed in Section 4.1, Aesthetics)
- Biological resources, including impacts to special-status species, especially Alameda whipsnake, impediments to wildlife movement, tree removal, invasive plants, and impacts to creeks, jurisdictional waters and riparian habitat (addressed in Section 4.3, Biological Resources)
- Archaeological and tribal cultural resources, including tribal consultation (addressed in Section 4.4, Cultural Resources, and Section 4.13, Tribal Cultural Resources)
- Hazardous materials, including potential contamination associated with Leaking Underground Fuel Tanks and/or materials associated with the railroad (addressed in Section 4.6, Hazards and Hazardous Materials)
- Hydrology and water quality, stormwater treatment, floodplain impacts, groundwater, and impacts to nearby receiving waters, including Alameda Creek (addressed in Section 4.7, Hydrology and Water Quality)
- Land use, including compatibility of trail use with adjacent ranch uses, public safety (addressed in Section 4.9, Land Use)
- Transportation including vehicle trips, parking, staging, equitable access, and temporary impacts associated with project construction (addressed in Section 4.12, Transportation)
- Utilities and service systems, including water conveyance infrastructure, potential relocation of utilities in the project area, solid waste (e.g., trash) resulting from trail use (addressed in Section 4.14 Utilities and Service Systems)

Numerous comments on the merits, phasing, and design of the project as proposed were also received. These comments will be addressed separately through Alameda County's evaluation of the proposed project application and project approval process, which is separate from the CEQA review process.

2.3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained in Chapter 4.0, Setting, Impacts, and Mitigation Measures, of this EIR.

2.3.1 Significant Impacts

State CEQA Guidelines Section 15382 defines a significant impact on the environment as "... a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." As discussed in more detail in Chapter 4.0 of this EIR, impacts in the following areas would be potentially significant without the implementation of

mitigation measures, but would be reduced to a less than significant level if the mitigation measures recommended in this report are implemented:

- Air Quality
- Biological Resources
- Cultural resources
- Geology and soils
- Hydrology and water quality
- Hazards and hazardous materials
- Noise
- Transportation
- Tribal cultural resources

Impacts related to aesthetics, land use and planning, public services, recreation, utilities and services systems would be less than significant, and no mitigation measures would be required. In addition, as described in Chapter 6.0, the proposed project was determined to have no impacts related to agricultural and forestry resources, energy, greenhouse gas emissions, mineral resources, population and housing and wildfire.

2.3.2 Significant Unavoidable Impacts

Implementation of the proposed project would not result in any significant unavoidable impacts.

2.3.3 Cumulative Impacts

State CEQA Guidelines Section 15355 defines cumulative impacts as “two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts.” Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that may be individually limited but cumulatively significant. These impacts can result from the proposed project when combined with other past, present, or reasonably foreseeable future projects. As described in Chapter 4.0 of this EIR, the cumulative impacts analysis in this EIR employs a combination of the “list” and “projections” approaches, taking into account projected growth within the project area as well as a list of past, present, and probable future projects producing related or cumulative impacts. All identified impacts of the proposed project would be individually limited and would not be cumulatively considerable.

2.3.4 Alternatives to the Project

In accordance with CEQA and the *State CEQA Guidelines* (Section 15126.6), an EIR must describe a reasonable range of alternatives to the project, or to the project’s location, that could attain most of the project’s basic objectives while avoiding or substantially lessening any of the significantly adverse environmental effects of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives “whose effect cannot be ascertained and whose implementation is remote and speculative” or which are infeasible.

- **No Project Alternative.** Under the No Project Alternative, the project site would remain in its current state and no non-motorized access improvements would take place.
- **Alternate Trail Alignment 1 – Tyler Ranch Staging Area.** Under the Tyler Ranch Staging Area Alternative, the final phase of the proposed trail alignment would terminate at the existing Tyler Ranch Staging Area, rather than extending along Foothill Road to the train station in Sunol.
- **Alternate Trail Alignment 2 – Modified Foothill Road Alternative.** Under the Modified Foothill Road Alternative, the final phase of the proposed trail alignment would extend along Foothill Road from the Tyler Ranch Staging Area to Kilkare Road at the train station in Sunol, similar to the proposed project. However, rather than providing a Class I facility, this trail extension along Foothill Road would consist of either a multi-purpose trail serving pedestrians, bicyclists, and equestrians that does not meet the Class I standard but minimizes tree removal or a Class III¹ bike route.
- **Alternate Trail Alignment 3 – South Canyon Alternative.** Under the South Canyon Alternative, the final phase of the proposed trail alignment would extend from the UPRR Access Road along the south side of SR-84 to an existing nursery within the SFPUC property at the Sunol Water Temple. The trail would not extend into downtown Sunol. This alternative would require construction of a pedestrian bridge to cross over the UPRR tracks and Alameda Creek to connect the trail from the UPRR Access Road to the nursery property.
- **New Bridge 2 Alternate Location Alternative.** Under the New Bridge 2 Alternate Location Alternative, the location of the second pedestrian bridge to connect the trail from the south side of SR-84 to the north would be shifted further to the east.

Both the Tyler Ranch Staging Area Alternative and the Modified Foothill Road Alternative would slightly reduce some of the potentially significant impacts of the proposed project through reduced construction intensities, particularly the elimination or modification of the trail segment from the Tyler Ranch Staging Area to Kilkare Road, although all project mitigation measures would still be required. These alternatives would also achieve all of the project objectives. Because the Tyler Ranch Staging Area Alternative would result in a greater reduction (albeit slight) in some environmental impacts, the Tyler Ranch Staging Area Alternative is considered the environmentally superior alternative.

2.4 SUMMARY TABLE

Information in Table 2.A, Summary of Impacts and Mitigation Measures, has been organized to correspond with environmental issues discussed in Chapter 4.0, Setting, Impacts, and Mitigation Measures. Table 2.A is arranged in four columns: (1) environmental impacts, (2) level of significance without mitigation, (3) mitigation measures, and (4) level of significance with mitigation. Levels of significance are categorized as follows:

¹ Class III bike route is shared with motor vehicle traffic.

LTS Less Than Significant
S Significant
SU Significant Unavoidable

For a complete description of potential impacts and recommended mitigation measures, please refer to the specific topical discussions in Chapter 4.0.

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.1: AESTHETICS			
<i>There are no significant impacts to aesthetics.</i>			
4.2: AIR QUALITY			
<p>AIR-1: Construction of the proposed project would generate fugitive dust (PM_{2.5} and PM₁₀) emissions.</p>	S	<p>AIR-1: To meet the Bay Area Air Quality Management District (BAAQMD) fugitive dust threshold, the following BAAQMD Basic Construction (Best Management Practice) Mitigation Measures shall be implemented for all phases of construction:</p> <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 California Code of Regulations Title 13, Section 2485, the California Airborne Toxic Control Measure). Clear signage shall be provided for construction workers at all access points. ● All trucks and equipment, including their tires, shall be washed off prior to leaving the site. ● All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. ● A publicly visible sign shall be posted with the telephone number and person to contact at Alameda County regarding dust complaints, and the County staff person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. 	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.3: BIOLOGICAL RESOURCES			
<p>BIO-1: Implementation of the proposed project could result in the permanent disturbance of special-status plant species, if present on or near the project area.</p>	S	<p>BIO-1a: Prior to the initiation of construction of each trail segment within undeveloped areas, protocol-level surveys shall be conducted by a qualified biologist for the presence of special-status plants. The surveys shall be conducted in accordance with the California Department of Fish and Wildlife <i>Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities</i>. If special-status species are found during the surveys, impacts to such plant species shall be avoided or minimized with implementation of Mitigation Measures BIO-1b.</p> <p>BIO-1b: If annual special-status plants are found along the trail alignment and if avoidance of special-status populations is not possible, then a Rare Plant Mitigation Plan shall be designed and implemented. CDFW approval of the Rare Plant Mitigation Plan is required before implementation of an activity that could directly or indirectly impact a federally or State listed or CNPS Rare Plant Rank 1A, 1B, 2A, or 2B species, and under no circumstances shall State or federally listed plants be impacted without additional consultation with appropriate regulatory agencies. At a minimum, the plan shall include the following elements:</p> <ul style="list-style-type: none"> ● For annual species, seed shall be collected from plants that will be impacted, seed stored in an appropriate seed banking facility, and a portion of the seeds shall be redistributed in the project vicinity, as directed by the qualified botanist. Individual plants may also be transplanted. For perennial species, seed collection and seed banking may be augmented by transplanting entire plants or cuttings, as directed by the qualified botanist. ● Suitable sites shall be identified in Niles Canyon (or other nearby suitable location) and prepared for redistribution of seeds (or transplants) at mitigation ratios that are appropriate for the species lifeform (e.g., annual or perennial) and success based on performance standards calibrated by established reference populations. The plan shall outline the site preparation activities. ● Monitoring surveys of the seeded or transplanted areas shall be conducted for a minimum of 3 years. The project proponent shall prepare monitoring reports that document the monitoring results and the success of the rare plant mitigation program. ● Mitigation shall be deemed successful when the mitigation population provides the same ecological functions as the impacted population, after considering natural fluctuations in population size, health, etc. This shall include each of the relocated species establishes at least one stable population of approximately the same size of the impacted population, defined as species presence and population size over a 3-year period, considering fluctuations in local reference populations. If this goal is not achieved in 4 years, then 	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		contingency measures shall be implemented. Such measures shall include evaluating the environmental or other characteristics affecting plant survival and implementing corrective measures, which may include additional seeding and planting; altering or implementing a weed control regime; or introducing or altering other management activities. Efforts shall continue until the mitigation site meets the success criteria for two consecutive years	
<p>BIO-2: Construction of the proposed project could directly and indirectly result in potentially significant impacts to common and special-status wildlife species.</p>	S	<p>BIO-2a: Prior to the initiation of construction activities (including staging of equipment and clearing of vegetation) all personnel associated with project construction shall attend an Environmental Awareness Training. The training shall be prepared and conducted by a qualified biologist to aid workers in recognizing special-status species and other biological resources that occur or may occur in the project area. The specifics of this program shall include identification of the special-status species and habitats, a description of the regulatory status, and review of the measures required to reduce impacts to biological resources on the project area. Each worker shall be given a handout with key points. At the end of the training, all workers shall sign to document their participation in the program and understanding of the measures.</p> <p>BIO-2b: During project construction, the contractor shall implement the following best management practices (BMPs):</p> <ul style="list-style-type: none"> ● During construction of the trail, no pets or firearms shall be allowed at the project area, except for authorized law enforcement personnel. ● All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from any wetlands or waterbodies. Secondary containment shall be used during refueling. ● All vehicles and equipment shall be maintained in good working condition and free of leaks. ● During construction, all necessary BMPs shall be implemented to ensure that no soil or other materials are discharged into Alameda Creek. BMPs shall include the use of wattles and silt fences along access roads and around staging and equipment storage areas. Construction mats, gravel, or other methods to reduce erosion shall be incorporated into the design of any temporary roads in the streambed work area and on hillslopes. ● To prevent the entanglement of wildlife, no erosion control devices containing plastic monofilament netting shall be used or stored in the project area. 	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<ul style="list-style-type: none"> ● Construction personnel shall not feed or otherwise attract wildlife in the project area. All food-related trash and garbage shall be placed in animal-proof containers which shall be emptied or removed from the construction area on a regular basis. ● Construction activities shall be restricted to the daytime hours, from 30 minutes after sunrise to 30 minutes before sunset. ● To reduce the potential for vehicle strikes, all construction related traffic shall not exceed 5 miles per hour on unpaved roads. ● All small mammal burrows shall be avoided to the maximum extent possible. If a burrow must be impacted, a qualified biologist shall use hand tools to excavate the burrow to inspect it for special-status species. If any special-status species are seen, work shall stop in the immediate area and the animal shall not be further disturbed. ● In the unlikely event a special-status species is inadvertently killed or injured or if a special-status species is observed to be injured, dead, or entrapped, the construction crew shall stop work and notify the USFWS and CDFW. ● Upon completion of trail construction, temporarily impacted areas shall be restored to pre-project grades and contours and stabilized to prevent erosion. A seed mix of native grass and forb species shall be applied to all the grassland areas the project disturbed. The seed shall be from sources that are regionally appropriate for the project area 	
<p>BIO-3: Construction of the proposed project could directly or indirectly result in potentially significant impacts to steelhead, Pacific lamprey, and other aquatic wildlife from construction associated with the pedestrian bridge crossings over the Alameda Creek channel</p>	S	<p>BIO-3a: A qualified biologist shall be present at the work site until all ground-disturbing activities associated with work in the creekbed has been completed and the Environmental Awareness Training program (BIO-2a) been completed by all workers. After this time, the contractor shall designate a qualified monitor that will ensure on-site compliance with all avoidance and minimization efforts when the qualified biologist is not on site. The qualified biologist shall ensure that the qualified monitor is familiar with the avoidance and minimization efforts and is able to identify all the special-status species that may occur in the project area. The qualified monitor and the qualified biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USFWS, NMFS, and the CDFW. If work is stopped, the resident engineer for the proposed project shall be notified immediately by the qualified biologist or the qualified on-site monitor; the engineer shall notify the County. If a federally listed species is found in the work area during construction and a Biological Opinion does not include the species, the qualified biologist/monitor must stop work and immediately notify the County and they shall then consult with NMFS and shall then advise the contractor on how to proceed. The County shall contact the CDFW.</p>	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<p>BIO-3 (continued)</p>		<p>BIO-3b: Work within Alameda Creek shall be restricted to the low-flow season between June 15 and October 31. This work window coincides with the period when steelhead adults and juveniles are least likely to be in this portion of the river, thereby minimizing potential impacts to steelhead.</p> <p>BIO-3c: During construction, heavy equipment shall be restricted to the demarcated work area in the creekbed. The work area within the creekbed shall be delineated by Environmentally Sensitive Area (ESA) fencing, which shall be placed between the work area adjacent to jurisdictional areas to keep construction equipment and personnel out of these areas and prevent inadvertent impacts to the streambed outside the designated work area. A qualified biologist shall assist construction personnel in fence placement.</p> <p>BIO-3d: No fill material, including asphalt or concrete, shall be allowed to enter the creek, except for clean river rock. Any concrete structures (e.g., pier footings) below the tops of banks shall be poured in tightly sealed forms and shall not be allowed contact with surface waters until the cement has fully cured. Poured concrete shall be excluded from the wetted channel for a period of 30 days after it is poured. During that time, the poured concrete shall be kept moist and runoff from the concrete shall not be allowed to enter the river. Commercial sealants may be applied to the poured concrete surface in locations where the exclusion of water flow for a long period is difficult. If a sealant is used, water shall be excluded from the site until the sealant is dry and fully cured according to the manufacturers' specifications.</p> <p>BIO-3e: The pH of water downstream of the in-channel work area shall be monitored by a qualified biologist before and after pouring of concrete until it cures. Water that contacts wet concrete and has a pH greater than 9.0 shall be pumped out of the work area and disposed of outside the river channel. No substances toxic to aquatic life shall be discharged into Alameda Creek (e.g., diesel fuel, oil, hydraulic fluid, runoff from curing concrete). Best management practices shall be used to keep toxic substances and fill materials out of aquatic habitats.</p> <p>BIO-3f: Based on the June 15 and October 31 work window, the creek channel at the bent work site may not need to be dewatered due to low flows; however, a water diversion system should be in place in the event of water releases from upstream dams or unseasonal storm events. Water diversions shall allow unrestricted passage of adult and juvenile steelhead, Pacific lamprey, and other aquatic wildlife through the work area. Any temporary dam or other artificial diversion shall be constructed shall only from materials such as sheet pile,</p>	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p>sandbags or clean gravel, which shall cause little or no siltation. No other diversion method shall be used without authorization of NMFS and CDFW. If another diversion method is preferred, the County must submit a plan detailing the desired diversion method. Authorization of any other diversion method shall be at the discretion of NMFS and CDFW. During dewatering of cofferdam areas, pump intakes shall be screened with no larger than 0.2-inch (5-millimeter) wire mesh to prevent steelhead and other aquatic wildlife from entering the pump system. Pumped water shall be released into a portable storage tank to allow suspended sediment to settle prior to being released back into the river or by using some other method approved by NMFS and CDFW that shall prevent sediment from entering the creek. The qualified biologist shall be on site to assist in the implementation of the dewatering and river diversions, to monitor the placement and removal of dewatering and diversion devices, and to capture and relocate any stranded steelhead, lampreys, or other aquatic wildlife.</p> <p>BIO-3g: Dewatering may require the relocation of steelhead, lampreys, or other aquatic wildlife. If dewatering is required, a qualified biologist shall coordinate with the NMFS (for steelhead) and CDFW and the County, to identify a suitable upstream or downstream location within Alameda Creek where aquatic wildlife captured within the dewatered area would be relocated. Once the dewatering and diversion structures have been installed, the qualified biologist shall make periodic inspections of the site (weekly). A final inspection of the site shall also be made by the qualified biologist after completion of the work in the creekbed. Nonnative aquatic species such as American bullfrog (<i>Rana catesbeiana</i>), crayfish, and centrarchid fish found during the proposed action shall be removed and humanely dispatched by the qualified biologist, who shall be responsible for ensuring their activities comply with the California Fish and Game Code. After completion of the project, the qualified biologist shall prepare a report providing the results of the removal/relocation effort for submittal to the NMFS and CDFW. The report shall also include information on nonnative species that were removed from the project area.</p>	
<p>BIO-4: Construction of the proposed project could directly and indirectly result in potentially significant impacts to Alameda whipsnake, if this species is present in the project area during construction.</p>	S	<p>BIO-4a: Information on the Alameda striped racer shall be included in the environmental education program, as detailed in Mitigation Measure BIO-2a.</p>	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
BIO-4 (continued)		BIO-4b: A qualified biologist shall survey for Alameda striped racer during all initial ground-disturbing activities on the site. If an Alameda striped racer is found, work shall stop in the immediate area until the snake has left the area of its own volition. Alternately, it shall be captured and relocated away from the construction area by a USFWS and CDFW approved biologist in accordance with an approved relocation plan in compliance with all applicable regulations and guidelines. The biologist shall submit the results of the survey (and capture/relocation plan if applicable) to CDFW and USFWS for review and approval. If needed, Alameda County shall obtain the appropriate permits from USFWS and CDFW or shall obtain concurrence from these agencies that no permits are required prior to initiation of construction activities. If permits are obtained, Alameda County shall implement all additional conditions stipulated in the permits.	
BIO-5: Construction and operation of proposed creek crossings, including New Bridge 1 (Palomares Overcrossing) and New Bridge 2 could result in a potentially significant impact to western pond turtle.	S	BIO-5a: Information on the western pond turtles shall be included in the Environmental Awareness Training program as detailed in Mitigation Measure BIO-2a. BIO-5b: Before any ground-disturbing activities start in the creekbed, a qualified biologist shall conduct a survey for western pond turtles within a 100-foot buffer up and down stream of the work area. If western pond turtles are found within the 100-foot buffer, they shall be monitored by the qualified biologist. If a turtle enters the work area and is in danger of being impacted by project activity, all work shall stop until the turtle can be relocated per mitigation measure BIO-3h. After completion of the project, the qualified biologist shall prepare a report providing the results of the monitoring effort including any turtle observations within the 100-foot buffer and the details of any removal/relocation activities for submittal to the CDFW. The report will also include information on nonnative species that were removed from the project area.	LTS
BIO-6: Construction of the proposed project, including bridges and retaining walls could result in significant impacts to nesting golden eagles and or bald eagles	S	BIO-6: Within 15 days prior to the initiation of ground-disturbing activities during the nesting season (February 1 to August 31), a qualified biologist shall coordinate with East Bay Regional Parks and/or United States Geological Survey biologists monitoring eagles in the Niles Canyon area to determine if any active nests are present within 1,000 feet of the project area. If nesting eagles are present, a buffer free from new construction disturbance shall be established within a 1,000-foot radius of the nest. No new project-related construction activities (i.e., activities that were not already ongoing when the nest was established, or that are of a substantially greater intensity than when the nest was established) shall be undertaken within the buffer. In some cases (e.g., if the activity is not visible from the nest	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p>site), it is possible that a lesser buffer would be adequate to avoid disturbance of the nesting eagles, but such a variance would be set by a qualified biologist in consultation with the CDFW. In such a case, the biologist shall monitor the behavior of the nesting birds during the first full day of construction activity immediately surrounding the buffer. The biologist shall look for signs of stress such as repeated alarm calls, agitated behavior, or departure of the birds from the nest. If the birds do not show signs of habituation to the new disturbance by resuming their normal nesting activities, work within the vicinity of the nest shall stop and the CDFW shall be consulted to refine the buffer determination. If the birds continue their normal activities, the biologist shall inspect the nest site every 1 to 2 days (the frequency determined in consultation with the CDFW) for as long as the nest is active, and work is ongoing within the reduced buffer to confirm that the birds are tolerant of the construction activities.</p> <p>Any required buffer shall remain in place until young are no longer dependent on the nest, or until the nesting attempt fails (for reasons other than project activities) and it is determined that the birds will not attempt to re-nest. A qualified biologist shall determine through direct observation when the nest is no longer in use. Before construction activities take place within the buffer area, the biologist must confirm that the nest is no longer active.</p>	
<p>BIO-7: Construction of the proposed project could result in a potentially significant impact to nesting special-status or otherwise protected bird species.</p>	<p>S</p>	<p>BIO-7: Prior to construction activities taking place during the nesting bird season (February 1 through August 31), preconstruction activity surveys for nesting birds shall be conducted by a qualified biologist to ensure disturbance of active nests will be avoided or minimized during project implementation. Surveys shall be conducted no more than 7 days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., shrubs, ground, and structures) in the project area plus a surrounding 50-foot buffer for nests. If removal of potential nesting substrate or project grading will take place during more than one nesting season or in different parts of the project area over the course of a single season, then additional pre-activity surveys must be performed within 7 days prior to initiation of work in any specific area. If the preconstruction activity survey does not identify the presence of any active nests on or within 50 feet of the project area, construction activities may proceed.</p> <p>If nests are known to have eggs or young, or if they cannot be confirmed to be inactive or to lack eggs or young, are found, or adults are demonstrating nesting behavior, a qualified biologist shall establish an appropriate construction-free buffer around each nest. Nest buffers can vary depending the context of the nest location and the bird species therefore, a qualified biologist shall determine a suitable nesting buffer based on these factors. The buffer</p>	<p>LTS</p>

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p>shall remain in place until the qualified biologist has confirmed that the nest is no longer active.</p> <p>If a less than a 50-foot-wide nest buffer is determined to be appropriate for a particular nest or nests, a qualified biologist shall monitor the nest(s) before construction to document baseline nesting behavior and monitor the nest during construction to ensure nesting birds are not exhibiting signs of stress and territorial behavior. If signs of stress are observed during the monitoring, construction activities shall cease or the buffer will be increased, as determined by a qualified biologist, to a sufficient distance where the nesting birds are longer exhibiting signs of stress.</p> <p>To prevent encroachment, the buffer shall be clearly marked for avoidance. The established buffer shall remain in effect until the young have fledged or the nest is no longer active as confirmed by the qualified biologist.</p>	
<p>BIO-8: Proposed construction of the trail could result in a potentially significant impact to San Francisco dusky-footed woodrat.</p>	<p>S</p>	<p>BIO-8a: Information on the San Francisco dusky-footed woodrat shall be included in the environmental education program, as detailed in Mitigation Measure BIO-2a.</p> <p>BIO-8b: A qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrat houses in suitable habitat for this species within 14 days prior to any tree removal or ground-disturbing activities. Any woodrat houses shall be identified, and their locations mapped and flagged to be avoided during construction activities. If a woodrat house is within a 25-foot buffer of the project area, to prevent encroachment, the buffer shall be clearly marked for avoidance. The established buffer shall remain in effect until work has been completed along the section of trail near the nest. If it is not possible to avoid a woodrat house, a qualified biologist shall develop a relocation plan. The relocation plan shall be submitted to CDFW for approval and then implemented as necessary. Copies of the relocation plan shall be provided to the County.</p>	<p>LTS</p>
<p>BIO-9: Construction of the proposed project could result in a potentially significant impact to tree roosting bats.</p>	<p>S</p>	<p>BIO-9a: Information on the bats shall be included in the environmental education program, as detailed in Mitigation Measure BIO-2a.</p> <p>BIO-9b: Large, old trees with deep cavities that could provide bat night- or maternity roosting habitat shall be avoided to the greatest extent possible. If impacts to such trees are unavoidable and tree removal is scheduled during the pallid bat maternity season (April to August), large old trees scheduled to be removed shall be surveyed for the potential presence of maternity roosts within 2 weeks of the scheduled removal. Trees with suitable cavities for</p>	<p>LTS</p>

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p>potential maternity colonies will be closely examined for the presence of bats and a qualified biologist shall conduct a dusk/evening emergence survey to determine if a given cavity is occupied. If it is determined that a given cavity supports bats, a minimum 25-foot buffer marked with orange construction fencing shall be established around the tree. The tree will not be removed until after August 31, when most bats would have likely dispersed away from their maternity colonies. The 25-foot buffer is suggested as a minimum. If bat roosts are found in trees within or near the clearing limits, an appropriate buffer will be established and left undisturbed. Buffer widths will be determined by a qualified biologist on a site-specific basis.</p> <p>BIO-9c: To ensure foliage roosting bats are protected to the greatest extent feasible, trees or large limbs to be removed shall be allowed to stay in place where they fall for 24 hours (i.e., overnight) after being cut to allow any foliage roosting bats to leave the fallen trees or limbs before they are chipped or hauled out of the project area.</p>	
<p>BIO-10: Construction of the proposed overcrossings would result in permanent and temporary impacts to riparian habitat associated with Alameda Creek.</p>	<p>S</p>	<p>BIO-10: Prior to any vegetation removal or other work within the riparian corridor along Alameda Creek, the County shall apply for a Lake or Streambed Alteration Agreement (LSAA) from CDFW. The LSAA shall include measures to protect aquatic and wildlife resources during construction. All conditions of the LSAA would be implemented. However, as the LSAA has not yet been issued, at a minimum, the following measures shall be implemented:</p> <ul style="list-style-type: none"> ● Disturbance or removal of vegetation shall not exceed the minimum necessary to complete the trail improvement work. ● Protective fencing shall be placed along the drip line of riparian trees to prevent compaction of the root zone and to avoid damage to riparian vegetation by people or equipment. ● Branches and/or limbs overhanging the work areas that may be impacted shall be properly pruned prior to mobilization of equipment under the supervision of a certified arborist. ● Riparian herbaceous vegetation permanently impacted by the proposed project shall be mitigated by planting riparian trees and/or shrubs along Alameda Creek and/or the tributary at a minimum 1:1 ratio (square footage of trees/shrubs planted: square footage of herbaceous vegetation removed and additional square footage of shading of Alameda Creek and the tributary). All replacement trees and shrubs shall be from nursery stock grown from seeds or cuttings collected in the same genetic provenance as the project site. A Riparian Revegetation Plan shall be prepared with specific success criteria and contingency measures to be implemented if success criteria are not met. The plantings shall be monitored and maintained for five years or until the success criteria are met. 	<p>LTS</p>

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<ul style="list-style-type: none"> Temporarily disturbed areas along the banks of Alameda Creek shall be seeded with a riparian native seed mix. A Riparian Revegetation Plan shall be prepared with a specific seed mix and success criteria for the seeded areas and include contingency measures to be implemented if success criteria are not met. Seeded areas shall be monitored for 5 years or until the success criteria are met. 	
<p>BIO-11: Construction of the proposed overcrossings would result in permanent and temporary impacts to Alameda Creek, a federally protected wetland. Construction of Phases 2 and 3 could also result in impacts to federally protected wetland areas that have not yet been delineated.</p>	S	<p>BIO-11a The County shall apply for and obtain permits from the United States Army Corps of Engineers (USACE, Clean Water Act [CWA] Section 404 permit), Regional Water Quality Control Board (RWQCB, CWA Section 401 water quality certification), and CDFW (Fish and Game Code Section 1602 Streambed Alteration Agreement) prior to construction. Indirect impacts to the water quality of Alameda Creek due to excess sedimentation shall be avoided through the preparation and implementation of a Stormwater Pollution Prevention Plan in accordance with National Pollution Discharge Elimination System and RWQCB requirements. The County shall also implement best management practices as recommended or required by the RWQCB to protect water quality. Additional measures shall include:</p> <ul style="list-style-type: none"> Any impacts to the creek or tributary, or seasonal wetlands, if present along the alignment, shall be mitigated by providing enhancements to the creek/tributary at a minimum 1:1 ratio. Enhancements shall encompass the same amount of square footage or linear feet of waters of the United States or waters of the State that are impacted by the project. If in-kind mitigation is not possible, mitigation can be completed out-of-kind at a minimum 1.5:1 ratio. These enhancements shall include planting of native riparian plants and/or removal of nonnative invasive plants. A Wetland Mitigation and Monitoring Plan shall be prepared and implemented for the enhancements. This plan shall be subject to approval by the USACE, the RWQCB, and/or the CDFW prior to any disturbance of the creek/tributary. Additionally, all required permits and certifications shall be obtained from the USACE, the RWQCB, and/or the CDFW prior to any disturbance of the creekbed and all permit conditions shall be implemented. Temporary silt fencing shall be placed at the top of creek/tributary banks and along the perimeter of the seasonal wetlands, as feasible, to prevent entry of fill during construction. Temporary environmentally sensitive area fencing shall be installed where needed to prevent construction equipment and workers from entering the creek/tributary or wetlands. All work in and around the creek shall take place during the dry season (June 15 and October 31) during seasonal low flows. 	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<ul style="list-style-type: none"> ● Upon completion of construction, construction work areas within and adjacent to waters of the United States/waters of the State shall be restored and stabilized to prevent erosion. A seed mix of native and naturalized grass and forb species shall be applied to all the upland areas temporarily disturbed by the project. The seed shall be from sources that are regionally appropriate for the site. ● All creek channel portions and uplands adjacent to, but outside of, the construction footprint shall be avoided during construction, and no fill shall be allowed to enter these areas. Exclusion fencing (e.g., silt fence) shall be installed to mark the limits of the construction footprint. The biological monitor shall oversee the installation of the fencing and periodically monitor the work area to ensure avoidance of the stream channels. ● During project construction, no soil or other construction materials shall be stored in or allowed to enter the stream channels or seasonal wetlands. All stockpiled fill and other materials shall be kept at least 50 feet from the channel edges and seasonal wetlands. ● Construction activities shall be limited to periods of low rainfall/low creek flows. The project biologist shall consult the 72-hour weather forecasts from the National Weather Service (NWS) prior to the startup of any ground disturbing activities near streams or wetlands. The County shall also keep the project biologist and engineers informed about any water releases from upstream reservoirs on Alameda Creek or its tributaries that could increase creek flows at the work site. Construction activities shall cease 24 hours prior to a 40 percent or greater forecast of rain from the NWS or scheduled releases from upstream reservoirs. Construction may continue 24 hours after the rain ceases if there is no precipitation in the 24-hour forecast. Contractor specifications shall include the following worker restrictions and guidelines, at a minimum: <ul style="list-style-type: none"> ○ Construction personnel and vehicles shall stay within designated work areas. Entry into adjacent lands or established exclusion zones shall be strictly prohibited. ○ All work areas shall be maintained in clean condition. All trash (e.g., food scraps, cans, bottles, containers, wrappers, cigarette butts, and other discarded items) shall be placed in closed containers and properly disposed off-site. ○ No pets or firearms shall be allowed on site. ○ All vehicles and equipment shall be refueled and/or lubricated in a designated area at least 100 feet from aquatic habitats. <p>BIO-11b: Prior to construction of Phases 2 and 3, the County shall contract with a qualified biologist to conduct a jurisdictional delineation following the methods outlined in the USACE Interim Regional Supplement to the USACE/Wetland Delineation Manual: Arid West Region and the 1987 Wetland Delineation Manual to delineate the jurisdictional limits of non-</p>	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		wetland waters of the United States following the procedures set forth in 33 CFR 328.3(e). The delineation will also consider any additional information needs based on the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State as administered by the RWQCB. Further, the extent of any streambed and associated riparian areas subject to review by the CDFW under Section 1602 of the California Fish and Game Code will be determined. If the results of the jurisdictional delineation indicate that impacts to jurisdictional features would occur, the County shall obtain permits and authorizations from the regulatory agencies and comply with all permit conditions, as outlined in Mitigation Measure BIO-11a.	
BIO-12: The placement of retaining walls and trail fencing associated with the proposed project could adversely impact wildlife movement.	S	BIO-12: Retaining walls shall be minimized to the greatest extent feasible and used only in trail areas where they are essential for geotechnical/engineering reasons. Where fences are required along the trail, they shall be constructed to allow wildlife to move freely over the trail. A minimum 6-inch gap along the bottom of trail fences will allow smaller wildlife such as native rodents, turtles, and snakes to move freely. Periodic (e.g., 20-foot interval) 12-inch gaps 3 feet wide would allow mid-sized mammals to move freely through fence barriers. The fences should also be designed to allow easy movement of large mammals such as deer; fences should be no taller than 3–4 feet.	LTS
BIO-13: Tree removal associated with the proposed project would conflict with the City of Fremont Tree Preservation Ordinance and the Alameda County Tree Ordinance.	S	BIO-13a: Prior to project construction, the County, in coordination with project engineers and a qualified biologist(s) or arborist(s), shall identify and quantify the trees that may need to be removed for trail construction. Following the tree survey, the County in coordination with the project engineer, and qualified biologist(s)/arborist(s) shall identify where native trees can be avoided and preserved. All trees to be retained shall be protected during construction and shall be clearly identified on construction plans and marked in the field for preservation with highly visible construction fencing at a minimum around the dripline of the tree. No construction activities such as grading, vehicle parking, or storage of materials shall be conducted within the tree protection zones. The fencing shall be installed prior to any site clearing or grading activities and shall remain in place until construction is complete. The fence shall be a minimum of 4 feet tall and supported by stakes at least every 10 feet on center. Weatherproof signs shall be permanently posted on the fences, stating, at minimum: “Tree Protection Zone – Keep out”. A 3-inch layer of chip mulch must be maintained within the Tree Protection Zone during construction to reduce soil compaction, improve aeration, enhance moisture retention and reduce temperature extremes.	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
BIO-13 (continued)	S	<p>BIO-13b: Prior to project construction, the County, in coordination with a qualified biologist(s)/arborist(s) familiar with the biology of native trees, shall develop a comprehensive tree mitigation plan for the project. The tree mitigation shall at a minimum include:</p> <ul style="list-style-type: none"> ● Native trees required to be removed or that could be damaged during project construction shall be replaced at an establishment ratio of 1:1 (1 tree impacted to 1 tree planted and established). ● Replaced trees shall be planted within the Alameda Creek watershed, in areas within or adjacent to the project area (Phases 1–3). ● Replacement trees shall be clustered in a manner to promote establishment of a woodland environment or planted in suitable habitat adjacent to existing coast live oak/California bay woodland. ● Planted trees shall be monitored for a minimum of 5 years to ensure establishment. If individual trees die during the 5-year monitoring period, they shall be replaced in kind and monitored for 5 years to ensure establishment. 	LTS
4.4 CULTURAL RESOURCES			
CUL-1: Construction of future Phase 2 and 3 trail alignments has the potential to impact built environmental resources in proximity to the trail alignment, resulting in a potential substantial adverse change on historical resources, as defined in CEQA Guidelines Section 15064.5.	S	<p>CUL-1: Historical Resource Evaluation. Prior to development of any trail segment on a parcel containing historic-period buildings (e.g., buildings more than 50 years old), Alameda County shall complete a historic resources evaluation (including property-specific research and an intensive-level architectural field survey) to determine the property’s eligibility for listing in the California Register of Historic Resources and qualification as a “historical resource” per CEQA. If the resource is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the trail alignment shall be designed to avoid the subject parcel entirely or to eliminate aspects of the project that might impair the historic significance of the resource (e.g., reducing trail width, eliminating trail features such as signage, lighting, etc.).</p>	LTS
CUL-2: Project ground disturbance associated with Phase 1 development has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change on historical resources, as defined in CEQA Guidelines Section 15064.5.	S	<p>CUL-2a: Preparation of a Cultural Resources Monitoring Plan. Prior to project construction, Alameda County shall retain an archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the North Valley Yokuts Tribe. The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring:</p> <ul style="list-style-type: none"> ● Person(s) responsible for conducting archaeological monitoring. ● Person(s) responsible for Native American monitoring. 	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<ul style="list-style-type: none"> ● Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation). ● Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur. ● The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 25 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may be reduced based on the conditions and only if the Tribe and the qualified archaeologist agree. <p>CUL-2b: Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training. Prior to commencement of any ground-disturbing activity, all personnel involved in project-related ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the North Valley Yokuts Tribe (Tribe).</p> <p>The WEAP training shall be conducted before any project-related ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.</p> <p>The WEAP training shall be presented by an archaeologist and a representative from the Tribe. Alameda County shall maintain a record of all construction personnel who have</p>	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p>received the WEAP training. WEAP training recipient records shall be maintained by the applicant throughout the duration of construction.</p> <p>CUL-2c: Archaeological Monitoring and Resource Protection. Archaeological monitoring shall be conducted during all ground-disturbing activities associated with project implementation within the recorded boundary of and within 25 feet of the boundary of the recorded location of resource P-01-000025, including clearing and grubbing activities. Archaeological monitoring shall occur on a full-time basis during these excavation activities until the Project Archaeologist, based on the archaeological monitor’s observations, is satisfied that there is little likelihood of encountering intact archaeological deposits. The Project Archaeologist may also determine whether it is appropriate to reduce monitoring to spot-checking on a part-time basis. Monitoring procedures shall follow the Cultural Resources Monitoring Plan prepared under Mitigation Measure CUL-2a.</p> <p>Construction crews shall stop all work within 25 feet of any archaeological discovery until an archaeologist who meets the Secretary of the Interior’s Professional Qualifications Standards in archaeology can assess the previously unrecorded discovery and provide recommendations. Resources could include subsurface historic-period features such as artifact-filled privies, wells, and refuse pits, and artifact deposits, along with concentrations of adobe, stone, or concrete walls or foundations, and concentrations of ceramic, glass, or metal materials. Native American archaeological materials could include obsidian and chert flaked stone tools (such as projectile and dart points), midden (culturally derived darkened soil containing heat-affected rock, artifacts, animal bones, and/or shellfish remains), and/or groundstone implements (e.g., mortars and pestles).</p>	
<p>CUL-3: Project ground disturbance associated with construction of future trail alignment Phases 2 and 3 has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change on historical resources, as defined in CEQA Guidelines Section 15064.5.</p>	<p>S</p>	<p>CUL-3a: Phase I Archaeological Study. Prior to development of future trail segments, Alameda County shall conduct a Phase I archaeological study to incorporate up-to-date record search and field survey results. Each segment-specific Phase I archaeological study shall be conducted to (1) identify archaeological deposits that may be impacted by the proposed project; (2) assess the potential for human remains; and (3) recommend procedures for avoiding or mitigating impacts to such deposits or remains, if warranted. Such procedures might include, but are not limited to, modification of the trail alignment/design to avoid sensitive resources, monitoring by a qualified archaeologist (meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology) during ground-disturbing activities, documenting resources on State of California Department of Parks and Recreation Series 523 forms, recording the archaeological deposit, data recovery and analysis, and public outreach. Upon completion of the selected mitigations, a report documenting methods,</p>	<p>LTS</p>

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p>findings, and recommendations shall be prepared by the qualified archaeologist and submitted to Alameda County for review, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate local curation facility and used for future research and public interpretive displays, as appropriate.</p> <p>CUL-3b: Unanticipated Discovery. Should an archaeological deposit be encountered during construction of a future trail segment, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the County shall be responsible for funding and implementing appropriate mitigation measures. Mitigation measures may include recordation of the archaeological deposit, data recovery and analysis, and public outreach regarding the scientific and cultural importance of the discovery. Upon completion of the selected mitigations, a report documenting methods and findings shall be prepared by the qualified archaeologist and submitted to Alameda County. The final report shall be submitted to the Northwest Information Center at Sonoma State University.</p> <p>CUL-3b: Unanticipated Discovery. Should an archaeological deposit be encountered during construction of a future trail segment, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the County shall be responsible for funding and implementing appropriate mitigation measures. Mitigation measures may include recordation of the archaeological deposit, data recovery and analysis, and public outreach regarding the scientific and cultural importance of the discovery. Upon completion of the selected mitigations, a report documenting methods and findings shall be prepared by the qualified archaeologist and submitted to Alameda County. The final report shall be submitted to the Northwest Information Center at Sonoma State University.</p>	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.5 GEOLOGY AND SOILS			
GEO-1: Landslides and seismically-induced landslides could result in risks to humans and damage to property during operation of the proposed project.	S	<p>GEO-1a: The project-specific Geotechnical Investigation shall include investigation of trail segments in areas susceptible to landslides. Specific geotechnical design recommendations shall be developed to mitigate the potential for landslides and seismically-induced landslide, including measures such as excavation of landslide areas and replacement with buttress fills, construction of retaining walls, removal of landslide materials, stabilization of shallow landslides using rock riprap replacement, and stabilization using biotechnical stabilization measures.</p> <p>GEO-1b: Prior to issuance of a grading permit, detailed retaining wall design drawings and a site-specific grading plan for the project site shall be prepared by a licensed professional and submitted to Alameda County for review and approval. The retaining wall design drawings shall be reviewed by a qualified engineering geologist and show the heights of the walls, the backfill material type, drainage details, and the earth pressure used in design. All cut slopes shall be observed by a qualified engineering geologist at the time of grading to assess the applicability of the recommendations and to make supplemental recommendations, if necessary. Supplemental recommendations may include slope flattening, installation of drainage, slope reconstruction in areas where weak rock, adverse bedding, or other local anomalies are encountered, or construction of retaining walls. Retaining wall installation and testing shall be observed by a qualified engineering geologist.</p>	LTS
GEO-2: Construction of the project could directly or indirectly destroy a unique paleontological resource or site	S	<p>GEO-2: Paleontological Resource Protection. Before the start of any excavation activities, the project sponsor shall retain a qualified paleontologist, as defined by the Society of Vertebrate Paleontology (SVP), who is experienced in training construction personnel regarding paleontological resources. The qualified paleontologist shall train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that could be seen during construction, and proper notification procedures should fossils be encountered. Should any paleontological resources be encountered during construction activities, all ground-disturbing activities within 50 feet of the find shall cease and Alameda County Department of Public Works (County) shall be notified immediately. The County shall immediately notify the qualified paleontologist and request that they assess the situation per SVP standards, consult with agencies as appropriate, and make recommendations for the treatment of the discovery if found to be significant. If construction activities cannot avoid the paleontological resources, adverse effects to paleontological resources shall be mitigated. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, preparation of a technical report, and providing the fossil material and technical report to a</p>	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		paleontological repository, such as the University of California Museum of Paleontology. Public educational outreach may also be appropriate. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the County for review.	
4.6 HAZARDS AND HAZARDOUS MATERIALS			
<p>HAZ-1: Subsurface hazardous materials may be released into the environment during construction of the project.</p>	S	<p>HAZ-1a: Prior to construction, a Phase II Environmental Site Assessment (Phase II ESA) shall be performed to address potential contamination associated with the adjacent railroads. The Phase II ESA shall be conducted by a California Professional Geologist and/or a California Professional Civil Engineer with experience in contaminated site investigation. Soil samples shall be collected from proposed construction areas in proximity to the railroad tracks. Representative samples of shallow soils shall be collected from locations within the project corridor nearest the railroad tracks and analyzed for Title 22 metals, lead, TPH, PNAs, and chlorinated herbicides. It is anticipated that 4 to 8 discrete samples, from the locations nearest the railroad tracks (Phases 2 and 3), would be sufficient to determine if contaminants from the railroad tracks have migrated and affected shallow soils within the project corridor.</p> <p>Soil analytical results should be screened against the Regional Water Quality Control Board’s Environmental Screening Levels to determine appropriate actions to ensure the protection of construction workers and shall also be screened against hazardous waste thresholds to determine soil management options.</p> <p>Based on the findings of the Phase II ESA, site-specific soil and groundwater management and disposal procedures for hazardous materials may need to be implemented, as well as construction worker health and safety measures during construction. Recommendations for any site-specific management and disposal procedures should be included in the Phase II ESA.</p> <p>HAZ-1b: Prior to construction, a project-specific Soil Management Plan (SMP) shall be prepared by a qualified hazardous materials consultant to address contaminants known to occur on within the project site. The SMP must establish remedial measures and/or soil and groundwater management practices to protect construction workers, the general public, and the environment from subsurface hazardous materials during construction. The SMP shall characterize the soil, delineate areas of known soil contamination, and identify soil (and groundwater, if encountered) management options for excavated soil and dewatered groundwater (if applicable), in compliance with local, State, and federal statutes and regulations. The SMP shall (1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during project excavation activities; (2) require the preparation of a project-specific Health and Safety Plan that identifies hazardous materials</p>	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		present, if any, describe required health and safety provisions and training for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations, and designate the personnel responsible for Health and Safety Plan implementation. The SMP shall be submitted to the County for review and approval prior to construction activities. Once approved the SMP shall be implemented during construction of the proposed project.	
HAZ-2: Construction of the proposed project could temporarily increase fire risks, thereby exposing people or structures to a significant risk of loss, injury, or death involving wildland fires.	S	HAZ-2: Alameda County shall ensure that appropriate measures be taken to minimize the risk of fire during construction activities. Specifically, Alameda County shall require that all fire safety regulations cited in the California Public Resources Code be incorporated into construction bid documents and contracts for the project, including regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors 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 onsite for various types of work in fire-prone areas. BMPs shall be implemented during construction to reduce the potential for accidental spills or fires involving the use of hazardous materials.	LTS
4.7 HYDROLOGY AND WATER QUALITY			
HYD-1: Project construction could result in release of sediment and hazardous materials into nearby surface waters.	S	HYD-1: Equipment and Materials Storage and Maintenance Operations. During construction, all refueling and/or storage and maintenance of heavy equipment shall take place at a minimum of 50 feet away from the top of bank of creeks and all identified jurisdictional wetlands and waters of the United States drainage courses. The refueling/maintenance and construction materials and chemical storage staging area shall be bermed, graveled, or covered with straw and incorporate measures for capture of any accidental spills. If construction with pollutant material storage requirements occurs during the rainy season, no storage or construction staging areas shall be within identified 100-year flood plain or reservoir flow easement areas. All temporary construction lay-down and staging areas shall be restored upon completion of work with silt fences, straw rolls, and ground bags, etc. removed and the area re-seeded and stabilized.	LTS
HYD-2: The proposed project could impede or redirect flood flows due to the alteration of the existing drainage pattern in the project area	S	HYD-2: Prior to approval of the final project plans, detailed bridge designs shall be reviewed and approved by the County of Alameda. The design shall be prepared by a qualified professional engineer. The bridge plans shall include structural engineering, geotechnical engineering, and hydraulic engineering information. The responsible bridge designer shall be a State of California licensed Civil Engineer and shall be experienced in hydraulic analysis, bridge design, and flood channel and bank protection design. The engineering plans shall demonstrate conformity to Alameda County and any applicable Federal Emergency	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		Management Agency floodplain management regulations and include design elevations of the bridge, conformity with 50-year and 100-year flood elevation freeboard requirements, the locations and structural design of the bridge abutments with respect to flood flows, bridge loading, and channel bank protection requirements. The technical studies shall confirm that there is no impact of trail bridges or trail structures on Alameda Creek flood elevations and trail embankment stability, or on County-operated and maintained bridges.	
4.8 LAND USE AND PLANNING			
<i>There are no significant impacts to land use and planning.</i>			
4.9 NOISE			
NOI-1: Construction period activities could result in significant short-term noise impacts on noise-sensitive receptors in the project vicinity.	S	NOI-1 : Construction Noise. Prior to commencement of construction activities, Alameda County shall verify that grading and construction plans include the following requirements to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved: <ul style="list-style-type: none"> ● Construction activities taking place as part of the project shall be subject to the limitations and requirements of the Alameda County Municipal Code, which states that construction activities are allowed between the hours of 7:00 a.m. and 7:00 p.m. on weekdays or between 9:00 a.m. and 8:00 p.m. on weekends. ● During all project area excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. ● To the best extent possible, the project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project area. ● Construction staging areas shall be located as far away from sensitive receptors as possible during all phases of construction. 	LTS
NOI-2: Construction period activities could result in significant short-term vibration for sensitive receptor structures in the project vicinity.	S	NOI-2: The use of heavy construction equipment, such as large bulldozers or excavators, within 15 feet of existing structures shall be prohibited.	LTS
4.10 PUBLIC SERVICES			
<i>There are no significant impacts to public services.</i>			
4.11 RECREATION			
<i>There are no significant impacts to recreation</i>			
4.12 TRANSPORTATION			

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<p>TRA-1: Project construction activities could increase roadway hazards during the construction period due to the temporary closure of roadways/travel lanes, the presence of construction vehicles, and pavement damage created by construction traffic.</p>	<p>S</p>	<p>TRA-1: Prior to construction, the project contractor shall submit a Traffic Control Plan (TCP) to Alameda County for review and approval. During construction activities, Alameda County and the project contractors working on the project shall adhere to all requirements of the TCP. Implementation of a TCP would maintain peak period travel time to the extent possible during construction. The TCP shall include the following:</p> <ul style="list-style-type: none"> ● The route selection for movement of heavy equipment in the project vicinity shall be coordinated with the Alameda County Department of Public Works, Alameda County Sheriff’s Department, and the City of Fremont Police Department to minimize traffic and physical road impacts. Truck drivers shall be notified and be required to use the most direct route to and from the project site. ● Heavy equipment transport, material transportation, or exportation to and from the project site shall not take place during weekday commute peak traffic periods and shall be coordinated by the contractor with the Alameda County Department of Public Works, Alameda County Sheriff’s Department, and the City of Fremont Police Department. ● The TCP will define the use of flaggers, warning signs, lights, barricades, and cones, etc., according to standard guidelines required by the County, as appropriate. Further, the contractor will maintain the work site, including traffic control, in a safe condition at all times, even outside of normal work hours. In addition, the TCP shall prohibit lane closure within any intersections along the corridor during the a.m. and p.m. peak periods (i.e., from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m.). Prior to the start of these peak periods, the contractor shall cover any open trenches and remove all construction equipment such that all lanes within the intersection are available for vehicular traffic during the peak periods. ● Construction activities completed within public street rights-of-way would require the use of a traffic control service, and any lane closures or traffic control measures would be consistent with those published in the <i>California Joint Utility Traffic Control Manual</i> (California Inter-Utility Coordinating Committee 2010). Implementing measures contained within the <i>California Joint Utility Traffic Control Manual</i> would facilitate safe passage of both construction vehicles and private vehicles. 	<p>SU</p>
<p>TRA-2: Project construction activities could result in temporary inadequate emergency access.</p>	<p>S</p>	<p>TRA-2: A schedule of construction activities and the TCP prepared per Mitigation Measure TRA-1 shall be provided to any pertinent local emergency service providers, including the Alameda County Fire Department, Alameda County Sheriff’s Department, City of Fremont Police and Fire Departments, and paramedics.</p>	<p>SU</p>

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.13 TRIBAL CULTURAL RESOURCES			
<p>TCR-1: Project ground disturbance associated with Phase 1 development has the potential to disturb, damage, or degrade either a tribal cultural resources, or the contextual setting of such a resource, resulting in a substantial loss of the resource’s cultural value as determined in consultation with the North Valley Yokuts Tribe.</p>	S	<p>TCR-1: Native American Monitoring. Native American monitoring by a representative of the North Valley Yokuts Tribe shall be required during all ground-disturbing activities associated with project implementation within the recorded boundary of and within 25 feet of the boundary of the recorded location of resource P-01-000025, including clearing and grubbing activities.</p> <p>Monitoring procedure shall follow the Cultural Resources Monitoring Plan prepared under Mitigation Measure CUL-2a as described in Section 4.4 of the EIR. Construction crews shall stop all work within 25 feet of any tribal cultural resource discovery until the find has been assessed by an archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards in archaeology and by the North Valley Yokuts Tribe. Native American archaeological materials and tribal cultural resources could include obsidian and chert flaked stone tools (such as projectile and dart points), midden (culturally derived darkened soil containing heat-affected rock, artifacts, animal bones, and/or shellfish remains), and/or groundstone implements (such as mortars and pestles).</p>	LTS
<p>TCR-2: Project ground disturbance associated with construction of future trail alignment Phases 2 and 3 may result in the substantial adverse change in the significance of a tribal cultural resource if uncovered during project construction.</p>	S	<p>TCR-2a: Implement Mitigation Measures CUL-3a and CUL-3b.</p> <p>TCR-2b: If tribal cultural resources are identified within the Phase 2 or Phase 3 project corridor, Native American monitoring by a representative of the North Valley Yokuts Tribe shall be required during all ground-disturbing activities associated with project implementation within the recorded boundary of and within 25 feet of the boundary of the recorded location of any identified resources.</p> <p>Monitoring procedure shall follow the Cultural Resources Monitoring Plan prepared under Mitigation Measure CUL-2a as described in Section 4.4 of the EIR. Construction crews shall stop all work within 25 feet of any tribal cultural resource discovery until the find has been assessed by an archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards in archaeology and by the North Valley Yokuts Tribe. Native American archaeological materials and tribal cultural resources could include obsidian and chert flaked stone tools (such as projectile and dart points), midden (culturally derived darkened soil containing heat-affected rock, artifacts, animal bones, and/or shellfish remains), and/or groundstone implements (such as mortars and pestles).</p>	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.14 UTILITIES AND SERVICES SYSTEMS			
<i>There are no significant impacts to utilities and service systems.</i>			

Source: Compiled by LSA (2024).

- CDFW = California Department of Fish and Wildlife
- CEQA = California Environmental Quality Act
- CFR = Code of Federal Regulations
- CNPS = California Native Plant Society
- County = Alameda County
- LTS = Less than Significant Impact
- NMFS = National Marine Fisheries Service

- PM_{2.5} = particulate matter less than 2.5 microns in aerodynamic diameter
- PM₁₀ = particulate matter less than 10 microns in aerodynamic diameter
- PNA = polynuclear aromatic hydrocarbon
- S = Significant Impact
- SU = Significant Unavoidable Impact
- TPH = total petroleum hydrocarbons

3.0 PROJECT DESCRIPTION

This chapter describes the proposed Niles Canyon Trail Project (project) that is evaluated in this Environmental Impact Report (EIR). The purpose of the project is to construct a 6-mile, Class I,² multi-use trail for pedestrians, bicyclists, and equestrians through Niles Canyon and between the unincorporated community of Sunol and the Niles District of the city of Fremont, both of which are in Alameda County. In addition, the project would provide a critical link to Palomares Road, bypassing State Route (SR) 84, and would expand the Alameda Creek Trail, which provides a direct connection to the 500-mile San Francisco Bay Trail.

The trail is proposed to be developed in three phases. Each phase would be independent in service and function. The phases are:

- **Phase 1—Vallejo Mill to Palomares Road.** The first phase would complete the connection from Vallejo Mill to Palomares Road. To provide independent utility, the project would create a new crossing of SR-84 parallel to the Farwell Bridge.
- **Phase 2—Palomares Road to Old Highway 84/Union Pacific Railroad (UPRR) Access Road.** The second phase would begin at Palomares Road and end at Old Highway 84/UPRR Access Road on the south side of SR-84.
- **Phase 3—Old Highway 84/UPRR Access Road to Sunol.** The final phase would complete the trail between Niles and Sunol, extending from the UPRR Access Road to the community of Sunol, along the north side of SR 84 through the Brightside Rail Yard.

This EIR analyzes the environmental impacts of all three phases, with Phase 1 evaluated at the project level and Phases 2 and 3 evaluated at a programmatic level. The County of Alameda (County) will utilize the environmental analysis provided in this EIR to inform and support any decision to approve the three trail phases. The County Board of Supervisors may decide not to approve the proposed trail, and it could instead direct County staff to further analyze one of the alternatives considered in this EIR.

The following includes a summary description of the proposed project's regional and local context; a detailed description of the planning process, background, and objectives; and a discussion of the intended uses of the EIR and required project approvals.

The following project description serves as the basis for the environmental analysis contained in Chapter 4.0 of this EIR. The County is both the project proponent and the lead agency for evaluation of the project pursuant to the California Environmental Quality Act (CEQA).

² Class I Bikeways (Bike Paths) are paved rights-of-way completely separated from streets. Bike paths are often located along waterfronts, creeks, railroad rights-of-way, or freeways with a limited number of cross-streets and driveways. These paths are typically shared with pedestrians and often called mixed-use paths.

3.1 PROJECT AREA

The following describes the geographic context of the proposed trail alignment (herein also referred to as the “project site,” “project area,” or “project corridor”) evaluated in this EIR and provides a brief overview of existing land uses within and around the project area. A more detailed description of the local and regional context and environmental setting can be found within each of the topical sections of Chapter 4.0 of this EIR.

3.1.1 Location and Surrounding Uses

The project area consists of an approximately 6-mile trail alignment through Niles Canyon between the Niles District in the city of Fremont and the unincorporated community of Sunol in Alameda County. The project area is defined as the proposed trail alignment, which would be approximately 14 feet wide and extend approximately 6 miles in length. A regional location map and aerial photograph of the project site are included in **Figure 3-1** and **Figure 3-2**, respectively.

The project corridor begins at Niles Plaza, located west of Mission Boulevard in the Niles District within Fremont, and extends along Niles Boulevard, across Alameda Creek on Mission Boulevard, and along the existing Alameda Creek Trail. This portion of the project corridor is located within a developed, urban area. Land uses along the project corridor include primarily commercial and civic uses, with some residential development.

A portion of the project corridor extends along Old Canyon Road into the Mission Clay property, which is privately owned. Land uses along Old Canyon Road are primarily single-family residential. Mission Clay is a former clay pipe manufacturer located at the end of Old Canyon Road. The property is currently owned by BBG KRG Inc. While the San Francisco Public Utilities Commission (SFPUC) owns most of the driveway up the parcel, BBG KRG maintains an access easement. The Mission Clay site is contaminated with hydrocarbons and the Regional Water Quality Control Board (RWQCB) is overseeing soil treatment and remediation under Case 01S0795.

From the Mission Clay property, the project corridor traverses primarily undeveloped, open space land owned by public agencies, including the East Bay Regional Park District (EBRPD) and SFPUC, as well as California Department of Transportation (Caltrans) right-of-way and UPRR right-of-way.

The eastern end of the project corridor, located on the north side of SR-84, runs upslope of the Niles Canyon Railway and on the north side of the Niles Canyon Railway Yard. The Pacific Locomotive Association (PLA) is a nonprofit entity that operates the Niles Canyon Railway as a museum illustrating railroad operations specifically during the period of 1910 to 1960. Trains travel between Niles and Sunol from February to December. PLA operates both historic diesel and steam locomotives along the corridor, typically with four passenger cars at a maximum allowable speed of 30 miles per hour (mph). However, the trains typically operate at about 20 miles per hour (mph). The Niles Canyon Railway Yard provides an area for storage and repair of train equipment and facilities.

From the Niles Canyon Railway Yard, the project corridor continues east through undeveloped property, then along Old Canyon Road and Foothill Boulevard adjacent to residential development to its terminus at the Sunol Station.

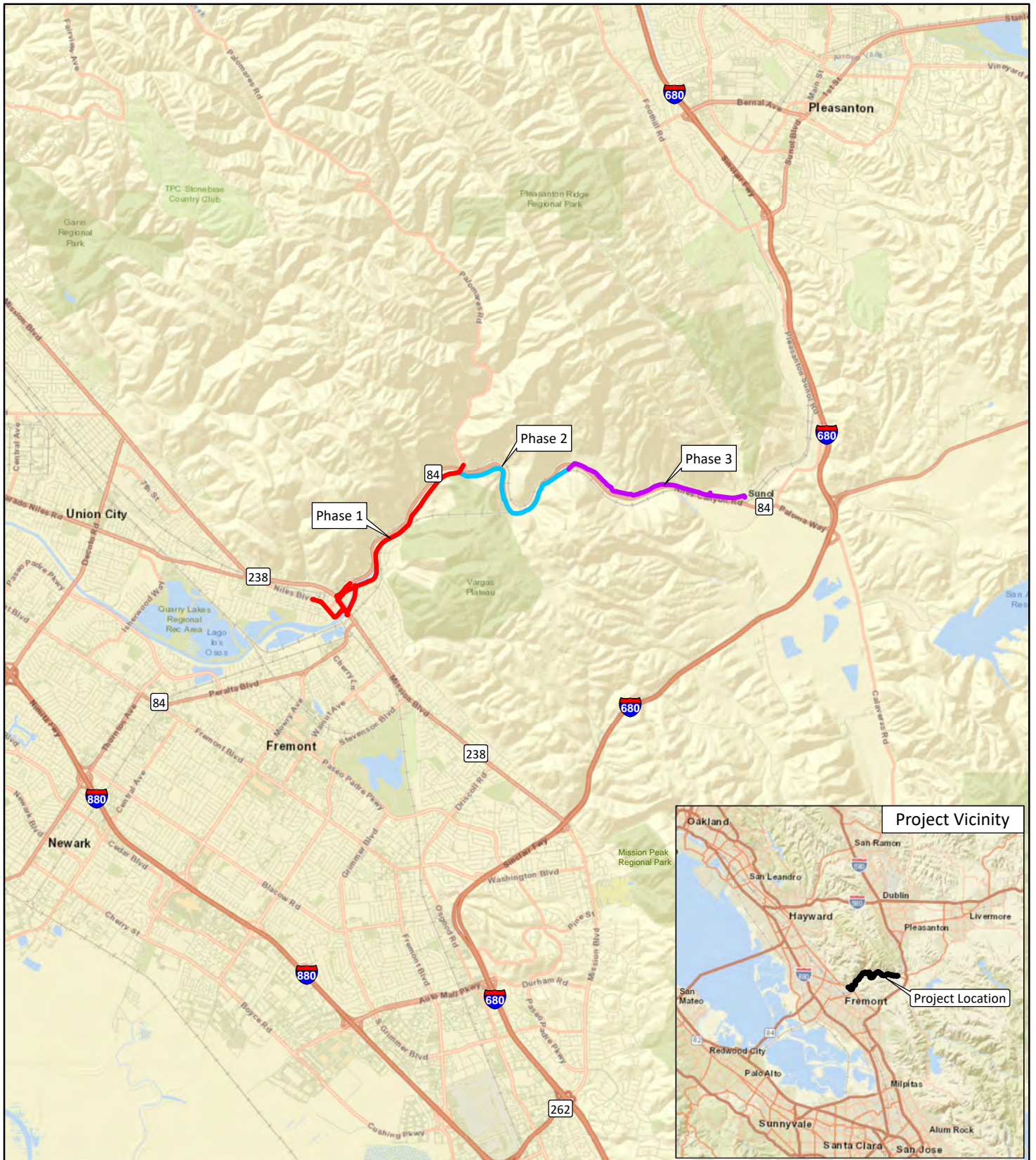


FIGURE 3-1

LSA

LEGEND

- Project Phase
- Phase 1
 - Phase 2
 - Phase 3

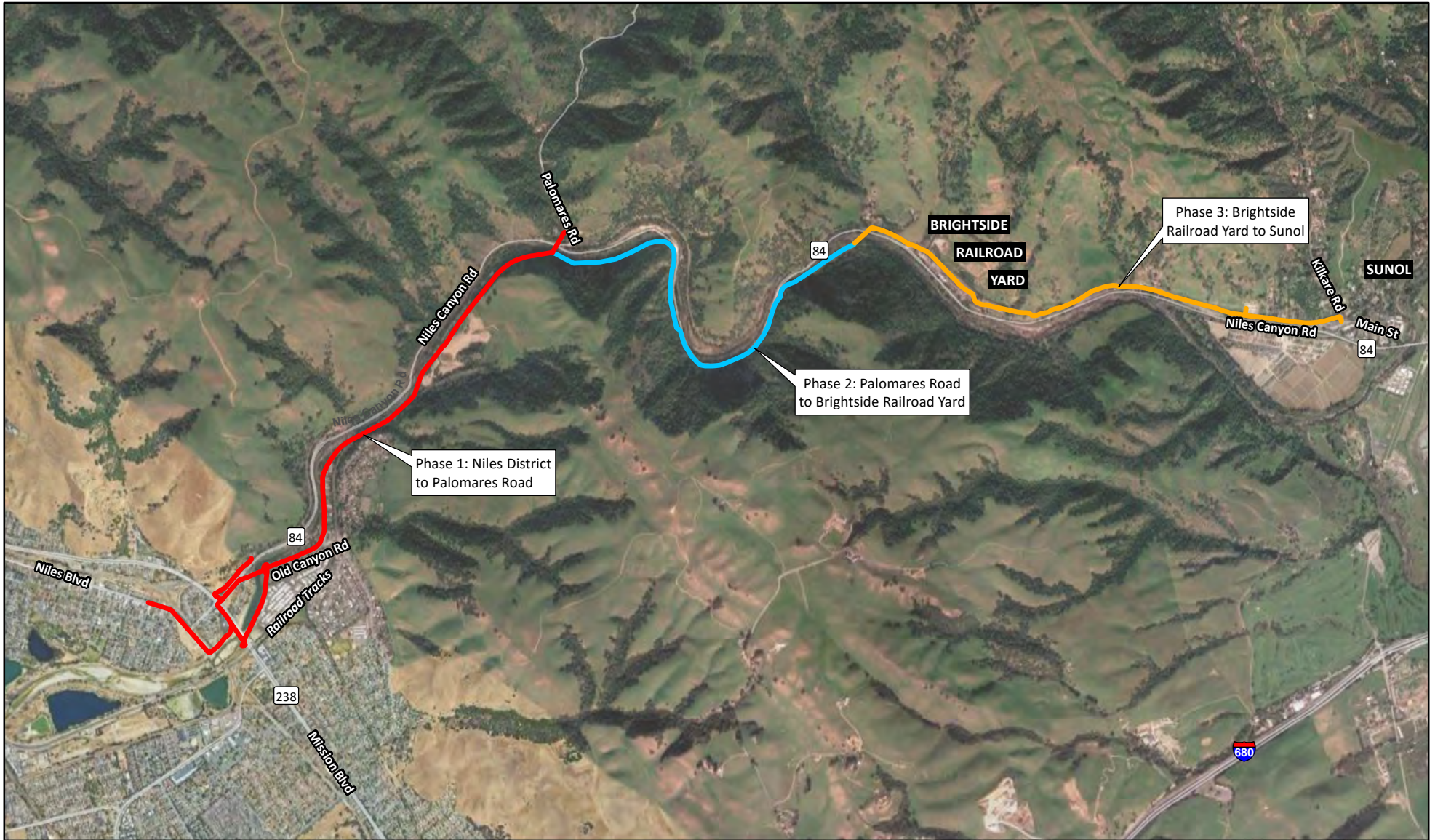


0 4000 8000
FEET

SOURCE: CSW [ST2 (06/2022); Esri World Street Map (2023).

I:\STU2001\GIS\Maps\EIR\Figure 3-1_Regional Location.mxd (10/30/2023)

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LSA

LEGEND

Project Phase

Phase 1

Phase 2

Phase 3

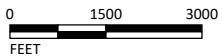


FIGURE 3-2

Niles Canyon Trail Project
 Environmental Impact Report
 Project Corridor

SOURCE: CSW | ST2 (06/2022); Google Maps (2023).

I:\STU2001\GIS\Maps\EIR\Figure 3-2_Project Corridor.mxd (10/30/2023)

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3.1.2 Existing Project Area Characteristics

The following provides an overview of existing conditions within the project area.

3.1.2.1 Built Environment

City of Fremont. As described in Section 3.1.1, the western portion of the project corridor is between the Niles Canyon Trail with the Niles Plaza parking area in Fremont. This portion of the project corridor is characterized by urban development, including commercial storefronts, residential development, roadway infrastructure, sidewalks, parking areas, bridges, and the paved Alameda Creek Trail. This portion of the project corridor runs along both Niles Boulevard and a portion of Mission Boulevard.

SR-84. SR-84 is the primary vehicular route through Niles Canyon, which runs from SR-1 in San Gregorio in Menlo Park through Fremont and Newark, ending at Interstate 580 in Livermore. Within the project area, SR-84 consists of a winding, two-lane highway. It is heavily traveled. The segment of SR-84 within the project area is a designated California Scenic Highway.³

Railroad. Niles Canyon is currently bisected by the UPRR's and Niles Canyon Railway's tracks. The Niles Canyon Railway alignment was originally constructed in 1864 for the Western Pacific Railroad to connect with other lines serving the Livermore and San Joaquin Valleys. After improving the rail line constructed by the Western Pacific Railroad, the Central Pacific Railroad opened the rail line through Niles Canyon in 1869. The Southern Pacific Railroad (SPRR) purchased the rail corridor from the Central Pacific Railroad in 1869 and built two bridges over Alameda Creek, at Farwell and Dresser. These bridges remain today and are located within the project area. SPRR operated the line until 1984, when it ceased operation in the canyon, removed the tracks, and dedicated the land to Alameda County. In 1987, the PLA leased the property from the County and began reconstructing the tracks to operate the Niles Canyon Railway as a railroad history museum.

In 1909, the Western Pacific Railroad began construction of a line parallel to the Niles Canyon Railway alignment on the south side of Niles Canyon, which required construction of two tunnels approximately 1 mile in length. In 1984, UPRR bought the line, which it currently uses for freight traffic. It also leases capacity to the Altamont Commuter Express, which provides passenger service between the Central Valley and South Bay.

Sunol Aqueduct. In the early 1870s, the Spring Valley Water Company recognized that its Peninsula water supply was inadequate to serve growing potable water demand of San Francisco and began buying water rights in Sunol and Niles Valleys. The company constructed a concrete aqueduct through Niles Canyon commencing near the Sunol Water Temple and ending at a reservoir near the western end of Niles Canyon. The San Francisco Water Department took possession of the aqueduct in the early 1920s and operated it until 1995. Although portions of the Sunol Aqueduct have been

³ California, State of. 2019. Department of Transportation, California State Scenic Highway System Map. Website: caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983 (accessed May 6, 2021).

removed, much of it remains. Much of the central portion of the project corridor follows the alignment of the Sunol Aqueduct.

3.1.2.2 Topography

Topography within the project corridor ranges from relatively flat within the urban lands of Fremont and along existing roadways to very steep within the undeveloped lands along Alameda Creek.

3.1.2.3 Geology

Niles Canyon is characterized by steep canyon walls that rise approximately 800 to 1,300 feet on both sides of Alameda Creek. Site soils at the canyon's base consist primarily of clay, silt, sand, and gravel, known as native alluvium, deposited by Alameda Creek. The canyon's walls are composed of sedimentary rock formations.

3.1.2.4 Biological Resources

Land cover types found within the project corridor include mixed evergreen forest/oak woodland, mixed riparian forest/woodland, sycamore alluvial woodland, and scattered stands of northern coastal scrub/Diablan sage scrub. Mixed evergreen forest/oak woodland is found along much of the proposed trail alignment and is dominated by coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*). Mixed riparian forest/woodland occurs primarily within the floodplain of Alameda Creek. Along the eastern end of the proposed alignment, the land cover type consists of sycamore alluvial woodland, which is dominated by an overstory of large western sycamore (*Platanus racemosa*). Northern coastal scrub/Diablan sage scrub occurs in scattered locations along the project corridor, principally along the railroad right-of-way.

The majority of the project corridor runs along Alameda Creek, which flows from east to west and eventually drains to the San Francisco Bay. Alameda Creek is one of the most important creeks in the area, as it contributes to the potable water supply supplied by the Alameda County Water District (ACWD) and drains most of the southern portion of the Alameda Creek Watershed, the largest watershed in the Bay Area. The project area also includes several tributaries to Alameda Creek, which support riparian habitat.

3.1.2.5 Property Ownership

The majority of the project corridor is located within public right-of-way (e.g., City of Fremont, Caltrans) or on lands owned by public agencies, including EBRPD, the County of Alameda, and the SFPUC. Some private properties would be traversed for implementation of Phase 3, as described further in Sections 3.4.3 and 3.4.4, below.

3.1.2.6 Regulatory Framework

The project corridor is located within the city of Fremont and unincorporated Alameda County, with a small portion at the Palomares Road Bridge in the city of Union City.

Within Fremont, properties along the project corridor are designated in the City of Fremont General Plan⁴ as Commercial – Town Center, Commercial – Regional, Open Space – Resource Conservation/Public, Residential – Low, Residential – Hillside Residential, Open Space – Hill Face, and Open Space – Hill. The East County Area Plan designates lands along the trail alignment as Water Management, Parklands, Large Parcel Agriculture, Rural Density Residential, and Industrial.

The project corridor is identified in several other planning documents promoting the development of facilities to support nonmotorized uses on the Niles Canyon Trail, as follows:

- The East Bay Regional Park District’s 2013 Master Plan⁵ identifies Trail Segment 8A as a linkage from Niles to Sunol.
- The 2020 Alameda County Transportation Commission’s Countywide Transportation Plan⁶ identifies a Class I facility linking the Fremont District of Niles and the City of Pleasanton through Niles Canyon.
- The 2019 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Alameda County⁷ identifies a Class I facility linking the Fremont District of Niles and the City of Pleasanton through Niles Canyon.
- The City of Fremont’s 2018 Bike Plan⁸ identifies a Class I trail along SR-84.

3.2 PROJECT BACKGROUND

Planning for a trail through Niles Canyon originated in the 1970s and became popular in the 1990s. EBRPD defined the goal of establishing a trail through Niles Canyon, known as Segment 8A, in its 2013 Master Plan.⁹ EBRPD, working in collaboration with its project partners, including the County, the Alameda County Water District (ACWD), and SFPUC, embarked on a Feasibility Study to evaluate options to improve access within Niles Canyon.

⁴ City of Fremont, 2011. 2030 General Plan. Website: <https://www.fremont.gov/government/departments/community-development/planning-building-permit-services/plans-maps-guidelines/general-plan> (accessed May 31, 2023).

⁵ East Bay Regional Park District (EBRPD). 2013. East Bay Regional Park District Master Plan 2013. Website: https://www.ebparcs.org/sites/default/files/master_plan_2013_final.pdf (accessed September 2023).

⁶ Alameda County Transportation Commission. 2020. *Alameda Countywide Transportation Plan 2020*. Website: https://www.alamedactc.org/wp-content/uploads/2021/02/2020_CTP_Final.pdf (accessed September 2023).

⁷ Alameda County Public Works Agency. 2019. *Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Alameda County*. October. Website: <https://www.acpwa.org/programs-services/transportation/bike.page?> (accessed September 2023).

⁸ City of Fremont. 2018. *City of Fremont 2018 Bicycle Master Plan*. Website: <https://www.fremont.gov/government/departments/transportation-engineering/walking-bicycling/bicycle-master-plan> (accessed September 2023).

⁹ East Bay Regional Park District (EBRPD). 2013. op. cit.

The 2015 study¹⁰ entitled, “Expanding Regional Trail Connectivity Trail Options in Niles Canyon” evaluated several alternatives to develop a Class I trail to connect Niles and Sunol. Stakeholders and the community evaluated the options and selected a preferred trail alignment. The County Department of Public Works further refined the analysis in the *Expanding Regional Trail Connectivity in Niles Canyon Project Study Report*, dated April 2017.¹¹

In December 2020, the County, with its design team, prepared the Niles Canyon Trail Preliminary Engineering Report (Preliminary Engineering Report),¹² which provides an update to the design effort, as well as preliminary plans that refine the trail’s alignment. The proposed project, as defined herein, is based on the preliminary plans as refined in the Preliminary Engineering Report.

3.3 PROJECT OBJECTIVES

Niles Canyon is currently bisected by three developed pathways, including the UPRR and Niles Canyon Railway tracks and SR-84. No sidewalks or pathways are currently available for pedestrians and bicyclists traveling between the communities of Niles and Sunol. Nonmotorized travelers must use the narrow shoulder of SR-84. These deficiencies create safety concerns for users seeking active transportation options through Niles Canyon. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians and bicyclists through Niles Canyon in order to achieve the following objectives:

1. Establish a safe and functional Class I trail to provide recreation and multimodal transportation opportunities for pedestrians, bicyclists, and equestrians;
2. Provide a connection to Palomares Road that allows off-SR-84 travel for pedestrians and bicyclists;
3. Minimize impacts to environmental resources;
4. Enhance or maintain stakeholder access to infrastructure;
5. Develop a proposed trail alignment with a realistic cost that can be implemented in a reasonable timeframe; and
6. Serve nonmotorized commuters and remain open 24 hours each day.

3.4 PROPOSED PROJECT

The proposed project would construct a 6-mile, Class I, multi-use trail between the Niles District in Fremont and the unincorporated community of Sunol through Niles Canyon in Alameda County. The multi-use trail would be open to hikers, bicyclists, and equestrians. The proposed trail would consist of a 10-foot-wide, all-weather surface with 2-foot shoulders on either side composed of decomposed

¹⁰ East Bay Regional Park District (EBRPD). 2015. *Expanding Regional Trail Connectivity Trail Options in Niles Canyon Feasibility Study*. December.

¹¹ BKF Engineers. 2017. *Expanding Regional Trail Connectivity in Niles Canyon Project Study Report*. April.

¹² CSW|ST2 and Alameda County. 2020. *Niles Canyon Trail Preliminary Engineering Report*. December.

granite or aggregate. The trail surface would likely consist of 4 inches of asphalt concrete atop 6 inches of Class II aggregate base. The trail would meet accessibility guidelines, meaning that the grade in the direction of travel would be less than 5 percent and the cross-slope would be no more than 2 percent. Stormwater runoff would be directed to the trail shoulders. No lighting is proposed. **Figure 3-3** provides a high-level profile and plan view of the proposed trail.

The trail design would incorporate several different barrier options to separate trail users from railroad and highway traffic. These barriers would be designed to accommodate wildlife passage. In addition, retaining walls would need to be installed in some locations to accommodate slope cuts. These walls would be sculpted concrete with soil nail tiebacks. Typical trail cross-sections are provided in **Figure 3-4**.

The trail would feature marker posts at frequent intervals along the route. These marker posts could be used by trail users in need of emergency services to provide a reference for fire, police, or other personnel. Emergency personnel would receive training related to the marker system, including the best way to access people requiring assistance.

As described above, the proposed trail would be implemented in three phases. The three phases and the specific trail elements proposed in each phase are described further below and shown on **Figure 3-5**.

3.4.1 Phase 1 – Niles District to Palomares Road

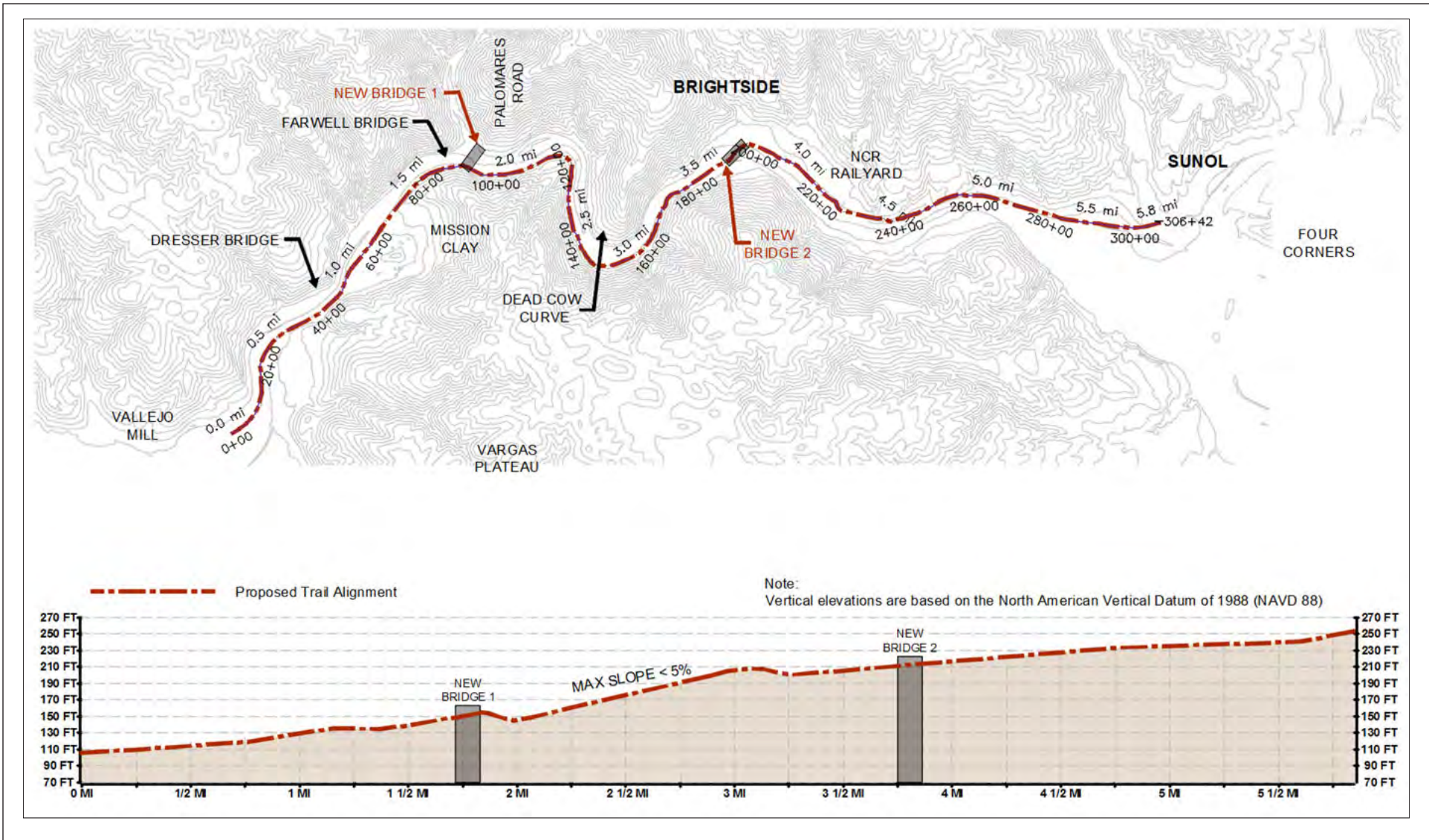
The first phase would complete the connection from the Niles District to Palomares Road. To provide independent utility, the project would create a new crossing of SR-84 parallel to the Farwell Bridge. Trail connections would be constructed from the Niles Plaza parking area and to the Vallejo Mill Historic Park to provide additional trail parking.

3.4.1.1 Extension to Downtown Niles

The western end of the proposed trail corridor would begin at the Niles Plaza parking area, located west of Mission Boulevard in Fremont. The Niles Plaza parking area currently provides parking for the Niles Town Plaza, the commercial center for the Niles District. The parking area provides up to 80 parking stalls, which could be used by pedestrians and bicyclists accessing the proposed trail.

From Niles Plaza, the trail would extend along Niles Boulevard to the existing Alameda Creek Trail. Niles Boulevard is about 40 feet wide from curb to curb and contains two vehicle travel lanes. Near the Plaza, the west and east sides of Niles Boulevard have angular and parallel parking, respectively. The street is low volume and speed and could potentially accommodate a bike and vehicle shared use, but the angular parking creates challenges. As part of the proposed project, some of the parking along Niles Boulevard would be eliminated and the roadway re-striped to accommodate the trail linkage from the parking area to Alameda Creek. In addition, sidewalk gaps would be closed to provide continuous pedestrian access along Niles Boulevard.

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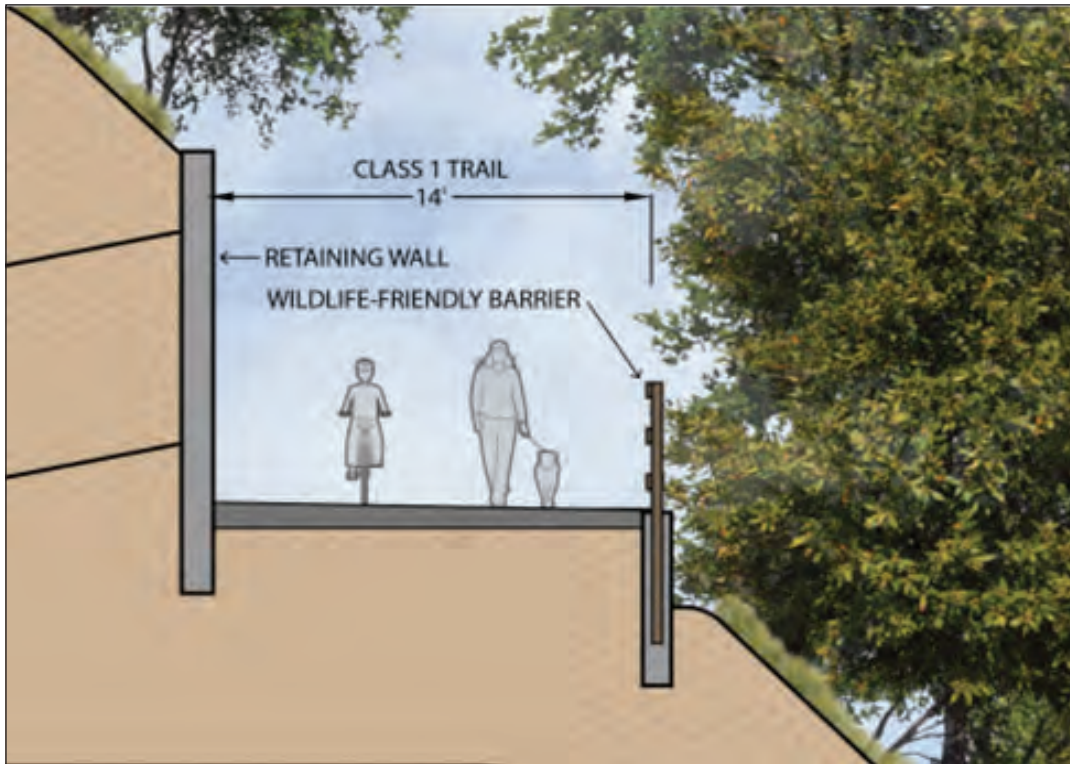
FIGURE 3-3

NOT TO SCALE

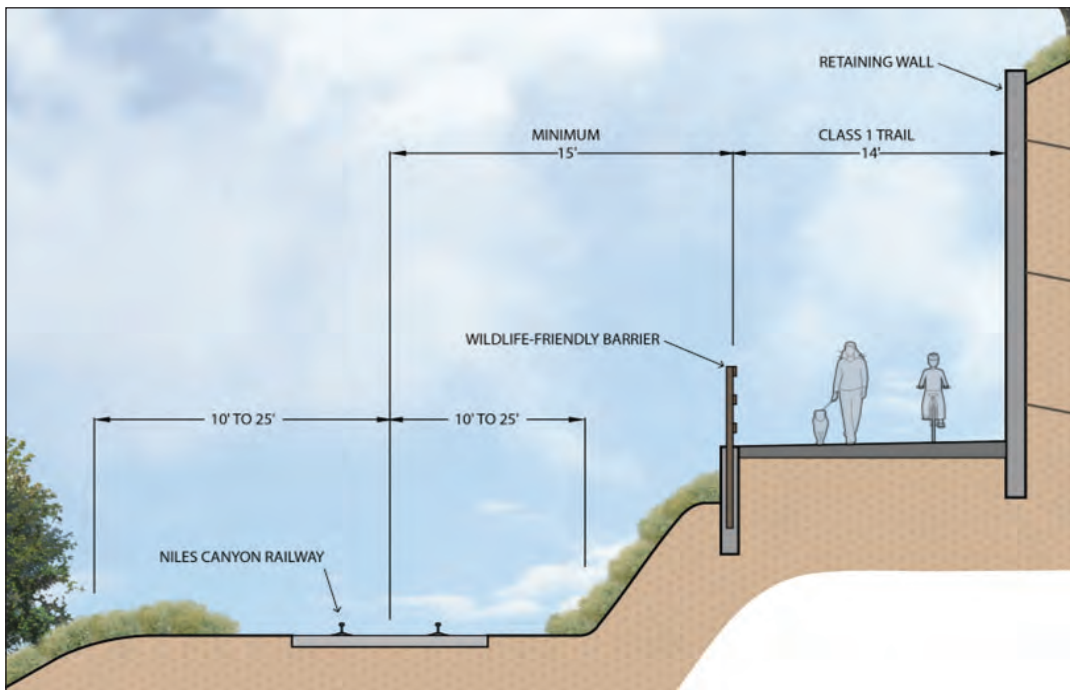
SOURCE: CSW, 2020

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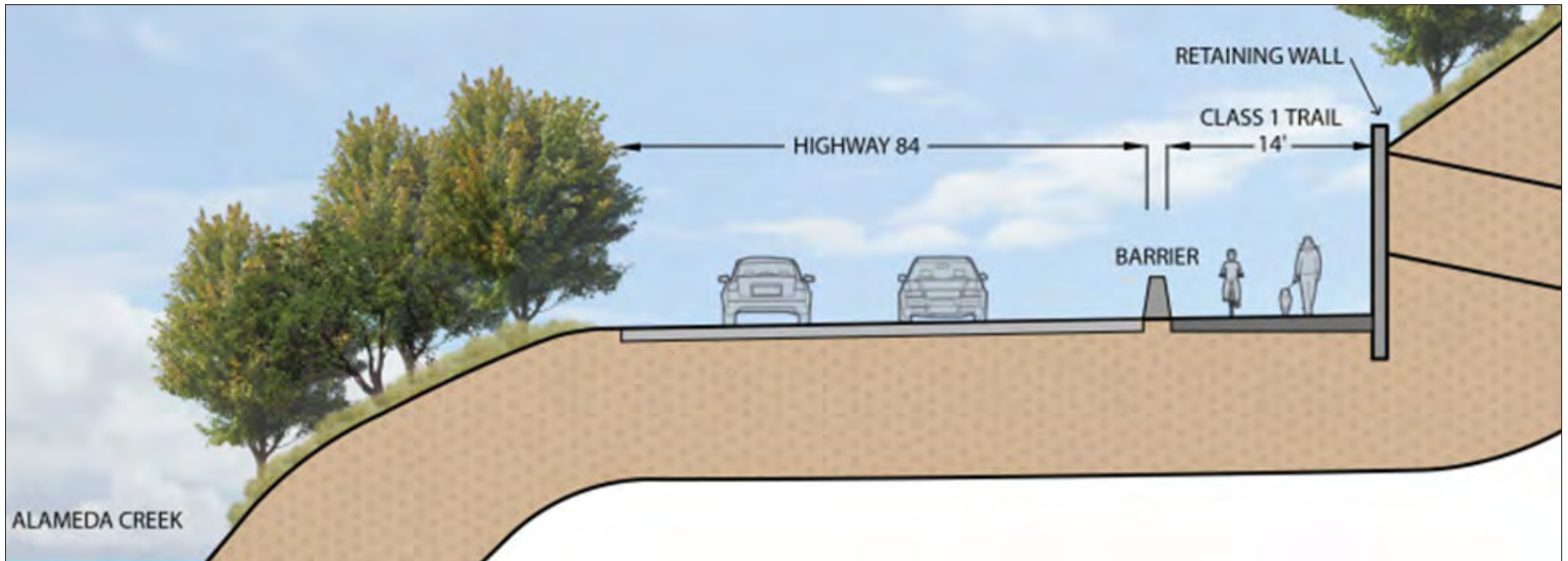


Typical trail section with steep topography



Typical trail section adjacent to railroad

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Typical trail section adjacent to State Route 84

LSA

FIGURE 3-4b

NOT TO SCALE

SOURCE: CSW, 2020

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*Niles Canyon Trail Project
Environmental Impact Report
Typical Trail Sections*

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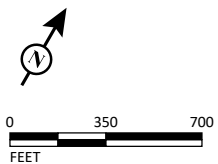


FIGURE 3-5a

LSA

LEGEND

- Trail Phase 1
- Extension to Downtown Niles
- Extension to Vallejo Mill Historical Park
- Trail Phase 2
- Trail Phase 3
- Bridge
- Union Pacific Railroad (UPRR)
- Niles Canyon Railroad (NCR)
- Alameda Creek



SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).

I:\STU2001\GIS\Maps\EIR\Figure 3-5_Proposed Trail Segments and Alt Alignments.mxd (11/7/2023)

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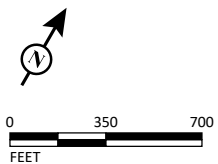


FIGURE 3-5b

LSA

LEGEND

- Trail Phase 1
- Extension to Downtown Niles
- Extension to Vallejo Mill Historical Park
- Trail Phase 2
- Trail Phase 3
- Bridge
- Union Pacific Railroad (UPRR)
- Niles Canyon Railroad (NCR)
- Alameda Creek



SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).

I:\STU2001\GIS\Maps\EIR\Figure 3-5_Proposed Trail Segments and Alt Alignments.mxd (11/7/2023)

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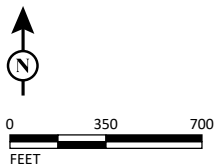


FIGURE 3-5c

LSA

LEGEND

- ▬▬▬ Trail Phase 1
- ▬▬▬ Extension to Downtown Niles
- ▬▬▬ Extension to Vallejo Mill Historical Park
- ▬▬▬ Trail Phase 2
- ▬▬▬ Trail Phase 3
- Bridge
- Union Pacific Railroad (UPRR)
- Niles Canyon Railroad (NCR)
- Alameda Creek



SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).

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See Figure 3-5e

See Figure 3-5c

LSA

LEGEND

- ▬▬▬ Trail Phase 1
- ▬▬▬ Extension to Downtown Niles
- ▬▬▬ Extension to Vallejo Mill Historical Park
- ▬▬▬ Trail Phase 2
- ▬▬▬ Trail Phase 3
- ▬▬▬ Bridge
- Union Pacific Railroad (UPRR)
- Niles Canyon Railroad (NCR)
- Alameda Creek

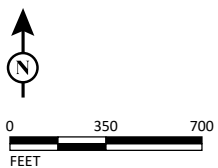
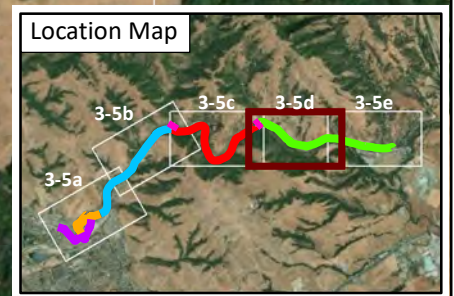


FIGURE 3-5d



SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).

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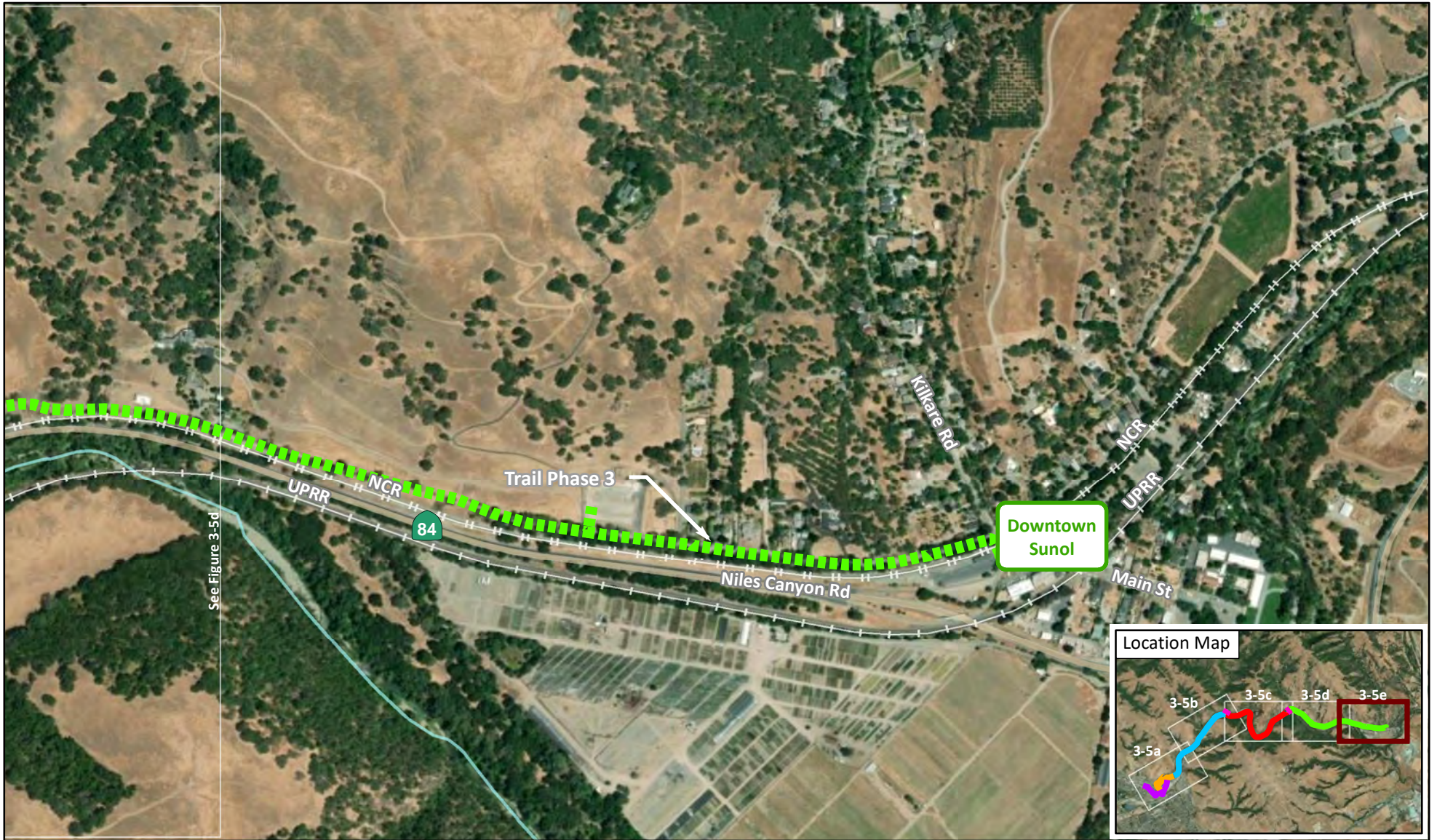
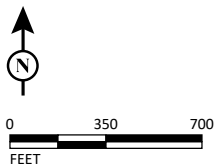


FIGURE 3-5e

LSA

LEGEND

- Trail Phase 1
- Extension to Downtown Niles
- Extension to Vallejo Mill Historical Park
- Trail Phase 2
- Trail Phase 3
- Bridge
- Union Pacific Railroad (UPRR)
- Niles Canyon Railroad (NCR)
- Alameda Creek



SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).
 I:\STU2001\GIS\Maps\EIR\Figure 3-5_Proposed Trail Segments and Alt Alignments.mxd (11/7/2023)

Niles Canyon Trail Project
 Environmental Impact Report
 Proposed Trail Segments

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At Alameda Creek, the project proposes to pave the existing service road on the north side of Alameda Creek to Mission Boulevard. The trail would then turn south, cross over Alameda Creek along Mission Boulevard, and connect to the existing Alameda Creek Trail. The proposed trail would then use the Alameda Creek Trail, running along the south side of Alameda Creek to access the Niles Canyon Trail. The proposed extension to Downtown Niles is shown in **Figure 3-5a**.

3.4.1.2 Extension to Vallejo Mill Historic Park

As parking in downtown Niles can be congested on weekends, the project proposes to use the Vallejo Mill parking area located north of SR-84 and east of Mission Boulevard. The project would enhance parking at this location, providing up to 30 stalls within the existing parking area. To connect trail users to the Niles Canyon Trail, the project would install a sidewalk along SR-84 to Mission Boulevard. Along Mission Boulevard, trail users would use the sidewalk to access the existing Alameda Creek Trail, as shown in **Figure 3-5a**.

3.4.1.3 Mission Clay Segment

The west section of the proposed trail would begin at the end of Old Canyon Road, where SFPUC has a gate and maintains a service road that leads to the Mission Clay property. The existing driveway is constrained by steep slopes on either side with Alameda Creek to the north and the UPRR to the south. The existing level area between the creek and the UPRR ranges from approximately 14 to 28 feet. The project proposes to construct a 14-foot-wide Class I trail with future provision for widening the trail as a shared slow street to accommodate future residential development. As part of trail construction, the roadway would be re-surfaced and retaining walls would be installed. Proposed retaining walls along this portion of the trail alignment would be less than 48 inches. This trail segment is shown in blue on **Figures 3-5a** and **3-5b**.

3.4.1.4 Palomares Road Connection (New Bridge 1)

Palomares Road, which links SR-84 and Dublin Canyon Road, is a popular route for bicyclists. However, at the intersection of Palomares Road and SR-84, there is less than 100 feet of sight distance of vehicles traveling in the SR-84 westbound direction, making it difficult for bicyclists leaving Palomares Road to turn left or right onto SR-84. Due to sight distance challenges, two accidents have occurred over the last decade at this intersection.

A pedestrian bridge is proposed to provide a link between Palomares Road and the proposed trail and provide an off-highway alternative route to the Niles District, as shown on **Figure 3-5b**. The proposed bridge would cross straight over the Niles Canyon Railway, Alameda Creek, SR-84, Palomares Road, and the existing Farwell Bridge. Truss and cabled-stay bridge types would be used for the proposed bridge crossing. Two bridge options are currently considered and therefore both are evaluated in this EIR:

- **Palomares Bridge – Option 1.** Figure 3-6 illustrates Palomares Bridge Option 1, which would use fill on the northern abutment to create a bridge span of 300 feet.
- **Palomares Bridge – Option 2.** Figure 3-7 illustrates Palomares Bridge Option 2, which would not use fill, requiring a bridge span of 500 feet.

3.4.1.5 Staging Area Parking

It is anticipated that the Niles Canyon Trail would likely attract visitors who would travel by car. Therefore, the project would include staging areas with sufficient parking to accommodate visitor vehicles and limit parking and congestion within surrounding neighborhoods. Staging areas would be provided at both Niles and Sunol, as well as Palomares Road. In addition, existing staging areas associated with the Alameda Creek Trail could support the need for parking. The following staging areas/improvements are proposed to provide parking for the trail:

- The Niles Staging Area for the Alameda Creek Regional Trail has 15 existing stalls. As part of the proposed project, the Niles Staging Area would be improved to provide up to 30 additional stalls, for a total of 45 available parking stalls.
- The Niles Plaza parking area in downtown Niles would provide 80 parking stalls. An extension of the Niles Canyon Trail to connect to the Niles Plaza parking area would be provided as discussed in Section 3.4.1.1.
- At the Palomares Road connection, up to 13 parking stalls would be provided.
- As described further in Section 3.4.3, below, EBRPD recently constructed a staging area to serve Tyler Ranch in Sunol. This proposed parking area provides up to 70 stalls.

The existing parking area at Vallejo Mill would provide up to 30 parking stalls with the future opportunity for expansion. An extension of the Niles Canyon Trail to connect to the Vallejo Mill parking area would be provided as discussed in Section 3.4.1.5.

3.4.2 Phase 2 – Palomares Road to Old Highway 84/UPRR Access Road

The second phase of the proposed trail would begin at Palomares Road and end at Old Highway 84/UPRR Access Road, where a second crossing of SR-84 is proposed. As described above, proposed alignments for Phase 2 and Phase 3 are more conceptual and still being refined in coordination with the key stakeholders and the public. Therefore, these phases are analyzed at a programmatic level in this EIR.

Design Aspects:

- Visual Adverse Effect to Historic Farwell Bridge
- Railroad requirements
 - 23'-4" vertical clearance above Niles Canyon railroad and 27'-0" above Farwell Bridge
 - 25'-0" horizontal clearance to the centerline of Niles Canyon Railroad
- Highway requirements
 - 18'-6" vertical clearance above SR-84
- Alameda Creek requirements
 - Locate bents outside of Alameda Creek 100 year flood zone
- Profile gradients beyond the bridge
- Line of sight requirements
 - Safety of pedestrians, bicycles, and equestrians on multi-use trail
- Construction Cost

Alternative Considerations:

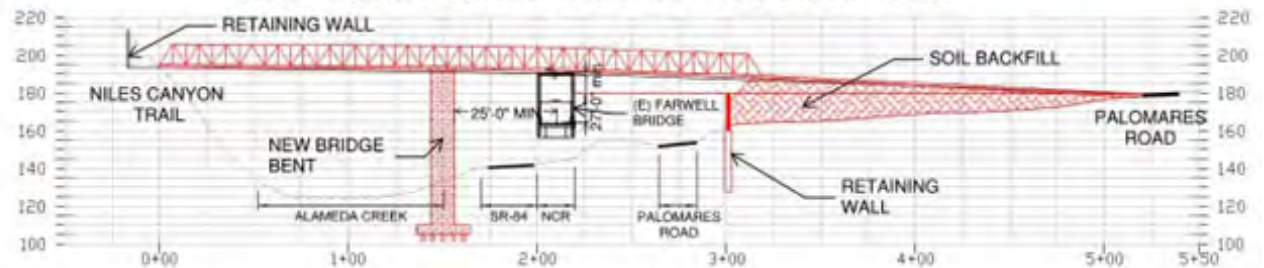
- Opportunity to construct potential vista platforms on the bridge with views of the Alameda Creek
- Avoid visual impact to the near by Historic Bridge
- Reduced Bridge Length --> potential cost saving
- Consider straight alignment for pedestrian safety
- Minimize impact on railroad and highway traffic
- Consider structure type to compliment existing environment
- Consider trail alignment and profile at each end. Will require retaining walls on the south side



PALOMARES CONNECTION



NEW PEDESTRIAN BRIDGE POSIBILITIES



BRIDGE PROFILE

LSA

FIGURE 3-6

NOT TO SCALE

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Design Aspects:

- Visual Adverse Effect to Historic Farwell Bridge
- Railroad requirements
 - 23'-4" vertical clearance above Niles Canyon railroad
 - 25'-0" horizontal clearance to the centerline of Niles Canyon Railroad
- Highway requirements
 - 18'-6" vertical clearance above SR-84
- Alameda Creek requirements
 - Locate bents outside of Alameda Creek 100 year flood zone
- Profile gradients beyond the bridge
- Line of sight requirements
 - Safety of pedestrians, bicycles, and equestrians on multi-use trail
- Construction Cost

Alternative Considerations:

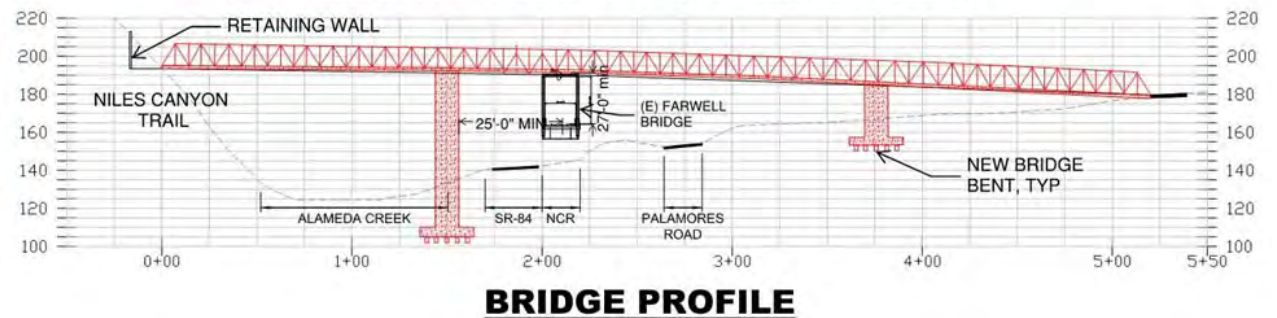
- Opportunity to construct potential vista platforms on the bridge with views of the Alameda Creek
- Avoid visual impact to the near by Historic Bridge
- Reduced Bridge Length --> potential cost saving
- Consider straight alignment for pedestrian safety
- Minimize impact on railroad and highway traffic
- Consider structure type to compliment existing environment
- Consider trail alignment and profile at each end. Will require retaining walls on the south side



PALOMARES CONNECTION



NEW PEDESTRIAN BRIDGE POSSIBILITIES



BRIDGE PROFILE



FIGURE 3-7

NOT TO SCALE

SOURCE: CSW, 2020

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3.4.2.1 EBRPD and SFPUC Property/Sunol Aqueduct

From the Mission Clay property, the proposed trail would extend east onto EBRPD property, following Alameda Creek and SR-84. It would then continue east onto SFPUC property, as shown on **Figure 3-5b**. This segment of the proposed trail would follow the alignment of the existing Sunol Aqueduct. Because of the age and unknown structural capacity of the existing aqueduct, the project proposed to demolish the existing aqueduct and replace it with the proposed trail, as most of the aqueduct alignment is on a relatively shallow grade.

As described above, the Sunol Aqueduct was originally constructed in the early 1870s and is eligible for registration in the National Register of Historic Places. However, sections of it have already been removed, particularly on the Mission Clay property. As part of the proposed project, portions of the Sunol Aqueduct would be preserved and interpretive signage would be installed to commemorate the history of water infrastructure in Niles Canyon.

3.4.2.2 SR-84 to Old Highway 84/UPRR Access Road

The Sunol Aqueduct gradually merges and is level with the elevation of SR-84 at Dead Cow curve. At this point, the proposed trail would follow SR-84 within the roadway right-of-way. The project would need to install a barrier, grade the existing slope, and add a retaining wall to provide the width necessary for the Class I trail alignment.

Just to the east of Dead Cow curve, the trail would use a remnant of the Old Highway 84, which is currently an access road used by UPRR. This roadway is in relatively good condition, requiring only maintenance for reuse as a trail. This portion of the proposed trail alignment is shown on **Figure 3-5c**.

3.4.3 Phase 3 – Old Highway 84/UPRR Access Road to Sunol

The final phase would complete the trail to Sunol, as shown in **Figures 3-5c** and **3-5d**.

3.4.3.1 New Bridge 2

From the UPRR access road, a pedestrian bridge is proposed to cross over Alameda Creek, SR-84, and the Niles Canyon Railway (New Bridge 2). The project would locate the bridge near the remnants of the old highway bridge crossing. The proposed bridge would be a multi-span structure approximately 800 feet in length. Given its length, the bridge would require multiple piers as well as extensive grading at the southerly abutment to create sufficient elevation to cross SR-84.

3.4.3.2 Old Highway 84/UPRR Access Road to Sunol

Once on the north side of Niles Canyon, the trail would run upslope of the Niles Canyon Railway. This alignment would require the construction of walls to maintain vertical separation for the tracks. Proposed retaining walls along this portion of the trail alignment would range in height from 2 to 16 feet. As the trail enters Brightside, it would be located on the north side of Niles Canyon Railway's maintenance facility. The location of the trail requires coordination with the PLA, the nonprofit organization that operates the Niles Canyon Railway, to ensure the security of its equipment.

From the Brightside Railroad Yard, the trail would continue east along the north side of SR-84 through lands owned by the County as well as by private landowners. Retaining walls approximately 2 to 16 feet high would be required along this segment of the proposed trail. The trail would then run along Foothill Road to the Tyler Ranch Staging Area, which has been developed by EBRPD.

The Tyler Ranch Staging Area includes 66 parking spaces, 4 Americans with Disabilities Act (ADA) spaces, and 3 horse trailer/bus parking spaces. Restrooms and other improvements, such as a drinking fountain, a bike rack, informational signage, security lighting, and a small family picnic area, are also provided. From the staging area, visitors can access future trails within EBRPD's Robertson property. Construction of the staging area began in September 2021 and the staging area was recently opened to the public.¹³

From the Tyler Ranch Staging Area, the proposed trail would continue along Foothill Road to its terminus at Kilcare Road in downtown Sunol. The segment of trail along Foothill Road could be a Class I facility; a multipurpose trail serving pedestrians, bicyclist, and equestrians that does not meet the Class I standard but minimizes tree removal; a Class III bike route; or any combination of the previously mentioned options. **Figure 3.8** illustrates a cross section of the options.

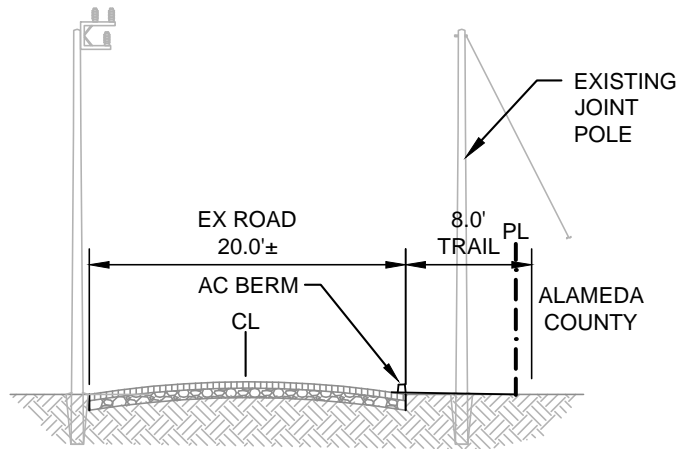
3.4.4 Right-of-Way

The western portion of the proposed trail alignment is located within the city of Fremont, while the eastern portion is within unincorporated Alameda County. A portion of the segment containing the Palomares Road Bridge is within Union City. The proposed trail would cross several parcels that are owned by public agencies, including EBRPD and SFPUC. For Phases 1 and 2, the trail would not encroach onto private property. However, Phase 3 would require an easement from private property owners to accommodate the proposed trail. Encroachment permits would be required from Caltrans for all three phases and from UPRR for Phase 2. Property ownership along the project corridor is shown on **Figure 3-9**.

3.4.5 Grading and Construction

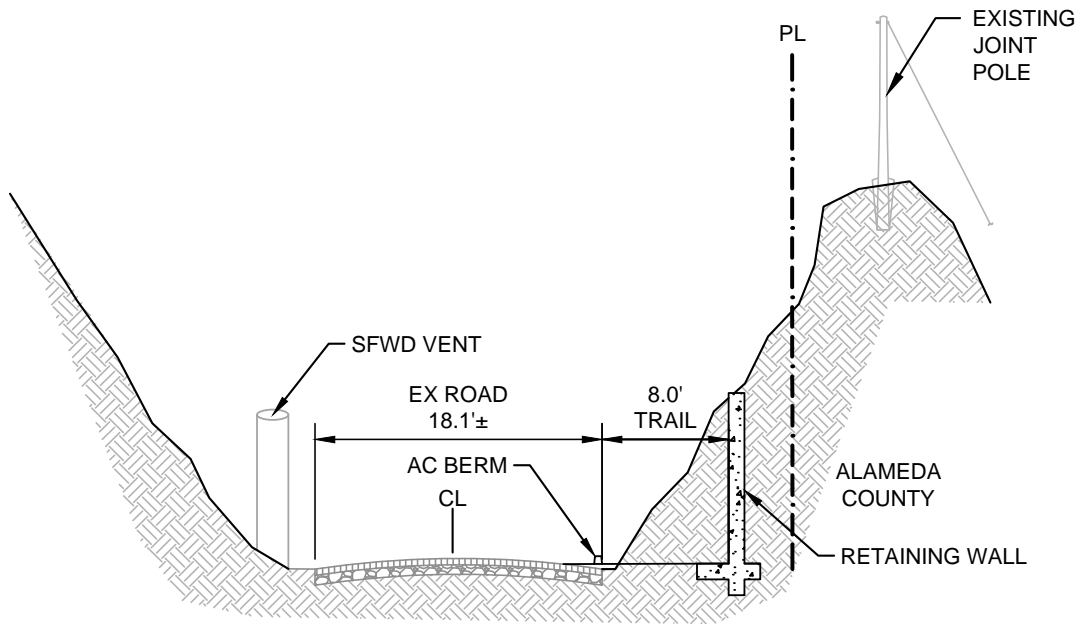
As described above, the trail is proposed to be developed in three phases. Phase 1 is anticipated to begin in 2025, with completion in 2027. Phases 2 and 3 would be developed as funding becomes available (however, likely no sooner than 2030).

¹³ East Bay Regional Parks District (EBPRD). 2023. Tyler Ranch Staging Area and Trails at Pleasanton Ridge Regional Park website: <https://www.ebparks.org/projects/tyler-ranch-staging-area-and-trails-pleasanton-ridge-regional-park> (accessed October 25, 2023).



FOOTHILL ROAD

TYPICAL SECTION 1
8' WIDE SEPARATED TRAIL
NOT TO SCALE



FOOTHILL ROAD

TYPICAL SECTION 2
8' WIDE SEPARATED TRAIL
NOT TO SCALE

LSA

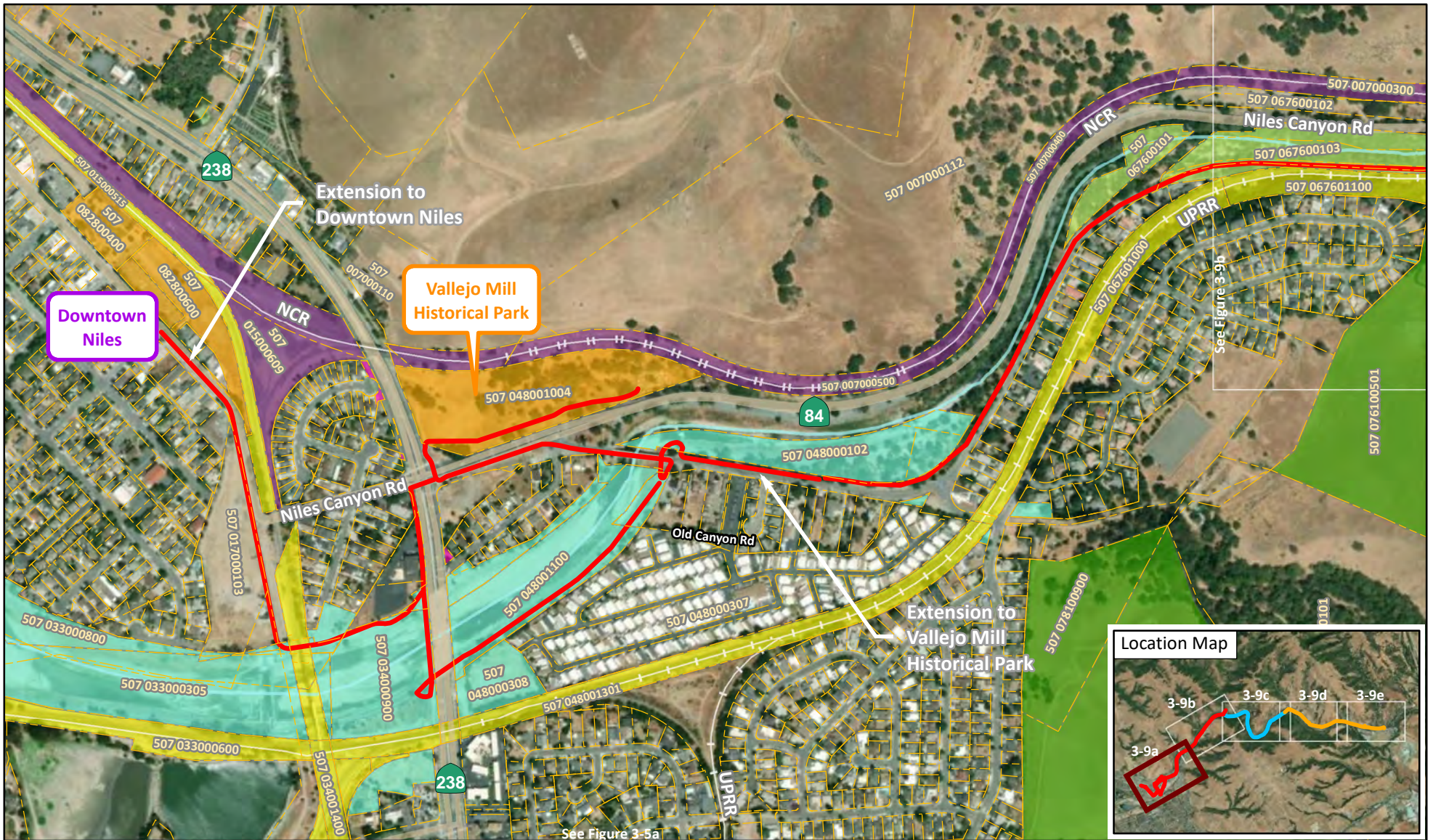
FIGURE 3-8



NOT TO SCALE

Foothill Road Trail Cross Sections
Site Plan

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LSA

LEGEND

- Phase 1
- Phase 2
- Phase 3
- Property Line

Parcel Ownership

- | | |
|---|--|
| Alameda County Water District | San Francisco Watershed Lands |
| City of Fremont | State of California |
| County of Alameda | Union Pacific Railroad |
| East Bay Regional Park District | |

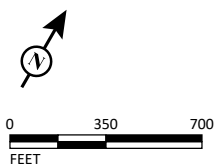


FIGURE 3-9a

Niles Canyon Trail Project
 Environmental Impact Report
 Parcel Ownership

SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).

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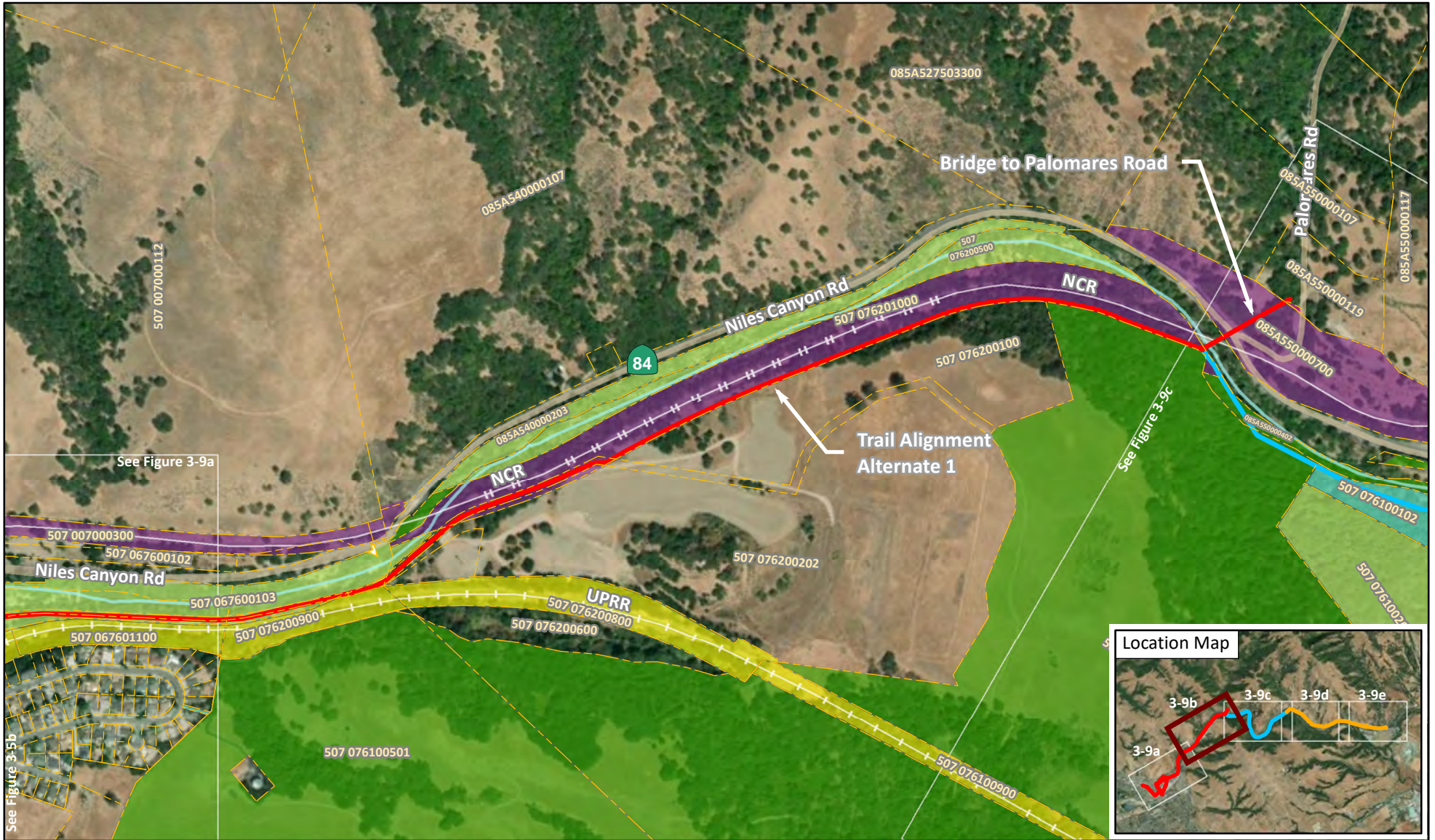


FIGURE 3-9b

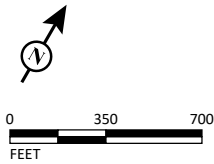
LSA

LEGEND

- Phase 1
- Phase 2
- Phase 3
- - - Property Line

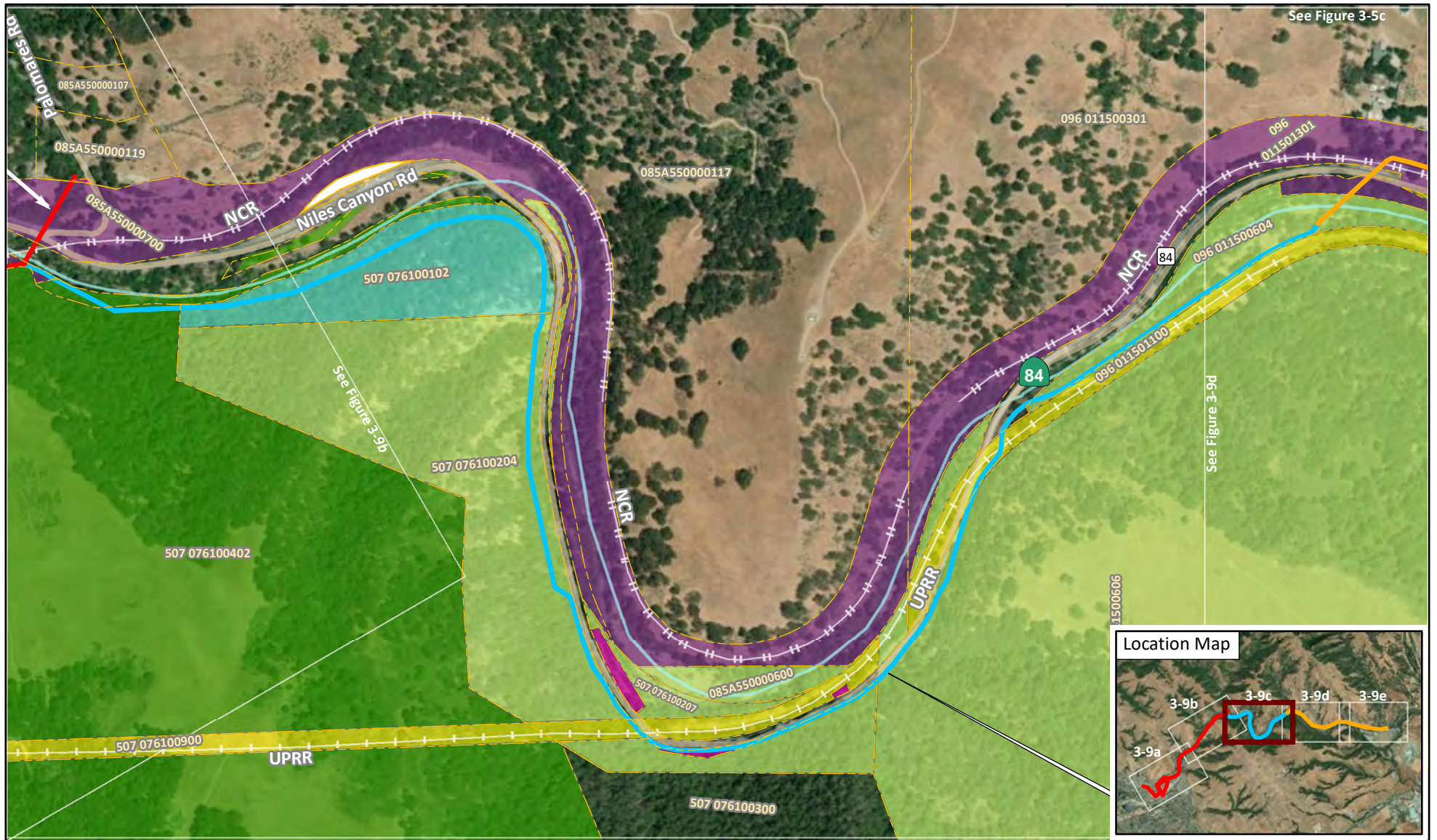
Parcel Ownership

- | | |
|--|---|
| — Alameda County Water District | — San Francisco Watershed Lands |
| — County of Alameda | — State of California |
| — East Bay Regional Park District | — Union Pacific Railroad |



SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).
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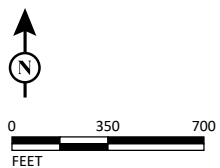
LSA

LEGEND

- Phase 1
- Phase 2
- Phase 3
- Property Line

Parcel Ownership

- | | |
|---|--|
| Alameda County Water District | San Francisco Watershed Lands |
| County of Alameda | State of California |
| East Bay Regional Park District | Union Pacific Railroad |



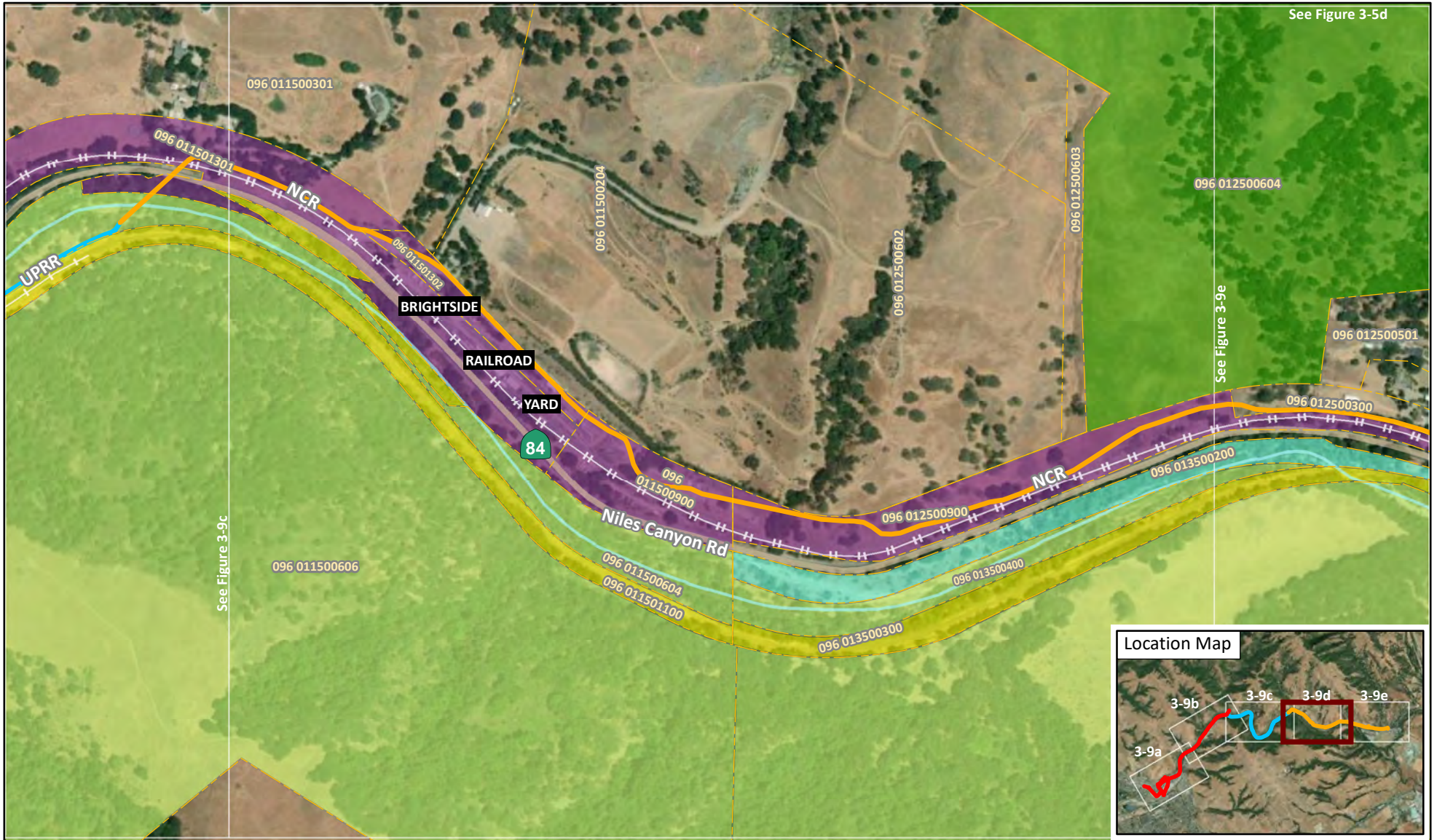
SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).

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FIGURE 3-9c

Niles Canyon Trail Project
 Environmental Impact Report
 Parcel Ownership

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LSA



LEGEND

- Phase 1
- Phase 2
- Phase 3
- Property Line

Parcel Ownership

- Alameda County Water District
- County of Alameda
- East Bay Regional Park District
- San Francisco Watershed Lands
- Union Pacific Railroad

FIGURE 3-9d

Niles Canyon Trail Project
 Environmental Impact Report
 Parcel Ownership

SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).
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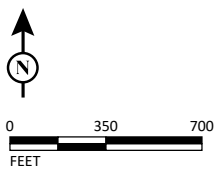
LSA

LEGEND

- Phase 1
- Phase 2
- Phase 3
- Property Line

Parcel Ownership

- Alameda County Water District
- County of Alameda
- East Bay Regional Park District
- San Francisco Watershed Lands
- Union Pacific Railroad



SOURCE: CSW | ST2 (06/2022); Esri World Imagery (2023).

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FIGURE 3-9e

Niles Canyon Trail Project
Environmental Impact Report
Parcel Ownership

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Construction for Phase 1 would occur over a 24-month period. Construction would occur primarily during daylight hours, from approximately 7:00 a.m. to 5:00 p.m. daily, with approximately 20 construction workers arriving and departing each day. Limited nighttime work would be required for installation of the bridge over SR-84 to Palomares Road, which would be installed in one night.

Installation of the bridge would require closure of SR-84 overnight. Limited lane closures may be required for construction of the trail along Niles Boulevard.

Construction equipment and material would likely be staged as follows:

- Site clearing and mass grading of the trail area;
- Construction of retaining walls;
- Construction of bridge abutments;
- Paving of trail; and
- Placing the pedestrian bridge.

The total area of disturbance for development of Phase 1 would be about 5 acres, including the proposed trail and other graded areas. Once complete, the total area of permanent disturbance would be about 3.7 acres and would include the trail and parking area at Palomares Road. The total area of temporary disturbance would be 5 acres. Grading would require approximately 16,000 cubic yards of fill, 6,000 cubic yards of which would be import material. The remaining 10,000 cubic yards of soil would be balanced on site.

Construction activities would occur outside of the rainy season when feasible and in conformance with County and Caltrans ordinances and regulations. Construction and grading equipment are expected to include the use of earthmovers, backhoes, rollers, and compactors.

Because the proposed trail alignments for Phases 2 and 3 are conceptual and being further refined, detailed construction information for these phases is not known. However, for the purposes of this EIR, it is assumed that construction methodology, equipment and duration for each of these subsequent phases would be similar to Phase 1.

3.4.6 Operation and Maintenance

Ultimately, the proposed trail is expected to accommodate between 800 and 1,000 peak daily users, with average daily use estimated to be approximately 300 trail users. Typical of other trail facilities, daily use is anticipated to vary seasonally (e.g., fewer trail users on weekdays, in the winter, and in times of inclement weather). The first phase of the proposed trail alignment would likely generate approximately 300 peak daily users.

While the trail would be open to users 24-hours per day, it is anticipated that parking lots providing access to the trail would also be closed at night, from 10:00 p.m. to 5:00 a.m., or consistent with the City of Fremont and East Bay Regional Park District requirements. No gates are proposed as part of the project.

The proposed trail and new staging area would be operated and maintained by the County of Alameda or by a consortium of local public agencies. General maintenance activities to be conducted by the County or consortium would include trash/recycling collection and disposal, tree and shrub trimming, pavement sealing/repaving, fence repair and replacement, signage repair and replacement, and drainage inspection and cleaning. Additionally, the trail corridor would undergo routine inspection for signs of damage and appropriate actions would be taken to minimize the risk to trail users, including temporary trail closure and repair, as needed. The County would work with law enforcement partners to supervise the trail’s use.

3.5 DISCRETIONARY ACTIONS AND USES OF THIS EIR

A number of permits and approvals, including discretionary actions, are listed in Table 3.A and would be required prior to implementation of the proposed project. As lead agency for the proposed project, the County of Alameda would be responsible for the majority of the approvals required for development, including, but not limited to, approval of the final construction documents. Other agencies may also have some authority related to the project and its approvals, as described in Table 3.A, below.

Table 3.A: Required Permits and Approvals

Agency	Permit/Approval
California Department of Fish and Wildlife	Section 1602 Lake or Streambed Alteration Agreement
State Water Resources Control Board	Stormwater Pollution Prevention Plan and Provision C.3 of the Municipal Regional Permit
San Francisco Regional Water Quality Control Board	Section 401 Water Quality Certification and Waste Discharge Requirements under the Porter-Cologne Water Quality Control Act
United States Army Corps of Engineers	Section 402 and/or Section 404 of the Clean Water Act
United States Fish and Wildlife Service	Section 404 Permit
California Department of Transportation	Encroachment Permit
Union Pacific Railroad	Encroachment Permit
City of Fremont	Encroachment Permit
San Francisco Public Utilities Commission	Encroachment Permit

Source: Compiled by LSA Associates, Inc. (2023).

4.0 SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter contains an analysis of each potentially significant environmental impact that has been identified for the proposed Niles Canyon Trail project (project). The following discussion describes (1) how a determination of significance is made, (2) the environmental issues addressed in this chapter, (3) the context for the evaluation of cumulative effects, (4) the format of the topical issue section, and (5) an evaluation of each potentially significant impact in Sections 4.1 through 4.14.

DETERMINATION OF SIGNIFICANCE

The California Environmental Quality Act (CEQA) defines a significant effect as a substantial, or potentially substantial, adverse change in the environment.¹⁴ The “environment” means the physical conditions, which exist in the area, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Each impact evaluation in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance are based on the *State CEQA Guidelines* and applicable County of Alameda (County) policies. In determining whether a project’s impacts are significant, an Environmental Impact Report (EIR) ordinarily compares the environmental conditions with the proposed project with existing environmental conditions, which are referred as the “baseline” for the impact analysis. This EIR compares the potential environmental impacts of the proposed project with the baseline environmental conditions in existence at the time that the Notice of Preparation (NOP) was published, November 16, 2020.

ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.14 of this chapter describe the environmental setting of the project as evaluated in the EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate. This chapter addresses the following environmental issues:

- 4.1: Aesthetics
- 4.2: Air Quality
- 4.3: Biological Resources
- 4.4: Cultural Resources
- 4.5: Geology and Soils
- 4.6: Hazards and Hazardous Materials
- 4.7: Hydrology and Water Quality
- 4.8: Land Use and Planning
- 4.9: Noise
- 4.10: Public Services
- 4.11: Recreation
- 4.12: Transportation

¹⁴ Public Resources Code section 21068.

- 4.13: Tribal Cultural Resources
- 4.14: Utilities and Service Systems

The County has determined that development of the proposed project would not result in significant impacts to the following environmental topics: agriculture and forestry resources, energy, greenhouse gas emissions, mineral resources, population and housing, and wildfire. Consequently, these issues are not examined in Chapter 4.0 of this EIR and are briefly addressed in Chapter 5.0, Other CEQA Considerations.

Consistency with the County's land use and planning policies, including the General Plan and the Zoning Ordinance, as well as the policies of the City of Fremont and the East Bay Regional Park District, are discussed in Section 4.8, Land Use and Planning. It should be noted that, according to CEQA, policy conflicts do not, in and of themselves, constitute a significant environmental impact. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. Any such associated physical environmental impacts are discussed in the appropriate sections of this EIR. Zoning compliance and other policy considerations will be further evaluated by County decision-makers when considering approval of the proposed project.

CUMULATIVE ANALYSIS CONTEXT

CEQA defines cumulative as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that 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. These impacts can result from a combination of the proposed project together with other projects causing related impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The cumulative discussions in Section 4.1 through 4.13 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, citywide, regional). The geographic area considered for each cumulative impact depends up on the impact that is being analyzed. For example, the appropriate geographic area for aesthetic impacts is the viewshed from the project corridor, which is the scope of human eyesight in the vicinity of the corridor. The appropriate geographic area for air quality impacts is the San Francisco Bay Area Air Basin, which covers nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma.

CEQA requires that cumulative impacts be discussed using either a list of past, present, and probable future projects producing related or cumulative impacts, or a summary of projections contained in an adopted local, regional, or Statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This EIR uses a combination of the "list" and "projections" approaches.

Table 4.A presents the list of cumulative projects that are considered in the discussions for each environmental topic. These projects are either projects for which the County has a project application on file, projects that have been entitled but have not yet begun construction at the time that the EIR analysis was initiated (November 2020), or projects that have recently been completed or are under construction in the project vicinity. Refer to the appropriate discussion in each topical section for further discussion of the cumulative assumptions relevant to each issue topic.

Table 4.A: Cumulative Projects in the Vicinity of the Project Site

Project	Project Description	Project Status
84 Expressway Widening and State Route 84/I-680 Interchange Improvement Project	Widening of State Route (SR) 84 to expressway standards between south of Ruby Hill Drive and the Interstate 680 (I-680) interchange. The project would also improve SR 84/I-680 interchange ramps and extend the existing southbound I-680 high occupancy vehicle/express lane northward by approximately 2 miles.	Under Construction
Niles Canyon Safety Improvements Project (Short-Term Improvements)	Implement safety improvements at spot locations along the SR 84 Corridor between SR 238 (Mission Boulevard) and I-680, including roadside and metal beam guard rail delineators, bridge railing delineators, shoulder and median rumble strips, sharrows, and left turn refuge at Palomares Road.	Completed
Niles Canyon Safety Improvements Project (Medium-Term Improvements)	Implement safety improvements at spot locations along the SR 84 Corridor between SR 238 (Mission Boulevard) and I-680, including signalization at SR 84 and Main Street, signalization at Pleasanton-Sunol Road, installation and removal of traffic signs, improvements at low-speed curve area, removal of fixed objects including trees and utility poles, K-rail replacement, shoulder widening, widening and barrier rail replacements on Alameda Creek Bridge and overhead, active warning systems for bicyclists, lighting at spot locations, dynamic warning system near Silver Springs undercrossing and Palomares Road, relocation of flashing beacons near the Palomares undercrossing, and replacement of the Stonybrook concrete box culvert with a clear span bridge.	Under Construction
Alameda Creek Bridge Replacement Project	Replacement of the Alameda Creek Bridge and realignment of the bridge approaches on SR 84 to address the structural deficiencies and improving safety.	Under Construction
Arroyo De La Laguna Bridge Project	Replacement of the Arroyo de la Laguna Bridge (Bridge No. 33-0043) to address scour and seismic concerns and meet current design standards for safety.	Permitting in Process
Mission Clay Products Soil Remediation Project	Excavation and relocation of up to 20,693 cubic yards of contaminated soil from the Mission Clay property at 2225 Old Canyon Road in Fremont to the Newby Island Landfill in the city of San Jose. The project also includes dewatering of excavated areas and treatment of the impacted groundwater at an on-site treatment plant.	Pending
Canyon Heights Booster Station Upgrade	Replacement of essential electrical equipment, site safety improvements, and other miscellaneous site improvements at the corner of Canyon Heights Drive and Clarke Drive in Fremont, California	Completed
37597 Niles Boulevard	Renovate existing ice cream shop	Pending
37927 Niles Boulevard	Construction of four-unit townhome-style condominium	Pending

Source: Compiled by LSA from the California Department of Transportation (2023a and 2023b), the Alameda County Water District (n.d.), and the City of Fremont (n.d.) (2023).

In addition to the list of cumulative projects, the projections approach is used for some issue areas where appropriate. For this method, the analysis considers buildout of the Alameda County General Plan, East County Area Plan, and the City of Fremont General Plan.

The Alameda County General Plan is a long-range policy document approved by the Board of Supervisors to guide physical, economic, and environmental growth. The General Plan expresses the County's vision for the future and is the roadmap for achieving the community's desired quality of life. It is an assessment of current and future needs, and the resources needed to implement the goals and policies established.

The Alameda County General Plan consists of several documents, including three area plans that contain land use and circulation elements for their respective geographic areas, as well as area specific goals, policies and actions for circulation, open space, conservation, safety, and noise. The countywide Housing, Conservation, Open Space, Noise, Seismic and Safety, and Scenic Route Elements contain goals, policies, and actions that apply to the entire unincorporated area.

The purpose of the East County Area Plan is to present a clear statement of the County's intent concerning future development and resource conservation within East County, which encompasses 418 square miles of eastern Alameda County. The goals and policies in the East County Area Plan are intended to inform decision-makers, the general public, public agencies and those doing business in Alameda County of the County's position on land use-related issues and to provide guidance for day-to-day decision-making. The programs that follow the policies identify a set of specific actions the County will undertake to achieve the goals and policies of the plan. In addition to issues that directly address physical development, the plan also addresses social, environmental and economic issues related to land use considerations. The plan identifies the need for public facilities and services and provides the basis for County zoning and subdivision approvals as well as other regulatory actions. The Alameda County Board of Supervisors adopted the East County Area Plan on May 5, 1994.

The City of Fremont General Plan was adopted in 2013 and is a comprehensive, integrated, and internally consistent statement of the City of Fremont's development policies for the city. Planned growth in Fremont would be expected to incrementally augment potential trail users. Therefore, planned city growth could contribute to cumulative impacts. Accordingly, buildout under the City of Fremont General Plan is considered in this cumulative analysis along with that of the East County Area Plan.

FORMAT OF ISSUE SECTIONS

The environmental topical section is composed of two primary parts: (1) Setting, and (2) Impacts and Mitigation Measures. An overview of the general organization and the information provided in the two parts is provided below:

- **Setting.** The Setting section for the environmental topic generally provides a description of the applicable physical setting (e.g., existing land uses, existing traffic conditions) for the project site and its surroundings in Alameda County. An overview of regulatory considerations that are applicable to each specific environmental topic is also provided.

- **Impacts and Mitigation Measures.** The Impacts and Mitigation Measures section for each environmental topic presents a discussion of the potential impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which are the thresholds used to determine whether an impact is potentially significant. These thresholds are adapted from Appendix G of the *State CEQA Guidelines* and apply local and regional criteria applicable to the project area.

Under each category, evidence is presented to show the cause-and-effect relationship between the proposed project and potential changes in the environment. In accordance with *State CEQA Guidelines* Section 15126.2(a), this EIR is required to “identify and focus on the significant effects of the proposed project on the environment.” The magnitude, duration, extent, frequency, and range or other parameters of a potential impact are ascertained to the extent feasible to determine whether impacts may be significant. In accordance with CEQA, potential project impacts, if any, are classified as follows for each of the environmental topics discussed in this EIR:

- **Significant Impact:** This classification refers to impacts that are identified as potentially significant because implementation of the proposed project would exceed the established threshold. This determination is made prior to identification of mitigation measures.
- **Less than Significant Impact:** Less than significant impacts are environmental impacts that have been identified but are either not potentially significant or can be feasibly mitigated to a level of insignificance. If the proposed project is approved, the decision-making body is required to make findings pursuant to *State CEQA Guidelines* Section 15091 that significant impacts have been mitigated to the extent feasible through implementation of mitigation measures, if required.
- **Significant and Unavoidable Impact:** This classification refers to impacts that are significant, cannot be mitigated with implementation of feasible mitigation measures, and that cannot be avoided with implementation of the project as proposed. If the proposed project is approved with significant and unavoidable impacts, the decision-making body is required to adopt a statement of overriding considerations pursuant to *State CEQA Guidelines* Section 15093 explaining why the project benefits outweigh those significant and unavoidable environmental impacts. Significant impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented.

Impacts and mitigation measures are numbered consecutively and begin with an acronymic or abbreviated reference to the impact section (e.g., TRA for Transportation). The following symbols are used for their respective individual topics:

AES	Aesthetics
AIR	Air Quality
BIO	Biological Resources
CUL	Cultural Resources
GEO	Geology and Soils
HAZ	Hazards and Hazardous Materials

HYD	Hydrology and Water Quality
LUP	Land Use and Planning
NOI	Noise
PUB	Public Services
REC	Recreation
TRA	Transportation
TCR	Tribal Cultural Resources
UTL	Utilities and Service Systems

4.1 AESTHETICS

This section assesses the effects of the proposed project on the aesthetic and visual resources of the project area, including the potential impact of the proposed project on the existing visual character of the project site and vicinity. The analysis also discusses the consistency of proposed project improvements with applicable visual resource related policies found in the Alameda County General Plan.

4.1.1 Setting

The evaluation of existing conditions for aesthetic resources requires the application of a process that objectively identifies the visual features, or resources of a landscape, assesses the character and quality of those resources relative to the overall visual character of the region, and describes the perspective of people to the visual resource landscape.

4.1.1.1 Existing Visual Conditions

The project corridor consists of an approximately 6-mile alignment through Niles Canyon between the Niles District in the City of Fremont (City) and the unincorporated community of Sunol in Alameda County. The project area and vicinity is characterized by a variety of conditions that affect the visual character of the area, including urban and built environments, State Route (SR) 84, the Union Pacific and Niles Canyon railroad tracks, and the Sunol Aqueduct. Topography along the project corridor ranges from relatively flat within the urban lands of Fremont and along existing roadways to very steep within the undeveloped lands along Alameda Creek. The majority of the project corridor runs along Alameda Creek, which flows from east to west and eventually drains to San Francisco Bay.

The majority of the project corridor is located within public right-of-way (e.g., City of Fremont, Caltrans) or on lands owned by public agencies, including East Bay Regional Park District (EBRPD), Alameda County and the San Francisco Public Utilities Commission (SFPUC). Some private properties are also located within the project corridor. A description of the existing visual conditions along different segments of the project corridor is provided in this section.

Extension to Downtown Niles/City of Fremont. This segment of the project corridor begins at Niles Plaza, located west of Mission Boulevard in the Niles District within the City of Fremont, and extends along Niles Boulevard, across Alameda Creek on Mission Boulevard and along the existing Alameda Creek Trail. This segment of the project corridor is within a developed, urban area. Land uses along the project corridor include primarily commercial and civic uses, with some residential development. Visual conditions along this segment of the project alignment are dominated by existing development, including commercial and civic uses associated with the Niles District, existing roadway infrastructure, street trees, streetlights, and sidewalks. In some locations, scenic views of the East Bay Hills and Alameda Creek are available; whereas in other locations, existing development obscures views.

Extension to Vallejo Mill Historic Park. This segment of the project alignment extends from the existing Niles Canyon Staging Area to the existing staging area/parking at the Vallejo Mill Historic Park on the north side of SR 84, just east of Mission Boulevard. The project corridor extends along

the sidewalk and within the existing Alameda Creek Trail. Visual conditions along this project segment include developed features, including existing roadway infrastructure associated with Mission Boulevard and SR 84, the paved Alameda Creek Trail, and developed features at the Vallejo Mill Historical Park (e.g., the remains of a historic flour mill and the Niles Canyon Railroad tracks). Portions of this project segment are characterized by vegetated natural areas associated with Alameda Creek and the Vallejo Mill Historical Park.

Old Canyon Road/Mission Clay Property. A portion of this project segment extends along Old Canyon Road into the Mission Clay property, which is privately-owned. This portion of the proposed alignment is characterized by existing roadway infrastructure and vegetated areas along the roadway.

Mission Clay to SR 84. From the Mission Clay property, the project corridor traverses through primarily undeveloped, open space land, owned by public agencies including the EBRPD and SFPUC, and is within California Department of Transportation (Caltrans) right-of-way, and Union Pacific Railroad (UPRR) right-of-way. Visual conditions along this portion of the project alignment are characterized by native and nonnative vegetation, including riparian vegetation associated with Alameda Creek. Land cover types found within this portion of the proposed project alignment include mixed evergreen forest/oak woodland, mixed riparian forest/woodland, sycamore alluvial woodland, and scattered stands of northern coastal scrub/Diablan sage scrub.

SR 84 to Sunol. The eastern end of the project alignment, located on the north side of SR-84, runs upslope of the Niles Canyon Railway and on the north side of the Niles Canyon Railway Yard. From the Niles Canyon Railway Yard, the project alignment continues east through undeveloped property then along Old Canyon Road and Foothill Boulevard adjacent to residential development to its terminus at the Sunol Station. Visual conditions along this portion of the project alignment consists of both undeveloped open space and native/non-native vegetation, as well as residential development and roadway infrastructure (e.g., pavement, street lights, overhead utility lines).

4.1.1.2 State Scenic Highways and Roadways

The California Scenic Highway Program is administered by Caltrans. SR 84 (Niles Canyon Road) is an officially designated State scenic highway from SR 238 (Mission Boulevard) in Fremont to Interstate 680 in the unincorporated community of Sunol.¹⁵

Both Niles Canyon Road and Mission Boulevard are designated in the Alameda County General Plan Scenic Route Element as “Major Thoroughfares”. As described in the Scenic Route Element, scenic thoroughfares are those major thoroughfares that traverse areas of scenic or recreational interest or that provide the most efficient route to carry vehicular traffic to major scenic, recreational or cultural areas.

¹⁵ 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 March 8, 2022).

The City of Fremont’s General Plan identifies Mission Boulevard as a City-designated scenic corridor, and the Union City General Plan categorizes Mission Boulevard as a visual corridor. These designations express the intent of each City to maintain or improve visual quality along these routes, as well as protect the visual features that contribute to the scenic designation, including land use, capital improvements, landscaping, and maintenance activities. The project alignment runs along Mission Boulevard to connect the trail from the Niles Canyon staging area to the Vallejo Mill Historic Park.

4.1.1.3 Light and Glare Condition

The majority of the project site is in a largely undeveloped area with minimal nighttime ambient light or daytime glare. Lighting sources on the project site and in the surrounding area primarily vehicle headlights and street lighting with some interior and exterior building lighting, and security/courtesy lighting for parking areas in the more developed areas of the project site. Daytime sources of glare on the project site and in the surrounding area include reflections from light-colored surfaces, windows, and metal details on cars traveling on SR 84 and other nearby roadways.

4.1.1.4 Regulatory Context

The following regulatory framework discussion sets the context for the range of issues related to aesthetics that relate to the evaluation of the potential for the proposed project to have a significant effect on aesthetics resources.

Federal Regulations. There are no federal laws or regulations regarding aesthetic and visual resources that are applicable to the proposed project.

State Regulations. California’s Scenic Highway Program is the primary State mechanism for defining aesthetic resources in the project area.

California State Scenic Highway Program. California’s Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. A highway may be designated as “scenic” based on the expanse of the natural landscape that can be seen by travelers, the scenic quality of that landscape, and the extent to which development intrudes upon the traveler’s enjoyment of the view. A Scenic Corridor is described as the land generally adjacent to and visible from such a highway and is usually limited by topography and/or jurisdictional boundaries. In addition to State Highways, Alameda County roads are also eligible for scenic designation. SR 84 (Niles Canyon Road) is an officially designated State scenic highway from SR 238 (Mission Boulevard) in Fremont to Interstate 680 in the unincorporated community of Sunol, California.¹⁶

¹⁶ 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 March 8, 2022).

Regional and Local Resource Protection Policies. The following regional and local policies pertaining to visual resources are applicable to the proposed project.

Alameda County General Plan. The Alameda County General Plan Open Space Element includes the following objectives and principles related to visual resources.

- To provide for permanent separation and identification of communities through use of open space will include park and recreation areas coordinated with a continuous system of trails and scenic tours.
 - *Provide a Coordinated System of Open Space.* A coordinated system of public and private open space and major park and recreation areas should be provided throughout the county and should connect to open space of adjacent counties. All major areas of public open space should be connected by trails and scenic routes.
 - *Provide A Variety of Open Space for Specific Open Space Uses.* A variety of open space should be provided, including open space for public use and enjoyment and for protection of agriculture, wildlife habitat, and scenic values.
 - *Include Observation Areas.* Observation areas from which outstanding vistas are available should be included as permanent elements of the open space plan and be coordinated with hiking trails or scenic routes.
 - *Encourage Dedication of Land or Easements by Private Property Owners in Designated Open Space Areas for Recreational Facilities and Trails.* Dedication of land or easements by private property owners within areas designated for open space for use as recreation facilities or trails should be encouraged as a means of supplementing the public recreation and trail system.
 - *Scenic Route Element Recommendations Should be Implemented.* Recommendations regarding scenic routes and trails included in the Scenic Route Element should be implemented as soon as possible.

The Alameda County General Plan Scenic Routes Element includes the following principles related to visual resources.

- To establish a continuous system of routes, that will be convenient to all persons in Alameda County, and that will increase the enjoyment of, and opportunities for, recreational and cultural pursuits and tourism in Alameda County and adjacent counties by providing for scenic pleasure drives and scenic routes to all major recreation areas and cultural centers throughout the county and adjacent areas.
- To conserve, enhance, and protect scenic views observable from scenic routes.
- To provide multiple recreational uses, trails and roadside rests, picnicking and observation points when appropriate on present or future publicly owned lands adjacent to scenic

- routes, and to provide a means of coordinating scenic route trails with other trail systems within the county.
- To assist in stabilizing or increasing property values and the economy of Alameda County through preserving and adding to its attractions.
 - *Coordinate Scenic Routes and Recreation Areas.* Maximum coordination of scenic routes and adjacent public recreation areas such as parks, scenic outlooks, roadside rests, cycling, hiking and riding trails should be planned. Recreation routes and trails should continue into adjacent counties to provide continuous networks for the enjoyment of the public. Scenic route recreation trails should be coordinated with existing and planned local, regional and state trails.
 - *Establish Roadway, Traffic and Recreational Facilities in Rights of Way.* Paved roadways and structures directly relating to the scenic route, including bridges, tunnels, embankments, embankment protectors, guard rails, drainage structures and facilities, light standards, route location and directional signs or other signs pertaining to the use of the scenic route, should be permitted within the right-of-way. Structures relating to roadside rests or other public recreational facilities should also be provided where appropriate.
 - *Provide For Normal Uses of Land and Protect Against Unsightly Features.* In both urban and rural areas, normally permitted uses of land should be allowed in scenic corridors, except that panoramic views and vistas should be preserved and enhanced through supplementing normal zoning regulations with special (see Scenic Route Corridor Development Standards, page 18) height, area, and sideyard regulations; through providing architectural and site design review; through prohibition and removal of billboards, signs not relevant to the main use of the property, obtrusive signs, automobile wrecking and junk yards, and similar unsightly development or use of land. Design and location of all signs should be regulated to prevent conglomerations of unsightly signs along roadsides.
 - *Establish Architectural and Site Design Review.* Architectural and site design review by the appropriate local jurisdiction should be provided for each site and for all new or altered structures so that particular consideration will be given to appearances that will enhance scenic qualities from the scenic routes. Originality in landscape and construction design should be encouraged. Such designs should be in keeping with cityscape and natural skyline and reflect the density, movement and activities of the population.
 - *Retain Public Easements for Recreation Trails.* All public easements should remain free and clear of any structure or improvements other than planting, unless required by public necessity, as a means of providing unobstructed areas for future recreation trails.
 - *Control Tree Removal.* No mature trees should be removed without permission of the local jurisdiction as a means of preserving the scenic quality of the county.

- *Control Alteration of Streambeds and Bodies of Water.* Alteration of streambeds or bodies of water and adjacent vegetation should be permitted only with approval of the local jurisdiction, as a means of preserving the natural scenic quality of stream courses, bodies of water, vegetation and wildlife in the county. Development along edges of streams, canals, reservoirs, and other bodies of water should be designed and treated so as to result in naturalistic, architectural or sculptural forms.
- *Preserve and Enhance Natural Scenic Qualities in Areas Beyond the Scenic Corridor.* Views from scenic routes will comprise essentially all of the remainder of the county beyond the limits of the scenic corridor: the corridor is intended to establish a framework for the observation of the views beyond. Therefore, in all areas in the county extending beyond the scenic route corridors, scenic qualities should be preserved through retaining the general character of natural slopes and natural formations, and through preservation and enhancement of water areas, watercourses, vegetation and wildlife habitats. Development of lands adjacent to scenic route corridors should not obstruct views of scenic areas and development should be visually compatible with the natural scenic qualities.

East County Area Plan. The East County Area Plan includes the following policies and goals related to visual resources.

- Sensitive Viewsheds Goal. To preserve unique visual resources and protect sensitive viewsheds.
 - *Policy 106:* Structures may not be located on ridgelines or hilltops or where they will project above a ridgeline or hilltop as viewed from public roads, trails, parks and other public viewpoints unless there is no other site on the parcel for the structure or on a contiguous parcel in common ownership on or subsequent to the date this ordinance becomes effective. New parcels may not be created that have no building site other than a ridgeline or hilltop, or that would cause a structure to protrude above a ridgeline or hilltop, unless there is no other possible configuration.
 - *Policy 113:* The County shall review development proposed adjacent to or near public parklands to ensure that views from parks and trails are maintained.
 - *Policy 114:* The County shall require the use of landscaping in both rural and urban areas to enhance the scenic quality of the area and to screen undesirable views. Choice of plants should be based on compatibility with surrounding vegetation, drought-tolerance, and suitability to site conditions; and in rural areas, habitat value and fire retardance.
 - *Policy 115:* In all cases appropriate building materials, landscaping and screening shall be required to minimize the visual impact of development. Development shall blend with and be subordinate to the environment and character of the area where located, so as to be as unobtrusive as possible and not detract from the natural, open space or visual qualities of the area. To the maximum extent practicable, all exterior lighting must be

located, designed and shielded so as to confine direct rays to the parcel where the lighting is located.

- *Policy 116:* To the maximum extent possible, development shall be located and designed to conform with rather than change natural landforms. The alteration of natural topography, vegetation, and other characteristics by grading, excavating, filling or other development activity shall be minimized. To the extent feasible, access roads shall be consolidated and located where they are least visible from public view points.
- *Policy 117:* The County shall require that where grading is necessary, the off-site visibility of cut and fill slopes and drainage improvements is minimized. Graded slopes shall be designed to simulate natural contours and support vegetation to blend with surrounding undisturbed slopes.
- *Policy 118:* The County shall require that grading avoid areas containing large stands of mature, healthy vegetation, scenic natural formations, or natural watercourses.
- *Policy 215:* The County shall manage development and conservation of land within East County scenic highway corridors to maintain and enhance scenic values.

City of Fremont General Plan. The City of Fremont General Plan Community Character Element includes the following goals and policies related to visual resources.

- ***Goal 4-1: City Form and Identity.*** A stronger, more memorable civic identity, shaped by well-kept neighborhoods, distinctive centers and work places, attractive transportation corridors, high-quality public spaces, and the scenic natural backdrop of Fremont’s hills and shoreline.
 - *Policy 4-1.1: Elements of City Form.* Recognize the basic elements of city form—community plan areas, neighborhoods, centers, corridors, employment districts, and open spaces—as the features that contribute to and define Fremont’s sense of place. Ensure that land use and transportation decisions, including design review, zoning, capital improvements, and development approvals, improve the visual qualities of these features and strengthen their identity as distinct places.
 - *Policy 4-1.6: Open Space Frame.* Protect Fremont’s hills and baylands as an open space “frame” that gives definition to the City and shapes its image and identity.
 - **Implementation 4-1.6A: Respecting Natural Terrain and Landform.** Accentuate Fremont’s natural features from public spaces through design and development. Development should be sited and designed to retain public views of hillsides and ridgelines, enhance vistas to natural landmarks and showcase important natural resources such as creeks and the baylands.
 - *Policy 4-1.8: Landmarks.* Maintain recognizable built or natural landmarks that create a reference point or means of orientation within the City, and create a positive identity for an area or for the City as a whole.

- **Goal 4-5: City Beautiful.** Protection and enhancement of Fremont’s aesthetic and visual character.
 - *Policy 4-5.1: Buffering and Screening:* Provide visual buffers or screening between adjacent uses which are potentially incompatible, such as industrial and residential uses.
 - *Policy 4-5.6: Protect Niles Canyon.* Recognize Niles Canyon as an important scenic and natural resource. Encourage the protection of Niles Canyon and enforce the Niles Canyon Corridor Protection Plan. Work with Caltrans on future improvements to the roadway to maintain balance of aesthetics and functionality.
- **Goal 4-6: Historic Preservation and Cultural Resources.** Conservation and enhancement of Fremont’s historic sites, buildings, structures, objects, and landscapes into the 21st Century and beyond.
 - *Policy 4-6.1: Protection of Historic Resources.* Identify, preserve, protect and maintain buildings, structures, objects, sites and districts which are reminders of past eras, events, and persons important in local, state, or national history.

The City of Fremont General Plan Community Plan Element includes the following goals and policies related to visual resources.

- *Policy 11-8.14: Niles Canyon Gateway.* Limit future development along Niles Canyon Road and ensure compatibility with the road’s designation as a scenic highway, its proximity to historic and natural resources, and its role as a major gateway into Fremont.
 - **Implementation 11-8.14.A: Niles Canyon Road at Mission Boulevard.** Ensure that development at the corner of Niles Canyon Road and Mission Boulevard provides an appropriate gateway for the Niles district, respects the scenic qualities of Niles Canyon, complements the nearby Vallejo Mills Historic Park, and provides an architecturally attractive landmark for the neighborhood.
- *Policy 11-8.15: Alameda Creek.* Improve trail connections between the Niles Town Center, Alameda Creek, and the regional park system. The Alameda Creek Trail itself should be improved with landscaping, seating areas, scenic overlooks and directional signage.

2013 East Bay Regional Park District Master Plan. The 2013 East Bay Regional Park District Master Plan¹⁷ defines the long-term vision for lands managed by the EBRPD. The long-term vision for lands managed by the EBRPD as set forth in the 2013 District Master Plan states,

¹⁷ East Bay Regional Park District. 2013.

The District envisions an extraordinary and well-managed system of open space parkland in Alameda and Contra Costa Counties, which will forever provide the opportunity for a growing and diverse community to express nature nearby.

To achieve the EBRPD Master Plan vision for the community to experience nature nearby, the EBRPD will:

- Acquire and preserve significant biological, geologic, scenic and historic resources within Alameda and Contra Costa counties.
- Manage, maintain, and restore the parklands so they retain their important scenic, natural and cultural values.
- Monitor the effects of climate change on District resources and utilize adaptive management techniques to adjust stewardship methods and priorities to preserve the natural cultural and scenic values of the parks and trails.

The Master Plan provides a decision-making framework and identifies policies that will achieve EBRPD-wide objectives. Development objectives, land use classifications, and planning and management guidelines are established by the Master Plan. The Master Plan includes the following policies for addressing visual resources.

- Goal KEP4: The EBRPD will participate in efforts to protect scenic or cultural resources, develop larger, multi-agency open space preserves, provide recreational opportunities, protect agricultural use, avoid hazards and plan for appropriate urban grown boundaries.
- Goal PRPT24: The EBRPD will see seek to locate facilities in a manner that preserves open space whenever possible. The EBRPD will design proposed facilities so that their color, scale, style and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations and other resources.
- Goal PRPT28: New utility lines will be placed underground on land owned, operated, or managed by the EBRPD to retain the optimal visual qualities of the area... and will work with other agencies and neighbors to reduce visual impacts on adjacent lands. The EBRPD will seek to avoid the construction of high voltage power lines within the parklands, particularly in areas of sensitive or aesthetically important resources and in preserve areas.
- Goal PRPT29: The EBRPD will keep its lands, including all ridges and peaks, free of additional communication facilities in order to maintain open viewshed, natural conditions and public use as well as to limit vehicular and service activities, The EBRPD will work to reduce the detrimental visual impact of buildings, towers and access roads at existing sites and will work with other agencies and neighbors to reduce this impact on adjacent lands.

East Bay Regional Park District Ordinance 38. East Bay Regional Park District Ordinance 38 sections directed at maintaining the visual character of EBRPD parklands are as follows:

- **Section 804 Plants.** No person shall damage, injure, collect or remove any plant or tree or portion thereof, whether living or dead, including but not limited to flowers, mushrooms, bushes, vines, grass, turf, cones and dead wood located on EBRPD parklands. In addition, any person who willfully or negligently cuts, destroys or mutilates vegetation shall be arrested or issued a citation pursuant to Penal Code Section 384a.
- **Section 805. Geological Features.** No person shall damage, injure, collect or remove earth, rocks, sand, gravel, fossils, minerals, features of caves, or any article or artifact of geological interest or value located on EBRPD parklands.
- **Section 806 Archaeological Features.** No person shall damage, injure, collect or remove any object of paleontological, archaeological or historical interest or value located on EBRPD parklands. In addition, any person who willfully alters, damages, or defaces any object of archaeological or historical interest or value or enters a fenced and posted archaeological or historical site shall be arrested or issued a citation pursuant to Penal Code Section 622-1/2.
- **Section 900.2 Littering or Dumping.** No person shall litter or cause to be littered any EBRPD parkland, or cause to be dumped any waste matter in or upon any EBRPD parkland. It shall be unlawful to place, deposit, or dump, or cause to be placed, deposited or dumped, any rocks or dirt in or upon any EBRPD parkland without the prior written consent of the General Manager. Any person littering or dumping any waste material upon EBRPD parkland shall be arrested or issued a citation pursuant to Penal Code Sections 374.4 and 374.3.
- **Section 900.3 Household or Industrial Materials.** No person, firm, or business shall bring household or industrial garbage, trash or waste materials into any lands owned or operated by the EBRPD for the purpose of placing such materials into any trash can, dumpster, or receptacle provided by the EBRPD.
- **Section 904.3 Abandonment.** Whenever a EBRPD Public Safety Officer has reasonable grounds to believe that a vehicle has been abandoned within the EBRPD, the vehicle may be removed as authorized by Vehicle Code Section 22669(a).

4.1.2 Impacts and Mitigation Measures

This section provides an assessment of the potential impacts related to aesthetics that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and identifies applicable mitigation measures, as appropriate.

4.1.2.1 Significance Criteria

The following significance criteria were adapted from Appendix G of the *State CEQA Guidelines*. The majority of the proposed trail alignment is within a non-urbanized setting; therefore, *State CEQA*

Guidelines Appendix G criterion that applies to urbanized settings and analysis of whether the project conflicts with applicable zoning and other regulations governing scenic quality is not required. Implementation of the proposed project would have a significant effect on visual resources if it would:

- Threshold 4.1.1:** Result in a substantial adverse effect on a scenic vista;
- Threshold 4.1.2:** Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Threshold 4.1.3:** Substantially degrade the existing visual character or quality of public views of the site and its surroundings; or
- Threshold 4.1.4:** Create a new source of light that would adversely affect light-sensitive land uses or nighttime views.

For the purposes of the following analysis, high-quality views have topographic relief, a variety of vegetation, rich colors, impressive scenery, and unique natural and/or built features. Moderate quality views have interesting but minor landforms, some variety in vegetation and color and/or moderate scenery. Low quality views have uninteresting features, little variety in vegetation and color, uninteresting scenery, and/or common elements. In addition, viewer types in the project area are broad, including motorists, pedestrians, and neighboring uses. Public viewer groups are limited to motorists and pedestrians along public roadways in the project vicinity, as well as users of nearby parks and public open spaces.

Viewer exposure conditions were determined based on a review of a variety of data, including project maps and drawings, aerial and ground-level photographs of the project area, and field observations. Variables include the viewing distance, angle of view, the extent to which views are screened or open, and duration of view. Viewing distances are described according to whether the proposed project would be viewed within a foreground zone (within 0.5 mile), middleground zone (0.5 to 2 miles), or background zone (beyond 2 miles). Viewing angle and extent of visibility consider the relative location of the proposed project to the viewer and whether visibility conditions are open and panoramic, or limited by intervening vegetation, structures, or terrain.

The duration of the view pertains to the amount of time the project facilities or area would typically be seen from a sensitive viewpoint. In general, the duration of the view would be less for motorists on major travel routes and other locations where the project would be seen for short or intermittent periods. Duration becomes greater when the project may be seen regularly and repeatedly, with the viewer facing the project for an extended period of time.

4.1.2.2 Project Impacts

The following describes the potential impacts related to aesthetics that could result from implementation of the proposed project. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 are differentiated where appropriate.

Threshold 4.1.1: Scenic Vistas. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Aesthetic components of a scenic vista generally include (1) scenic quality, (2) sensitivity level, and (3) view access. As described above, the project site is characterized by a variety of conditions, including urban and built environments, SR 84, the Union Pacific and Niles Canyon railroad tracks, the Sunol Aqueduct, and the undeveloped lands along Alameda Creek. SR 84, which is a designated State scenic highway, runs through the historic Sunol Valley, including the narrow areas of Niles Canyon, and provides scenic views of natural open space areas on both sides of the highway.

The proposed trail alignment is located within Niles Canyon and along Alameda Creek and SR 84, a designated scenic highway. In addition, the project area includes rolling hills and views to designated scenic ridgelines that contribute to the scenic quality of eastern Alameda County. Scenic vistas identified in the City of Fremont General Plan include Niles Canyon, the East Bay Hills, and San Francisco Bay.

During construction, the proposed project would temporarily degrade scenic views from SR 84, adjacent public roadways, existing open space areas/parks (e.g., Vallejo Mills Park) and the existing Alameda Creek Regional Trail. Construction equipment and materials stored at staging areas within the trail corridor or on adjacent lands could be visible as foreground features from these public viewpoints. Grading and earth-moving activities for construction of the trail also would be visible from public viewpoints where the corridor is visible from SR 84 and where it intersects or runs along existing public roadways. More importantly, trail construction may require the temporary closure of the Alameda Creek Trail that provides public access to scenic resources. However, the equipment (e.g., trucks, excavator, and loader) required for trail construction would only be visible temporarily during construction activities. Construction impacts would be temporary and short-term, and construction activities would take place in a manner consistent with Alameda County requirements (e.g., work days and hours). Therefore, this impact would be **less than significant**.

After construction, the trail would substantially improve public access to scenic vistas near the proposed alignment. Currently, public scenic views near the corridor are available to motorists on SR 84 and from other local roadways near the project site. The proposed project would add a 6-mile trail segment, providing public access to scenic views of Niles Canyon, including its natural resources (e.g., undeveloped open space areas) and cultural resources (e.g., railway corridor, aqueduct). Because the proposed trail would generally parallel both SR 84 and Alameda Creek, but would be elevated above the roadway corridor, it would provide more extended and high-quality scenic views for pedestrians and bicyclists than existing views from SR 84.

Visible elements of the proposed project would include the proposed paved trail, intersection improvements, signage/access improvements, proposed retaining walls and fencing, and overcrossings. The majority of these project elements would be at-grade or low-level and would not impair surrounding views. Fencing along the trail would be only the maximum height necessary to provide safety, would be visually permeable, and would use materials and colors that would blend with the natural environment. Portions of the proposed trail would be elevated above the roadway grade and set into the existing hillslope; however, these slopes were previously graded to accommodate construction of the railroad and SR 84 through Niles Canyon. Additionally, the trail

would be set lower into the slope such that the top of the ridgeline would be retained, preserving scenic ridgeline views.

With implementation of the proposed project, views from SR 84, which currently contains steeper vegetated slopes and visible development (e.g., paved roadway, railroad tracks, light standards, guardrail, and signage) would include pedestrians and bicyclists on the proposed trail; and brief views of the paved trail surface, retaining walls, and safety fencing and the more notable Palomares Road Overcrossing proposed as part of Phase 1 and a second overcrossing associated with Phase 2 or 3. The Palomares Road Overcrossing would consist of an approximately 500-foot long truss and cabled-stay bridge over the Niles Canyon Railway, Alameda Creek, SR 84, the existing Farwell Bridge and Palomares Road to connect the south side of the proposed trail to Palomares Road Staging Area (Figures 4.1-1 and 4.1-2). As shown in Figure 4.1-1 and 4.1-2, although the deck of the proposed overcrossing would span the middleground view for motorists on SR 84, the proposed bridge would be near the existing Farwell Bridge and therefore would not significantly alter middleground views from SR 84. Further, these views would be of short duration and as shown in Figure 4.1-1 and 4.1-2, the proposed bridge would not substantially modify or block any scenic vistas. The other proposed overcrossing would be similarly designed. In addition, to the extent feasible, fencing and other trail improvements would be composed of materials and colors that would blend with the natural environment. The proposed trail has been designed to complement, to the extent feasible, the existing visual environment in the vicinity of the proposed trail.

Project elements would not include tall structures that include massing or substantial expanses of façades that might obscure views of the surrounding open space environment and the most scenic elements of the project viewshed (e.g., canyon walls and ridgelines) would remain with implementation of the proposed project. The proposed trail would increase public access to the area, affording trail users scenic views from the proposed trail alignment. Therefore, the proposed project would not result in substantial adverse effects on scenic vistas; this impact would be **less than significant**.

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Photo 1: Existing



Photo 2: Proposed

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Photo 1: Existing



Photo 2: Proposed

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Threshold 4.1.2: Scenic Resources within a Scenic Highway. SR 84 (Niles Canyon Road) is an officially designated State scenic highway from SR 238 (Mission Boulevard) in Fremont to Interstate 680 in the unincorporated community of Sunol, California.¹⁸ As outlined in Chapter 3.0, Project Description, the proposed trail would include construction of two overcrossings of SR 84 to provide trail connections from the south to the north side of Niles Canyon – the Palomares Road Overcrossing would be constructed as part of Phase 1 and an additional overcrossing would be constructed as part of either Phase 2 or Phase 3.

The Alameda County General Plan Scenic Route Element designates both Niles Canyon Road and Mission Boulevard as “Major Thoroughfares”. As described in the Scenic Route Element, scenic thoroughfares are those major thoroughfares that traverse areas of scenic or recreational interest or that provide the most efficient route to carry vehicular traffic to major scenic, recreational or cultural areas. The City of Fremont’s General Plan identifies Mission Boulevard as a City-designated scenic corridor, and the Union City General Plan categorizes Mission Boulevard as a visual corridor.

As described further below, the project would install a sidewalk along SR 84 to Mission Boulevard. Along Mission Boulevard, trail users would use the sidewalk to access the existing Alameda Creek Trail. Visual changes associated with the proposed project along the active urban thoroughfare of Mission Boulevard would be negligible.

Within the project area, SR 84 is characterized by the narrow canyon walls, vegetated hillsides and the riparian vegetation associated with Alameda Creek, which parallels much of this scenic route. The proposed trail would run along Alameda Creek and within undeveloped open space lands with scenic mature trees and other vegetation, which serve as scenic resources along SR 84. The proposed trail would consist of a 10-foot-wide, all-weather surface with 2-foot shoulders on either side composed of decomposed granite or aggregate. Land cover types found within this portion of the proposed trail alignment include mixed evergreen forest/oak woodland, mixed riparian forest/woodland, sycamore alluvial woodland, and scattered stands of northern coastal scrub/Diablan sage scrub. As described further in Section 4.3, Biological Resources, the proposed project would require removal of approximately 239 trees within the Phase 1 trail segment. Additional tree removal would be required for Phases 2 and 3. However, the proposed tree removal would not change overall scenic vistas available from the roadway because the roadway’s defining features, such as the vegetated hillsides and riparian vegetation along Alameda Creek, adjacent to the roadway edge, would remain in place. Consistent with the Alameda County Code, Section 4.3, Biological Resources, includes mitigation to replace the trees to be removed at a minimum 1:1 ratio (replaced: removed) (See Mitigation Measure BIO-12a). However, the replacement trees would not be planted in the same location and would not be the size and height of the trees removed, although they would eventually mature to similar heights, diameters, and canopy coverage as the existing trees to be removed. The removal of the trees to accommodate the proposed trail would have local visual effects but would not substantially modify the existing visual characteristics of the

¹⁸ 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 March 8, 2022).

roadway setting. Many trees would remain that contribute significantly to the scenic quality of the roadway.

As described in Section 4.4, Cultural Resources, no historic buildings occur within or near the proposed trail alignment. However, four previously recorded built environment cultural resources more than 45 years old are within the Phase 1 segment, including the existing Farwell Bridge and the Niles Canyon Transcontinental Railroad Historic District, which includes a 6-mile segment of railroad that winds through Niles Canyon from Sunol Railroad Station on the east to the Niles Railroad Station on the west. Additional built environment resources exist within the proposed alignments for Phases 2 and 3. Although the proposed project would introduce new visual elements within the boundaries of this designated historic district and near identified historic resources, the proposed project would not significantly alter the visual conditions that contribute to the historic character of these resources. Additionally, the proposed project would not remove or alter any of the built environment elements that convey these resources' historic significance. Therefore, the proposed project would not substantially damage scenic resources, including historic resources, within a State Scenic Highway. This impact would be **less than significant**.

Threshold 4.1.3: Visual Quality and Character. The project's effect on the visual character of the site and vicinity is evaluated below, for both the construction and operation period.

Temporary Impacts (Construction). Construction activities often contrast with and disrupt the general order and existing aesthetic character of a given location or area; however, such impacts are considered temporary and no longer exist upon completion of construction and the maturation of landscaping at a project site. As outlined in Chapter 3.0, Project Description, Phase 1 is anticipated to begin in 2025, with completion in 2027. Phases 2 and 3 would be developed as funding becomes available (however, likely no sooner than 2030).

Although temporary in nature and common for most construction sites, construction activities associated with the project could have the potential to give the project site a visually unappealing quality during certain phases of the construction. On-site excavation and construction activities would be visible to adjacent land uses, particularly travelers along SR 84 and adjacent roadways and adjacent land uses. Temporary fencing would be placed during construction to screen demolition and construction activities from the street level. As a result, views of most demolition and construction activities would be largely blocked by perimeter fencing.

As described above, construction of the project would require the removal of trees and vegetation along the roadway alignment. Due to the extent of existing vegetation along the project corridor, the effects of tree removal would create a recognizable change in the appearance of the site but would not significantly degrade the existing scenic quality or character of the project site.

Construction-related effects to views of the site would be temporary. Therefore, since impacts during construction activities would be temporary and would cease upon completion of construction, the project would not substantially alter the character of views for off-site viewers. For these reasons, construction activities would not substantially degrade the existing

visual character and quality of the site and its surroundings and this impact would be **less than significant**.

Permanent Impacts (Operation). As described above, the project site is characterized by a variety of conditions, including urban and built environments, SR 84, the Union Pacific and Niles Canyon railroad tracks, the Sunol Aqueduct, and the undeveloped lands along Alameda Creek. The visual changes associated with implementation of the proposed project within these various segments is described further below, for each phase of the project.

Phase 1. Visual changes associated with Phase 1 of the proposed project are described below.

- **Extension to Downtown Niles/Vallejo Mill Historic Park**. As outlined in Section 3.0, Project Description, the western end of the proposed trail corridor would begin at the Niles Plaza parking area and would extend along Niles Boulevard to the existing Alameda Creek Trail. Within this trail segment, visual changes associated with the proposed project would include removal of some of the angled parking along Niles Boulevard and restriping of the roadway to accommodate the proposed trail. Additional sidewalks would also be constructed to close existing gaps along Niles Boulevard. In this portion of the project area, proposed improvements would be visible for motorists, bicyclists and pedestrians as well as existing commercial uses along Niles Boulevard.

The project proposes to use the Vallejo Mill parking area north of SR 84 and east of Mission Boulevard. To connect trail users to the Niles Canyon Trail, the project would install a sidewalk along SR 84 to Mission Boulevard. Along Mission Boulevard, trail users would use the sidewalk to access the existing Alameda Creek Trail. In this portion of the proposed project, proposed improvements would be visible for motorists, bicyclists and pedestrians along Mission Boulevard.

Proposed improvements would result in negligible alteration to the design of these existing roadways. These alterations would be localized and would take place within the existing roadway corridor, and with implementation of proposed improvements the roadway would be visually similar to the existing roadway. The alterations would be slight adjustments and would not diminish the design or aesthetic characteristics of the roadway. Accordingly, the visual impacts of proposed trail improvements within these developed areas at the western end of the proposed trail alignment would be **less than significant**.

- **Old Canyon Road**. The proposed trail would extend from the Alameda Creek Regional Trail along Old Canyon Road, where the SFPUC has a gate and maintains a service road that leads to the Mission Clay property. As part of trail construction, the roadway would be resurfaced and retaining walls would be installed. Proposed retaining walls along this portion of the trail alignment would be less than 48 inches high. In this portion of the project area, proposed improvements would be visible for motorists, bicyclists and pedestrians as well as private residential development along Old Canyon Road. Implementation of the proposed project would change the visual character of the

existing roadway with the addition of the proposed trail and retaining walls along the north side of the roadway shoulder; however, these changes would not diminish the design or aesthetic characteristics of the roadway. Accordingly, the visual impacts of proposed trail improvements within this portion of the proposed trail alignment would be **less than significant**.

- **Mission Clay Segment to Palomares Road Bridge.** From the terminus of Old Canyon Road, the proposed trail would continue onto SFPUC lands, running between the UPRR tracks and Alameda Creek. Within this section, visual elements of the proposed project would include the paved at-grade trail, retaining walls (approximately 48 inches to 63 inches high) to support the slope on the south side of the trail and a barrier fence along the north side to separate the proposed trail from the UPRR tracks and the Alameda Creek corridor. Due to the site topography, this portion of the proposed trail would be above the existing roadway and railroad grade. Portions of this trail segment would require grading into the existing hill slope and tree removal to accommodate the proposed trail and retaining wall. In compliance with regulatory requirements, erosion control netting and hydroseeding would be used to control erosion and sedimentation on unvegetated slopes. Disturbed areas would be hydroseeded, where feasible.

Views from SR 84 currently include middleground views of the steeper vegetated slopes and foreground views of existing transportation infrastructure (e.g., paved roadway, railroad tracks, light standards, guardrails, and signage). The proposed trail has been designed to complement the natural setting within which it would be located. However, implementation of the proposed project would introduce new elements to the existing viewshed, including pedestrians and bicyclists on the proposed trail, brief views of the paved trail surface, retaining walls, and safety fencing, as well as the more notable Palomares Road overcrossing (Phase 1) and one additional overcrossing proposed as part of either Phase 2 or Phase 3. As described above, the Palomares Road overcrossing would cross over the existing Farwell Bridge, thereby minimizing the visual impact of introducing this new bridge structure into the viewshed.

With implementation of Phase 1 of the proposed project, approximately 239 trees within the proposed trail alignment would be permanently removed. Additional trees located in proximity to the proposed trail alignment could be harmed/damaged as a result of construction activities. However, the footprint of the proposed trail would be long and narrow relative to the area of woodland that would be traversed by the proposed trail, resulting in minimal visual impact at any point along the trail alignment.

As described above, some portions of the proposed trail would require creation of an approximately 14-foot-wide bench for the trail and installation of retaining walls to support the uphill slope. However, the top elevations of the slope would be retained and the overall area would continue to have the same general appearance as the existing condition.

Existing vegetation along SR 84 and riparian vegetation along Alameda Creek would provide intermittent visual screening of the proposed trail for motorists along SR 84.

Additionally, the SR 84 corridor is characterized by various transportation infrastructure, including the existing roadway and associated infrastructure (e.g., guard rails, light standards, signage), the railroad tracks, and railroad overcrossings. The visual changes associated with implementation of the proposed trail would be consistent with the existing visual character and quality of this transportation corridor. Therefore, Phase 1 of the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. This impact would be **less than significant**.

Phases 2 and 3. Visual changes associated with implementation of Phases 2 and 3 of the proposed project would be similar to those described above. Implementation of Phases 2 and 3 of the proposed project would introduce new visible elements into the project viewshed, including bicyclists and pedestrians, the paved trail, retaining walls, fencing, and overcrossing of SR 84. These visual changes would be visible from SR-84, the Niles Canyon Railway, Foothill Road, and 2nd Street in Sunol. Phases 2 and 3 would also require tree removal and grading of existing slopes to accommodate proposed improvements. Similar to Phase 1, the SR 84 corridor is characterized by various transportation infrastructure, including the existing roadway and associated infrastructure (e.g., guard rails, light standards, signage), the railroad tracks, and railroad overcrossing. The visual changes associated with implementation of the Phases 2 and 3 would be consistent with the existing visual character and quality of this transportation corridor. Therefore, the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. This impact would be **less than significant**.

Threshold 4.1.4: Light and Glare. The potential impacts of lighting and glare from the project are discussed below.

Temporary Impacts (Construction). Most of the construction activities would take place during the daytime in compliance with Alameda County requirements. However, very limited nighttime construction would be required to install the Palomares Road Bridge (Phase 1) and one additional overcrossing proposed as part of either Phase 2 or Phase 3.

Lighting required during the construction period could generate light spillover in the vicinity of the project site. “Spill light” is defined as light that trespasses or spills out of the intended area and illuminates adjacent property and is generally considered unwanted. Although proposed lighting would be generally consistent with and similar to existing lighting along the project corridor, this lighting could increase levels of nighttime light along SR 84, which is currently subject to low level light conditions during nighttime hours.

“Glare” refers to the sensation experienced looking into an excessively bright light source that causes a reduction in the ability to see or causes discomfort. Daytime glare can result from natural sunlight reflecting from a shiny surface that would interfere with the performance of an off-site activity, such as the operation of a motor vehicle. Construction activities are not anticipated to result in flat, shiny surfaces that would reflect sunlight or cause glare. Minor glare from sunlight on construction equipment and vehicle windshields is not anticipated to impact visibility in the area, as the construction site would largely be shielded from public views.

As described above, construction vehicles would be operating at night for limited portions of project construction (e.g., 1-2 nights), and thus could create nighttime sources of glare. However, all temporary construction-related sources of light or glare (i.e., construction equipment headlights/safety lights) would cease following completion of construction. Nighttime construction work is proposed in just one location along the project alignment and would occur over a limited period, approximately 1-2 nights. Therefore, temporary impacts resulting from nighttime lighting during project construction would be reduced to the extent feasible and would be **less than significant**.

Permanent Impacts (Operation). The proposed project would not include installation of lighting along the trail or at the adjacent parking lots, except possibly low-level lighting at the new staging area at Palomares Road. As outlined in Section 3.0, Project Description, signs would be installed to indicate that the trail would be closed at night to protect adjacent open space areas and discourage illegal camping. It is anticipated that parking lots providing access to the trail would also be closed at night, from 10:00 p.m. to 5:00 a.m., consistent with Alameda Creek Regional Trail hours.

These minor light sources along a 6-mile trail would have a minimal effect on existing lighting conditions within the project area. Portions of the trail would be in developed areas with numerous lighting sources associated with existing residential and commercial buildings, streetlights, and vehicle headlights/taillights from local roadways. As a result, new light sources, including light from vehicle headlights, would represent a **less-than-significant** impact.

“Glare” refers to the sensation experienced looking into an excessively bright light source that causes a reduction in the ability to see or causes discomfort. Daytime glare can result from natural sunlight reflecting from a shiny surface that would interfere with the performance of an off-site activity, such as the operation of a motor vehicle. Additional public use of SR-84 and staging areas along the trail alignment by trail visitors could incrementally increase glare from car windows and headlights. However, closure of the trail and staging areas from 10:00 p.m. to 5:00 a.m. would reduce the incidence of glare from headlights. Therefore, the proposed project would not affect day or nighttime views in the area. This impact would be **less than significant**.

4.1.2.3 Cumulative Impacts

The geographic scope for the analysis of cumulative aesthetic impacts includes the local and regional roadways and highways, surrounding viewsheds that would have an effect on the visual character of the project area, and viewpoints into the project area that could be affected by project improvements. This area consists largely of undeveloped open space land, which has a natural visual character, and developed areas of the City of Fremont and the Town of Sunol, which are characterized by commercial and residential development. Other built features in the viewshed include roadway infrastructure associated with SR 84 and other local roadways and railroad infrastructure. Scenic resources, including the undeveloped hillsides and riparian areas along Alameda Creek, contribute to the scenic quality of the project area.

The East County Area Plan land use diagram designates the project site and adjacent areas as Large Parcel Agriculture (LPA), Parklands (P), Water Management (WM), Rural Density Residential (RR),

and Downtown Sunol (SD). These designations are largely intended for improved open space lands and public-serving uses, including recreation facilities, agriculture, public and quasi-public uses, and quarries. As such, development would be limited to nonresidential structures, except in the RR and SD districts. The City of Fremont General Plan land use diagram designates the project site and adjacent areas as Open Space – Hill Face, Open Space – Hillside, Open Space – Resource Conservation/Public, Open Space – Park, Residential – Hillside Residential, Residential – Low, Residential – Low-Medium, Residential – Medium, Commercial – General, and Commercial – Town Center. Similarly, the majority of these designations are intended for recreation and public facilities. Those areas that are designated for residential and commercial development are largely built out, so the potential for future development in these areas is limited. Therefore, the potential for significant visual changes to occur within the viewshed would be limited.

The project would not result in any significant and adverse impacts to scenic vistas, scenic resources within a scenic highway, or to the visual character of the site and surroundings. The proposed project would result in the removal of native trees/vegetation, grading of existing slopes, and installation of trail improvements (e.g., retaining walls, fencing, paved pathway). However, visual changes resulting from the proposed project would be consistent with the existing visual condition of Niles Canyon. Although the proposed project would require extensive tree removal, the existing tree canopy in the project area is dense; therefore, the visual setting, which includes vegetated hillsides would be retained. Additionally, the proposed trail would preserve the tops of existing hillslopes. Nighttime construction would introduce a new source of nighttime lighting to the project area; however, implementation of Mitigation Measure VIS-1 would ensure that construction lighting is limited in duration and coverage to reduce the cumulative impact of light spillage from the proposed project. Other projects in the project area may also introduce new sources of light and glare that could affect nighttime views in the project area. Like the proposed project, these projects would be required to prepare lighting plans that ensure exterior lighting would be shielded from adjacent uses.

Therefore, the proposed project's incremental contribution to aesthetic impacts would not be cumulatively considerable and the cumulative impact would be **less than significant**.

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4.2 AIR QUALITY

This section has been prepared using methodologies and assumptions recommended in the air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD).¹⁹ In keeping with these guidelines, this section describes existing air quality, impacts of the proposed project on local carbon monoxide (CO) levels, impacts of vehicular emissions that have regional effects, and exposure of sensitive receptors to toxic air contaminants (TACs). Mitigation measures to reduce or avoid potentially significant air quality impacts are identified, where appropriate. Air quality modeling data are included in Appendix B.

4.2.1 Setting

The following discussion provides an overview of existing air quality conditions in the region and Alameda County. Ambient air quality standards and the regulatory framework are summarized and climate, air quality conditions, and typical air pollutant types and sources are also described.

4.2.1.1 Air Pollutants and Health Effects

Both State and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O₃ and NO₂, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO₂, and Pb are considered local pollutants that tend to accumulate in the air locally.

The primary pollutants of concern in the project area are O₃, CO, and suspended particulate matter. Significance thresholds established by an air district are used to manage total regional and local emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual development projects that would contribute to regional and local emissions and could adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria pollutants.

Because of the conservative nature of the significance thresholds and the basin-wide context of individual development project emissions, there is no direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_x) and reactive organic gases (ROG).

Further, by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to by itself result in nonattainment of ambient air quality standards. Instead, a project's

¹⁹ Bay Area Air Quality Management District (BAAQMD). 2023. *2022 California Environmental Quality Act, Air Quality Guidelines*. April 20.

individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, the air districts have considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise. These populations are referred to as sensitive receptors.

Air pollutants and their health effects, and other air pollution-related considerations are summarized in Table 4.2.A and are described in more detail below.

Ozone. O₃ is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the San Francisco Bay Area (Bay Area), automobiles are the single largest source of O₃ precursors. O₃ is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with O₃ production through the photochemical reaction process. O₃ causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited – it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Table 4.2.A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O ₃)	<ul style="list-style-type: none"> • Precursor sources¹ motor vehicles, industrial emissions, and consumer products 	<ul style="list-style-type: none"> • Respiratory symptoms • Worsening of lung disease leading to premature death • Damage to lung tissue • Crop, forest, and ecosystem damage • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals
Particulate Matter Less than 2.5 Microns in Aerodynamic Diameter (PM _{2.5})	<ul style="list-style-type: none"> • Cars and trucks (especially diesels) • Fireplaces, woodstoves • Windblown dust from roadways, agriculture, and construction 	<ul style="list-style-type: none"> • Premature death • Hospitalization for worsening of cardiovascular disease • Hospitalization for respiratory disease • Asthma-related emergency room visits • Increased symptoms, increased inhaler usage
Particulate Matter Less than 10 Microns in Aerodynamic Diameter (PM ₁₀)	<ul style="list-style-type: none"> • Cars and trucks (especially diesels) • Fireplaces, woodstoves • Windblown dust from roadways, agriculture, and construction 	<ul style="list-style-type: none"> • Premature death and hospitalization, primarily for worsening of respiratory disease • Reduced visibility and material soiling
Nitrogen Oxides (NO _x)	<ul style="list-style-type: none"> • Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves 	<ul style="list-style-type: none"> • Lung irritation • Enhanced allergic responses
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves 	<ul style="list-style-type: none"> • Chest pain in patients with heart disease • Headache • Light-headedness • Reduced mental alertness
Sulfur Oxides (SO _x)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores • Industrial processes 	<ul style="list-style-type: none"> • Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil 	<ul style="list-style-type: none"> • Impaired mental functioning in children • Learning disabilities in children • Brain and kidney damage
Toxic Air Contaminants (TACs)	<ul style="list-style-type: none"> • Cars and trucks (especially diesels) • Industrial sources, such as chrome platers • Neighborhood businesses, such as dry cleaners and service stations • Building materials and products 	<ul style="list-style-type: none"> • Cancer • Reproductive and developmental effects • Neurological effects

Source: California Air Resources Board (2018).

¹ Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

Particulate Matter. Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from human-made and natural sources. Particulate matter is categorized in two size ranges: PM₁₀ for particles less than 10 microns in aerodynamic diameter and PM_{2.5} for particles less than 2.5 microns in aerodynamic diameter. In the Bay Area, motor vehicles generate about half of the air basin’s particulates through tailpipe emissions as well as brake pad, tire wear, and entrained road dust. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the California Air Resources Board (CARB), studies in the United

States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks, and studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function growth in children.²⁰ Statewide attainment of particulate matter standards could reduce premature deaths, hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide. NO₂ is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, NO₂ also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO₂ may be visible as a coloring component on high pollution days, especially in conjunction with high O₃ levels. NO₂ decreases lung function and may reduce resistance to infection.

Sulfur Dioxide. SO₂ is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO₂ has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO₂ also reduces visibility and the level of sunlight at the ground surface.

Lead. Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of USEPA regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants. In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risks they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the USEPA and the CARB. In 1998, the CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The CARB has completed a risk management process that identified potential cancer risks for a

²⁰ California Air Resources Board (CARB). 2020. *Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀)*. Website: ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed August 2023).

range of activities and land uses that are characterized by use of diesel-fueled engines.²¹ High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

The BAAQMD regulates TACs using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.²² As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. Monitoring data and emissions inventories of TACs help the BAAQMD determine health risk to Bay Area residents.

Ambient monitoring concentrations of TACs indicate that pollutants emitted primarily from motor vehicles (1,3-butadiene and benzene) account for a substantial portion of the ambient background risk in the Bay Area.²³ According to the BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of Phase 2 reformulated gasoline. Due to this reduction, the calculated average cancer risk based on monitoring results has also been reduced.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources – primarily “off-road” sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment is not commonly used in urban parts of the Bay Area, while construction equipment typically operates for a limited time at various locations. As a result, the readily identifiable locations where diesel particulate matter is emitted in the Bay Area include high-traffic roadways and other areas with substantial truck traffic.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000)

²¹ California Air Resources Board (CARB). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

²² In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

²³ Bay Area Air Quality Management District (BAAQMD). 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1*. May. Website: <https://www.baaqmd.gov/about-air-quality/research-and-data/emission-inventory/toxic-air-contaminants> (accessed August 2023).

that is greater than all other measured TACs combined.²⁴ The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel – a step already implemented – and cleaner-burning diesel engines.²⁵ The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions.

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases with collective and individual toxicological characteristics.

4.2.1.2 National and State Ambient Air Quality Standards

Both State and federal governments have established health-based ambient air quality standards for criteria air pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the USEPA and the CARB have established ambient air quality standards for the following common pollutants: CO, O₃, NO₂, SO₂, Pb, and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. These ambient air quality standards are levels of contaminants that avoid specific adverse health effects associated with each pollutant.

Federal standards include both primary and secondary standards. Primary standards establish limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection

²⁴ Bay Area Air Quality Management District (BAAQMD). 2015. *Toxic Air Contaminant Control Program Annual Report, Volume 1*. May. Website: <https://www.baaqmd.gov/about-air-quality/research-and-data/emission-inventory/toxic-air-contaminants> (accessed August 2023).

²⁵ California Air Resources Board (CARB). 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Prepared by the Stationary Source Division and Mobile Source Control Division. Website: <https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf> (accessed August 2023).

against decreased visibility, and damage to animals, crops, vegetation, and buildings.²⁶ State and federal standards for the criteria air pollutants are listed in Table 4.2.B.

4.2.1.3 Existing Climate and Air Quality

The following provides a discussion of the local and regional air quality and climate in Alameda County.

Regional and Local Air Quality. Alameda County is located in the San Francisco Bay Area Air Basin (Air Basin), a large shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. Two primary atmospheric outlets exist. One is through the strait known as the Golden Gate, a direct outlet to the Pacific Ocean. The second extends to the northeast, along the west delta region of the Sacramento and San Joaquin rivers.

The project corridor is within the city of Fremont and the unincorporated community of Sunol in Alameda County, which are within the jurisdiction of the BAAQMD, which regulates air quality in the Bay Area. Air quality conditions in the Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither State nor national ambient air quality standards (CAAQS and NAAQS, respectively) of the following chemicals have been violated in recent decades: NO₂, SO₂, sulfates, lead, hydrogen sulfide, and vinyl chloride. Those exceedances of air quality standards that do occur primarily happen during meteorological conditions conducive to high pollution levels, such as cold, windless nights or hot, sunny summer afternoons.

O₃ levels, measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by the BAAQMD and other regional, State and federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the Bay Area still exceeds the State standard for 1-hour O₃ as well as the State and federal 8-hour standards. Levels of PM₁₀ often exceed State standards, and the area is considered a nonattainment area for this pollutant relative to the State standards. The Bay Area is an unclassified area for the federal PM₁₀ standard.

No exceedances of the State or federal CO standards have been recorded at any of the region's monitoring stations since 1991. The Bay Area is currently considered a maintenance area for State and federal CO standards.

Air Quality Monitoring Results. Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and state air quality regulating agencies. Ambient air data collected at permanent monitoring stations are used by the USEPA to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary NAAQS. Attainment areas are required to maintain their status through moderate, yet effective, air quality maintenance plans. Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment

²⁶ United States Environmental Protection Agency (USEPA). 2017b. Criteria Air Pollutants. October. Website: www.epa.gov/criteria-air-pollutants (accessed August 2023).

Table 4.2.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹		Federal Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃) ⁸	1-Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry	
	8-Hour	0.07 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)			
Respirable Particulate Matter (PM ₁₀) ⁹	24-Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		–			
Fine Particulate Matter (PM _{2.5}) ⁹	24-Hour	–	Gravimetric or Beta Attenuation	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³		12.0 µg/m ³			
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	–	Non-Dispersive Infrared Photometry (NDIR)	
	1-Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		–			
Nitrogen Dioxide (NO ₂) ¹⁰	Annual Arithmetic Mean	0.03 ppm (57 µg/m ³)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemi-luminescence	
	1-Hour	0.18 ppm (339 µg/m ³)		100 ppb (188 µg/m ³)			
Lead (Pb) ^{12,13}	30-Day Average	1.5 µg/m ³	Atomic Absorption	–	Same as Primary Standard	High-Volume Sampler and Atomic Absorption	
	Calendar Quarter	–		1.5 µg/m ³ (for certain areas) ¹²			
	Rolling 3-Month Average ⁹	–		0.15 µg/m ³			
Sulfur Dioxide (SO ₂) ¹¹	24-Hour	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)	
	3-Hour	–		–			0.5 ppm (1300 µg/m ³)
	1-Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³) ¹¹			–
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) ¹¹			–
Visibility-Reducing Particles ¹²	8-Hour	See footnote ¹⁴	Beta Attenuation and Transmittance through Filter Tape	No			
Sulfates	24-Hour	25 µg/m ³	Ion Chromatography	Federal			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence	Standards			
Vinyl Chloride ¹⁰	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

Source: Ambient Air Quality Standards (California Air Resources Board 2016).
Table footnotes are provided on the following page.

- ¹ California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- ² National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once per year. The ozone standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard. Contact the USEPA for further clarification and current national policies.
- ³ Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- ⁴ Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
- ⁵ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- ⁶ National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- ⁷ Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.
- ⁸ On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- ⁹ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- ¹⁰ To attain the 1-hour 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 ppb. Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- ¹¹ 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 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 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. Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- ¹² The CARB 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 the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- ¹³ The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- ¹⁴ In 1989, the CARB 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.

°C = degrees Celsius

µg/m³ = micrograms per cubic meter

CAAQS = California ambient air quality standards

CARB = California Air Resources Board

mg/m³ = milligrams per cubic meter

ppb = parts per billion

ppm = parts per million

USEPA = United States Environmental Protection Agency

such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the State on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data. Table 4.2.C lists the San Francisco Bay Area Air Basin's attainment status for each criteria pollutant.

The CARB and the USEPA maintain ambient air quality monitoring stations within California. The air quality monitoring station closest to the project site is the 3466 La Mesa Drive monitoring station in Hayward, which monitors criteria air pollutant data.²⁷ The air quality trends from this station are used to represent the ambient air quality in the project area. Ambient air quality in the project area from 2020 to 2022 (the most recent available period) is shown in Table 4.2.D. However, the only pollutant monitored at this station was O₃. Air quality trends for CO, PM₁₀, and SO₂ are from the Jackson Street air quality monitoring station in San Jose and trends for PM_{2.5} and NO₂ are from the Owens Court air quality monitoring station in Pleasanton.

Pollutant monitoring results indicate that air quality in the Alameda County area has generally been good. As indicated in the monitoring results, 1-hour O₃ concentrations exceeded the State standard three times in 2020, once in 2021, and an unknown number of times in 2022. The 8-hour concentrations exceeded the State standards five times in 2020 and exceeded the federal standards four times in 2020, exceeded the State and federal standards three times in 2021, and exceeded the State and federal standards twice in 2022. In addition, the federal PM_{2.5} standard was exceeded 17 times in 2020 and twice in 2021. The CO, PM₁₀, NO₂, and SO₂ standards were not exceeded in this area during the 3-year period.

Toxic Air Contaminant Trends. In 1984, the CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012.²⁸ Concentrations of diesel particulate matter, a key TAC, declined by 68 percent between 1990 and 2012, despite a 31 percent increase in State population and an 81 percent increase in diesel vehicle miles traveled, as shown on Figure 4.2-1. The study also found that the significant reductions in cancer risk to California residents from the implementation of air toxic controls are likely to continue.

The USEPA and the CARB regulate direct emissions from motor vehicles. The BAAQMD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

²⁷ CARB gathers ambient air quality data for the State of California and ensures the quality of these data. CARB provides ambient air quality monitoring sites throughout California's counties and air basins.

²⁸ Propper et al. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. Website: pubs.acs.org/doi/full/10.1021/acs.est.5b02766 (accessed August 2023).

Table 4.2.C: San Francisco Bay Area Air Basin Attainment Status

	Averaging Time	California Standards ¹		National Standards ²	
		Concentration	Attainment Status	Concentration ³	Attainment Status
Ozone (O ₃)	8-Hour	0.070 ppm (137 µg/m ³)	Nonattainment ⁹	0.070 ppm	Nonattainment ⁴
	1-Hour	0.09 ppm (180 µg/m ³)	Nonattainment	Not Applicable	5
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment ⁶
	1-Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂)	1-Hour	0.18 ppm (339 µg/m ³)	Attainment	0.100 ppm ¹¹	11
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Not Applicable	0.053 ppm (100 µg/m ³)	Attainment
Sulfur Dioxide (SO ₂) ¹²	24-Hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	12
	1-Hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	12
	Annual Arithmetic Mean	Not Applicable	Not Applicable	0.030 ppm (80 µg/m ³)	12
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	Nonattainment ⁷	Not Applicable	Not Applicable
	24-Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	Nonattainment ⁷	15 µg/m ³ ¹⁵	Unclassified/ Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m ³ ¹⁰	Nonattainment
Sulfates	24-Hour	25 µg/m ³	Attainment	Not Applicable	Not Applicable
Lead (Pb) ¹³	30-Day Average	1.5 µg/m ³	Not Applicable	Not Applicable	Attainment
	Calendar Quarter	Not Applicable	Not Applicable	1.5 µg/m ³	Attainment
	Rolling 3-Month Average ¹⁴	Not Applicable	Not Applicable	0.15 µg/m ³	14
Hydrogen Sulfide	1-Hour	0.010 ppm (26 µg/m ³)	Unclassified	Not Applicable	Not Applicable
Vinyl Chloride (chloroethene)	24-Hour	0.010 ppm (26 µg/m ³)	No Information Available	Not Applicable	Not Applicable
Visibility Reducing Particles	8-Hour (10:00 to 18:00 PST)	8	Unclassified	Not Applicable	Not Applicable

Source: Bay Area Attainment Status (BAAQMD 2017).
 Table footnotes are provided on the following page

- ¹ California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM₁₀, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM₁₀ annual standard), then some measurements may be excluded. In particular, measurements are excluded that the CARB determines would occur less than once per year on average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the State standard.
- ² National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once per year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the fourth-highest daily concentration is 0.070 ppm (70 ppb) or less. The 24-hour PM₁₀ standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m³. The 24-hour PM_{2.5} standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m³.
Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM₁₀ is met if the 3-year average falls below the standard at every site. The annual PM_{2.5} standard is met if the 3-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.
- ³ National air quality standards are set by the USEPA at levels determined to be protective of public health with an adequate margin of safety.
- ⁴ On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over 3 years, is equal to or less than 0.070 ppm. The USEPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.
- ⁵ The national 1-hour ozone standard was revoked by the USEPA on June 15, 2005.
- ⁶ In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.
- ⁷ In June 2002, the CARB established new annual standards for PM_{2.5} and PM₁₀.
- ⁸ Statewide Voluntary Remediation Program (VRP) Standard (except Lake Tahoe Air Basin): Particles in sufficient amounts to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.
- ⁹ The 8-hour State ozone standard was approved by the CARB on April 28, 2005, and became effective on May 17, 2006.
- ¹⁰ On January 9, 2013, the USEPA issued a final rule to determine that the Bay Area attains the 24-hour PM_{2.5} national standard. This USEPA rule suspends key SIP requirements as long as monitoring data continue to show that the Bay Area attains the standard. Despite this USEPA action, the Bay Area will continue to be designated as "non-attainment" for the national 24-hour PM_{2.5} standard until such time as the air district submits a "redesignation request" and a "maintenance plan" to the USEPA and the USEPA approves the proposed redesignation.
- ¹¹ To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). The USEPA expects to make a designation for the Bay Area by the end of 2017.
- ¹² On June 2, 2010, the USEPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030-ppm annual and 0.14-ppm 24-hour SO₂ NAAQS however must continue to be used until 1 year following the USEPA initial designations of the new 1-hour SO₂ NAAQS. The USEPA expects to make designations for the Bay Area by the end of 2017.
- ¹³ The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.
- ¹⁴ National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.
- ¹⁵ In December 2012, the USEPA strengthened the annual PM_{2.5} NAAQS from 15.0 to 12.0 µg/m³. In December 2014, the USEPA issued final area designations for the 2012 primary annual PM_{2.5} NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

µg/m³ = micrograms per cubic meter

BAAQMD = Bay Area Air Quality Management District

CARB = California Air Resources Board

mg/m³ = milligrams per cubic meter

NAAQS = National Ambient Air Quality Standards

ppm = parts per million

SIP = State Implementation Plan

USEPA = United States Environmental Protection Agency

Table 4.2.D: Ambient Air Quality at the 3466 La Mesa Drive, Hayward Monitoring Station

Pollutant	Standard	2020	2021	2022
Carbon Monoxide (CO)¹				
Maximum 1-hour concentration (ppm)		2.1	1.6	1.7
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.5	1.0	1.4
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O₃)				
Maximum 1-hour concentration (ppm)		0.116	0.097	0.098
Number of days exceeded:	State: > 0.09 ppm	3	1	ND
Maximum 8-hour concentration (ppm)		0.092	0.082	0.073
Number of days exceeded:	State: > 0.07 ppm	5	3	2
	Federal: > 0.07 ppm	4	03	2
Coarse Particulates (PM₁₀)¹				
Maximum 24-hour concentration (µg/m ³)		137.1	45.1	41.0
Number of days exceeded:	State: > 50 µg/m ³	10	0	0
	Federal: > 150 µg/m ³	0	0	0
Annual arithmetic average concentration (µg/m ³)		24.6	20.1	ND
Exceeded for the year:	State: > 20 µg/m ³	Yes	No	ND
	Federal: > 50 µg/m ³	No	No	ND
Fine Particulates (PM_{2.5})²				
Maximum 24-hour concentration (µg/m ³)		123.8	42.8	31.7
Number of days exceeded:	Federal: > 35 µg/m ³	17	2	0
Annual arithmetic average concentration (µg/m ³)		11.8	8.4	7.6
Exceeded for the year:	State: > 12 µg/m ³	No	No	No
	Federal: > 15 µg/m ³	No	No	No
Nitrogen Dioxide (NO₂)²				
Maximum 1-hour concentration (ppm)		0.063	0.042	0.042
Number of days exceeded:	State: > 0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.013	0.011	0.012
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO₂)¹				
Maximum 1-hour concentration (ppm)		0.0029	0.0018	0.0020
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 24-hour concentration (ppm)		0.0008	0.0007	0.0009
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.0002	0.0002	0.0002
Exceeded for the year:	Federal: > 0.030 ppm	No	0	0

Source: Air Monitoring Site Map, Alameda County, 6466 La Mesa Drive, Hayward (CARB and USEPA 2023).

¹ Data taken at the Jackson Street air quality monitoring station in San Jose.

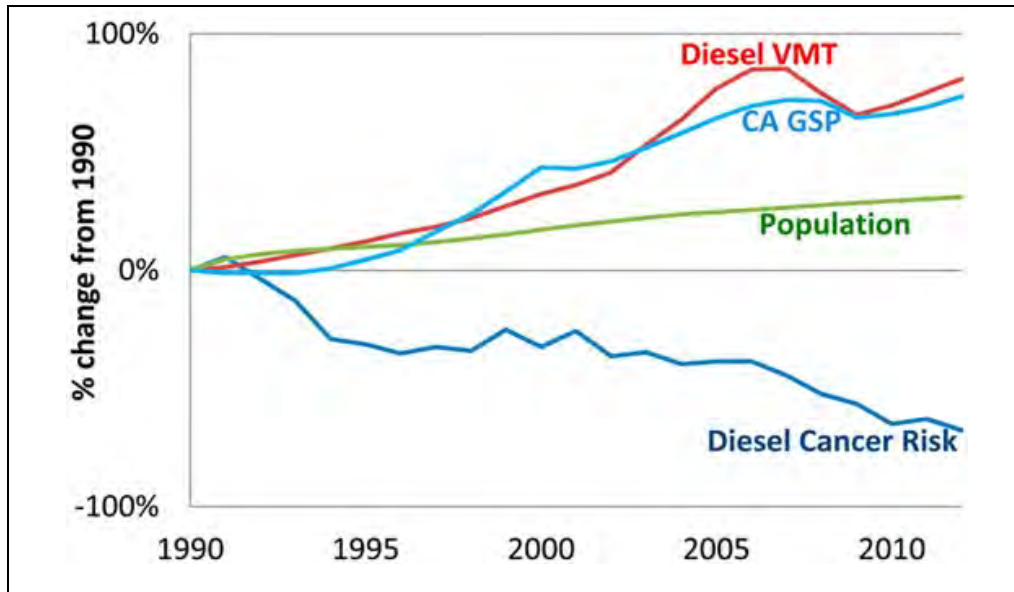
² Data taken at the Owens Court air quality monitoring station in Pleasanton.

µg/m³ = micrograms per cubic meter

ND = No data. There were insufficient (or no) data results to determine the value.

ppm = parts per million

Figure 4.2-1: California Population, Gross State Product (GSP), Diesel Cancer Risk, and Diesel Vehicle Miles Traveled (VMT) Regulatory Context



Source: Ambient and Emission Trends of Toxic Air Contaminants in California (Propper et al. 2015).

4.2.1.4 Regulatory Context

The BAAQMD is primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as for monitoring ambient pollutant concentrations. BAAQMD's jurisdiction encompasses seven counties—Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa—and portions of Solano and Sonoma counties. The USEPA and the CARB regulate direct motor vehicle emissions.

The following discusses the applicable federal, State, regional, and local regulatory framework.

Federal Regulations. At the federal level, the USEPA has been charged with implementing national air quality programs. The USEPA air quality mandates are drawn primarily from the federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required the USEPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The USEPA has the responsibility to review all state SIPs to determine conformity with the mandates of the FCAA and determine if implementation will achieve air quality goals. If the USEPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area, which imposes additional

control measures. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in sanctions on transportation funding and stationary air pollution sources in the air basin.

The USEPA is also required to develop National Emission Standards for Hazardous Air Pollutants, which are defined as those which may reasonably be anticipated to result in increased deaths or serious illness, and which are not already regulated. An independent science advisory board reviews the health and exposure analyses conducted by the USEPA on suspected hazardous pollutants prior to regulatory development.

State Regulations. The CARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), adopted in 1988. The CCAA requires that all air districts in the State achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources, and provides districts with the authority to regulate indirect sources.

The CARB is also primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. The CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. The CARB combines these data and submits the completed SIP to the USEPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for mobile sources, consumer products, small utility engines, and off-road vehicles. The CARB Diesel Risk Reduction Plan is intended to substantially reduce diesel particulate matter emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel—a step already implemented—and cleaner-burning diesel engines.²⁹

Because of the robust evidence relating proximity to roadways and a range of non-cancer and cancer health effects, the CARB also created guidance for avoiding air quality conflicts in land use planning in its *Air Quality and Land Use Handbook: A Community Health Perspective*.³⁰ In its guidance, the CARB advises that new sensitive uses (e.g., residences, schools, day care centers, playgrounds, and hospitals) not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day, or within 1,000 feet of a distribution center (warehouse) that accommodates more than 100 trucks or more than 90 refrigerator trucks per day.

²⁹ California Air Resources Board (CARB). 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October. Prepared by the Stationary Source Division and Mobile Source Control Division. Website: <https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf> (accessed August 2023).

³⁰ California Environmental Protection Agency and California Air Resources Board (CalEPA and CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April. Website: www.arb.ca.gov/ch/handbook.pdf (accessed August 2023).

The CARB guidance suggests that the use of these guidelines be customized for individual land use decisions and take into account the context of proposed development projects. The Air Quality and Land Use Handbook specifically states that these recommendations are advisory and acknowledges that land use agencies must balance other considerations, including housing and transportation needs, economic development priorities, and other quality-of-life issues.

Regional Regulations. The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan. The Clean Air Plan guides the region’s air quality planning efforts to attain the CAAQS.³¹ The BAAQMD 2017 Clean Air Plan, which the BAAQMD Board of Directors adopted on April 19, 2017, is the current Clean Air Plan that contains district-wide control measures to reduce O₃ precursor emissions (e.g., ROG and NO_x), particulate matter and greenhouse gas (GHG) emissions.

The Bay Area 2017 Clean Air Plan:

- Describes the BAAQMD plan towards attaining all State and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities.
- Defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050.
- Provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve GHG reduction targets.
- Includes a wide range of control measures designed to decrease emissions of air pollutants that are most harmful to Bay Area residents, such as particulate matter, O₃, and toxic air contaminants; to reduce emissions of methane and other “Super-GHGs” that are potent climate pollutants in the near term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

BAAQMD CARE Program. The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to

³¹ Bay Area Air Quality Management District (BAAQMD). 2017. *Final 2017 Clean Air Plan*. April 19. Website: 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 2023).

airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that include an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TACs, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and a high density of sensitive populations. Risk reduction activities associated with the CARE program focus on the most at-risk communities in the Bay Area.

For commercial and industrial sources, the BAAQMD regulates TACs using a risk-based approach. This approach uses an HRA to determine what sources and pollutants to control as well as the degree of control. An HRA is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances to provide a quantitative estimate of health risks.³² As part of ongoing efforts to identify and assess potential health risks to the public, the BAAQMD has collected and compiled air toxic emission data from industrial and commercial sources of air pollution throughout the Bay Area. The BAAQMD has identified seven impacted communities;³³ the project area has not been identified as an affected community.³⁴

BAAQMD CEQA Air Quality Guidelines. The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air 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 GHG emissions.

In June 2010, the BAAQMD adopted updated draft CEQA Air Quality Guidelines and finalized them in May 2011. These guidelines superseded previously adopted agency air quality guidelines of 1999 and were intended to advise lead agencies on how to evaluate potential air quality impacts.

In 2023, the BAAQMD published an updated version of the CEQA Guidelines. The BAAQMD CEQA Guidelines include thresholds to evaluate project impacts in order to protectively evaluate the potential effects of the project on air quality. These protective thresholds are appropriate in the context of the size, scale, and location of the proposed project.

³² In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

³³ The seven impacted communities include Richmond/San Pablo; eastern San Francisco, including Treasure Island; San Jose; western Alameda County; Concord, Vallejo; and Pittsburg/Antioch.

³⁴ Bay Area Air Quality Management District. 2014. *Community Air Risk Evaluation Program*. August 20. Website: <https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program> (accessed August 2023).

Local Regulations. The following describes local regulations related to air quality that pertain to the proposed project.

Alameda County General Plan. The Alameda County General Plan does not contain policies related to air quality.

East County Area Plan. The following goals and policies from the East County Area Plan Environmental Health and Safety section sets forth the following goals, policies, and implementation measures related to air quality that are relevant to the proposed project.

- **Air Quality Goal:** To ensure that air pollution levels do not threaten public health and safety, economic development, or future growth.
 - **Policy 291:** The County shall strive to meet federal and state air quality standards for local air pollutants of concern. In the event that standards are exceeded, the County shall require appropriate mitigation measures on new development.
 - **Policy 291:** The County shall coordinate subregional air quality planning and mitigation among East County cities using the results of the biennial monitoring report.
 - **Policy 293:** The County shall support the Bay Area Air Quality Management District (BAAQMD) in monitoring air pollutants of concern on a continuous basis.
 - **Policy 294:** The County shall require new development projects to include traffic and air pollutant reduction measures to help attain air quality standards. For non-residential projects, these measures could include Transportation Demand Management programs such as ridesharing and transit promotion; for residential projects, these measures could include site plan features to reduce traffic trip generation such as mixed-use development and transit-oriented development.
 - **Policy 296:** The County shall review the cumulative impact of proposed projects for their potential effect on air quality conditions.
 - **Policy 300:** The County shall review proposed projects for their potential to generate hazardous air pollutants.
 - **Policy 302:** The County shall include buffer zones within new residential and sensitive receptor site plans to separate those uses from freeways, arterials, point sources and hazardous material locations.
 - **Policy 303:** The County shall incorporate the provisions of the Association of Bay Area Government's (ABAG) Bay Area Air Quality Plan and the Bay Area Air Quality Management District's (BAAQMD) Air Quality and Urban Development Guidelines into project review procedures.

- *Policy 304:* The County shall notify cities and the Bay Area Air Quality Management District (BAAQMD) of proposed projects which may significantly affect air quality.
- *Policy 305:* The County shall cooperate with the BAAQMD and California Air Resources Board in their enforcement of the provisions of the Clean Air Act, state and regional policies, and established standards for air quality.

City of Fremont General Plan. The Conservation Element of the *City of Fremont General Plan*³⁵ includes air quality policies and implementation measures intended to improve air quality over current conditions to meet or exceed State and regional standards. The following policies and implementation measures are applicable to the project.

- *Policy 7-7.2: Reduce Air Pollution Levels.* Reduce City of Fremont air contaminant levels and particulate emissions below BAAQMD attainment levels, in particular, ozone and particulate matter levels.
 - *Implementation 7-7.2.A: Construction Practices.* Require construction practices that reduce dust and other particulate emissions and require watering of exposed areas at construction sites.
 - *Implementation 7-7.2.B: Reducing Fireplace Emissions.* Ensure new development complies with the City's Wood Burning Fireplace Ordinance to assist in reducing fireplace particulate emissions.
- *Policy 7-7.3: Land Use Planning to Minimize Health Impacts from Toxic Air Contaminants.* Coordinate land use planning with air quality data and local transportation planning to reduce the potential for long-term exposure to toxic air contaminants (TAC) from permanent sources that affect the community.
 - *Implementation 7-7.3.A: Limit New TAC Sources.* Evaluate new sources of TAC emissions pursuant to BAAQMD guidelines and thresholds for an increased health risk of no more than 10 additional incidents of cancer per million exposures or contribute to a cumulative risk in excess of 100 additional incidents of cancer per million exposures.
 - *Implementation 7-7.3.B: Limit New Residential Development in High Risk Areas.* For infill development sites within existing neighborhoods, apply thresholds for review when new sensitive receptors are within areas exposed to health risk levels in excess of 100 additional incidents of cancer per million exposures. Infill development also includes conditional development of a mixed use and urban residential development nature within residential and commercial areas of Centers and Urban Corridors. When considering land use changes that add sensitive

³⁵ Fremont, City of. 2011. *City of Fremont General Plan Conservation Element*. December. Website: <https://www.fremont.gov/home/showpublisheddocument/791/637750630830170000> (accessed August 2023).

receptor uses outside of existing neighborhoods, apply thresholds for review when new sensitive receptors are within areas exposed to health risk levels in excess of 10 additional incidents of cancer per million exposures.

- *Implementation 7-7.3.C: Incorporate TAC Controls with New Development.* New development projects with sensitive receptors within 1,000 feet of a freeway or major TAC source shall assess the TAC health risk for the site and incorporate, to the maximum extent feasible, risk reduction measures to reduce exposure to TAC. Risk reduction measures may include, but not limited to, project phasing, site orientation, distance separations, landscape buffering, building air filtration systems, modified building design or building type, or off site improvements at a TAC source.

City of Fremont Municipal Code. City of Fremont Municipal Code (FMC) identifies standard development requirements for construction-related emissions in Section 18.218.050. FMC Section 18.218.050 requires the implementation of the BAAQMD's Basic Construction Mitigation Measures for all proposed development projects and the implementation of the BAAQMD's Additional Construction Mitigation Measures which are recommended for proposed development projects that would generate construction emissions above the BAAQMD's thresholds. Section 18.218.050 Standard Development Requirements for air quality are as follows:

(a) Air Quality.

- (1) Construction Related Emissions. The following construction measures, as periodically amended by BAAQMD, are required for all proposed development projects to reduce construction-related fugitive dust and exhaust emissions:
 - (A) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times daily.
 - (B) All haul trucks transporting soil, sand, or other loose material off site shall be covered.
 - (C) All visible mud or dirt track-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.
 - (D) All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
 - (E) 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.
 - (F) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five 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.

- (G) 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.
 - (H) A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.
- (2) Construction Related Emissions – Supplemental Measures. The following supplemental construction measures, as periodically amended by BAAQMD, are required for all proposed development projects that would exceed the thresholds of significance for construction criteria air pollutant and precursors provided in the most recent BAAQMD CEQA Guidelines:
- (A) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
 - (B) All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
 - (C) Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
 - (D) Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
 - (E) The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the total area of surfaces disturbed at any one time.
 - (F) All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
 - (G) Site accesses to a distance of 100 feet from the paved road shall be treated with a six- to 12-inch compacted layer of wood chips, mulch, or gravel.

- (H) Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- (I) Idling time of diesel-powered construction equipment shall be limited to two minutes.
- (J) The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project-wide fleet-average 20 percent nitrogen oxide (NOx) reduction and 45 percent particulate matter (PM) reduction compared to the most recent Air Resources Board fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- (K) Low volatile organic compound (i.e., reactive organic gas) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings) shall be used.
- (L) All construction equipment, diesel trucks, and generators shall be equipped with best available control technology for emission reductions of NOx and PM.
- (M) All contractors shall use equipment that meets the Air Resources Board's most recent certification standard for off-road heavy-duty diesel engines.

4.2.2 Impacts and Mitigation Measures

This section provides an assessment of the potential impacts related to air quality that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and identifies mitigation measures, as appropriate.

4.2.2.1 Significance Criteria

The following thresholds of significance were adapted from Appendix G of the *State CEQA Guidelines* and the BAAQMD's CEQA Air Quality Guidelines. Based on these thresholds, implementation of the proposed project would have a significant impact related to air quality if it would:

Threshold 4.2.1: Conflict with or obstruct implementation of the applicable air quality plan;

Threshold 4.2.2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard;

Threshold 4.2.3: Expose sensitive receptors to substantial pollutant concentrations; or

Threshold 4.2.4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

According to the BAAQMD CEQA Guidelines, to meet air quality standards for criteria air pollutant and air precursor impacts, the proposed project must not:

- Contribute to CO concentrations exceeding the State ambient air quality standards;
- Generate average daily construction emissions of ROG, NO_x or PM_{2.5} (exhaust) greater than 54 pounds per day or PM₁₀ exhaust emissions greater than 82 pounds per day;
- Generate operational emissions of ROG, NO_x or PM_{2.5} of greater than 10 tons per year or 54 pounds per day or PM₁₀ emissions greater than 15 tons per year or 82 pounds per day; or
- Exceed a cancer risk level of more than 10 in one million, a non-cancer risk (i.e., chronic or acute) hazard index greater than 1.0, or result in incremental increase of greater than 0.3 micrograms per cubic meter annual average PM_{2.5}.

4.2.2.2 Project Impacts

The following section discusses the potential air quality impacts associated with implementation of the proposed project. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ substantially by phase and therefore are not differentiated in this section. Air quality impacts are evaluated for implementation of the proposed project, as a whole.

Threshold 4.2.1: Conflict with or obstruct implementation of the applicable air quality plan. The applicable air quality plan is the BAAQMD 2017 Clean Air Plan (Clean Air Plan), which defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to 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. Consistency with the Clean Air Plan can be determined if the project (1) supports the goals of the Clean Air Plan; (2) includes applicable control measures from the Clean Air Plan; and (3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

Clean Air Plan Goals. The primary goals of the Bay Area Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect climate.

The BAAQMD has established significance thresholds for project construction and operational impacts at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health. As discussed below, construction and operation of the proposed project would not result in the generation of criteria air pollutants

that would exceed BAAQMD thresholds of significance. Therefore, the proposed project would not conflict with the Clean Air Plan goals.

Clean Air Plan Control Measures. The control strategies of the Clean Air Plan include measures in the following categories: Stationary Source Measures, Transportation Measures, Energy Measures, Building Measures, Agriculture Measures, Natural and Working Lands Measures, Waste Management Measures, Water Measures, and Super-GHG Pollutants Measures. The proposed project's compliance with each of these control measures is discussed below.

Stationary Source Control Measures. The Stationary Source Control Measures, which are designed to reduce emissions from stationary sources such as metal melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by the BAAQMD and then enforced by the BAAQMD Permit and Inspection programs. Since the proposed project would not include any of these stationary sources, the Stationary Source Control Measures of the Clean Air Plan are not applicable to the proposed project.

Transportation Control Measures. The BAAQMD identifies Transportation Control Measures as part of the Clean Air Plan to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The proposed project would construct a 6-mile, Class I, multi-use trail between the Niles District in Fremont and the unincorporated community of Sunol through Niles Canyon in Alameda County. The multi-use trail would be open to hikers, bicyclists, and equestrians. The trail design would incorporate several different barrier options to separate trail users from railroad and highway traffic. The project would establish a safe and functional Class I trail to provide recreation and multimodal transportation opportunities for pedestrians, bicyclists, and equestrians and would provide a connection to Palomares Road that allows off-State Route (SR) 84 travel for pedestrians and bicyclists. Therefore, the proposed project would support the ability to use alternative modes of transportation, would promote initiatives to reduce vehicle trips and vehicle miles traveled, and would increase the use of alternate means of transportation. Therefore, the proposed project would not conflict with and would support the identified Transportation and Mobile Source Control Measures of the Clean Air Plan.

Energy Control Measures. The Clean Air Plan also includes Energy Control Measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area, as well as decreasing the carbon intensity of the electricity used by switching to less GHG-intensive fuel sources for electricity generation. Since these measures apply to electrical utility providers and local government agencies (and not individual projects), the Energy Control Measures of the Clean Air Plan are not applicable to the proposed project.

Building Control Measures. The BAAQMD has authority to regulate emissions from certain sources in buildings such as boilers and water heaters but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes to

facilitate adoption of best GHG control practices and policies. The proposed project would not include any buildings; therefore, the Building Control Measures of the Clean Air Plan are not applicable.

Agriculture Control Measures. The Agriculture Control Measures are designed to primarily reduce emissions of methane. Since the project does not include any agricultural activities, the Agriculture Control Measures of the Clean Air Plan are not applicable to the proposed project.

Natural and Working Lands Control Measures. The Natural and Working Lands Control Measures focus on increasing carbon sequestration on rangelands and wetlands, as well as encouraging local governments to adopt ordinances that promote urban-tree plantings. Since the proposed project does not include the disturbance of any rangelands or wetlands, the Natural and Working Lands Control Measures of the Clean Air Plan are not applicable to the proposed project.

Waste Management Control Measures. The Waste Management Control Measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The proposed project would comply with local requirements for waste management (e.g., recycling and composting services). Therefore, the proposed project would be consistent with the Waste Management Control Measures of the Clean Air Plan.

Water Control Measures. The Water Control Measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works, and promoting the use of biogas recovery systems. Since these measures apply to publicly owned treatment works and local government agencies (and not individual projects), the Water Control Measures are not applicable to the proposed project.

Super GHG Control Measures. The Super-GHG Control Measures are designed to facilitate the adoption of best GHG control practices and policies through the BAAQMD and local government agencies. Since these measures do not apply to individual projects, the Super-GHG Control Measures are not applicable to the proposed project.

Clean Air Plan Implementation. As discussed above, the proposed project would generally implement the applicable measures outlined in the Clean Air Plan, including Transportation Control Measures. Therefore, the project would not disrupt or hinder implementation of a control measure from the Clean Air Plan. This impact would be **less than significant**.

Threshold 4.2.2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard. The BAAQMD is currently designated as a nonattainment area for State and national O₃ standards and national particulate matter ambient air quality standards. The BAAQMD's nonattainment status is attributed to the region's development history. Past, present, and future

development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The following analysis assesses the potential project-level construction- and operation-related air quality impacts.

Short-Term Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly emitted particulate matter (PM_{2.5} and PM₁₀), and TACs such as diesel exhaust particulate matter.

Project construction activities would include grubbing and land clearing, grading and excavation, drainage, subgrade, and paving activities. Construction-related effects on air quality from the proposed project would be greatest during the grubbing and land clearing phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, whereas fine particles would be dispersed over greater distances from the construction site. This is a **potentially significant** impact.

Impact AIR-1: Construction of the proposed project would generate fugitive dust (PM_{2.5} and PM₁₀) emissions.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM₁₀). With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, ROG, and some soot particulate (PM_{2.5} and PM₁₀) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those

vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

The BAAQMD has developed screening criteria to provide lead agencies with a conservative indication of whether the proposed project would result in potentially significant air quality impacts. If a proposed project meets all of the screening criteria, then the lead agency would not need to perform a detailed air quality assessment of the proposed project’s emissions. These screening levels are generally representative without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions.

For recreational/park land uses, the BAAQMD screening size for construction criteria pollutants is 10 acres. In addition, to meet the BAAQMD’s screening criteria, construction-related activities would not include extensive site preparation/grading or extensive material movement. The total area of disturbance for the proposed project (all three phases) would be 17.4 acres, including the trail and parking area at Palomares Road. In addition, since the proposed project would require approximately 16,000 cubic yards of fill, 6,000 cubic yards of which would be import material, a detailed assessment of the project’s construction-related emissions is required.

Construction emissions were estimated for the project using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.18, consistent with BAAQMD recommendations. As stated in Chapter 3.0, Project Description, the trail is proposed to be developed in three phases. Phase 1 is anticipated to begin in 2025 with completion in 2027. Phases 2 and 3 would be developed as funding becomes available (however, likely no sooner than 2030). Construction for Phase 1 would take place over a 24-month period. Since the construction schedule for Phases 2 and 3 is currently unknown, this analysis conservatively assumes that construction of the entire trail would continue for a single 24-month period. During Phase 1, grading would require approximately 16,000 cubic yards of fill, 6,000 cubic yards of which would be import material, which was included in CalEEMod. The remaining 10,000 cubic yards of soil would be balanced on site. This analysis assumes grading for Phases 2 and 3 would be similar. Other construction details are not yet known; therefore, default assumptions (e.g., construction equipment and worker trips) from CalEEMod were used. Construction-related emissions are presented in Table 4.2.E, below. CalEEMod outputs are provided in Appendix B.

Table 4.2.E: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NO _x	Exhaust PM ₁₀	Fugitive Dust PM ₁₀	Exhaust PM _{2.5}	Fugitive Dust PM _{2.5}
Average Daily Emissions	1.7	14.5	0.6	1.0	0.6	0.2
BAAQMD Thresholds	54.0	54.0	82.0	BMP	54.0	BMP
Exceed Threshold?	No	No	No	No	No	No

Source: LSA (October 2023).

BAAQMD = Bay Area Air Quality Management District

BMP = best management practices

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

ROG = reactive organic gases

As shown in Table 4.2.E, construction emissions associated with the project would not exceed the BAAQMD's thresholds for ROG, NO_x, exhaust PM₁₀, and exhaust PM_{2.5} emissions. However, to ensure that construction-period PM_{2.5} and PM₁₀ fugitive dust emissions would be reduced to a less-than-significant level, the BAAQMD and FMC Section 18.218.050 require the implementation of BAAQMD Basic Construction Mitigation Measures. Therefore, Mitigation Measure AIR-1, which requires that Alameda County implements dust controls during project construction, would be required and would reduce construction-related air quality impacts of PM₁₀ and PM_{2.5} and fugitive dust emissions, consistent with BAAQMD Basic Construction Mitigation Measures.

Mitigation Measure AIR-1

To meet the BAAQMD fugitive dust threshold, the following BAAQMD Basic Construction (best management practice) Mitigation Measures shall be implemented:

- 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). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

- A publicly visible sign shall be posted with the telephone number and person to contact at Alameda County regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of Mitigation Measure AIR-1, construction-related air quality emissions would be reduced to the extent practicable through the implementation of best management practices and impacts would be **less than significant with mitigation**. As such, with implementation of Mitigation Measure AIR-1, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.

Long-Term Operational Emissions. Long-term air pollutant emission impacts are those typically associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to a project.

PM₁₀ emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM₁₀ occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. As identified in Chapter 3.0, Project Description, no lighting is proposed; therefore, the proposed project would not generate energy source emissions.

Typically, area source emissions consist of direct sources of air emissions at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the project would include emissions from the use of landscaping equipment.

As discussed above, the BAAQMD has developed screening criteria to determine whether a project requires an analysis of project-generated criteria air pollutants. If a proposed project meets all the screening criteria, then the lead agency does not need to perform a detailed air quality assessment. For recreational/park land uses, the BAAQMD screening size for operational criteria pollutants is 175 acres. The total area of disturbance for the proposed project would be 17.4 acres, including the trail and parking area at Palomares Road, which is well below the BAAQMD's screening criteria. Therefore, based on the BAAQMD's screening criteria, the proposed project is not anticipated to exceed established thresholds. Furthermore, as discussed in Section 4.12, Transportation, the proposed trail would result in an anticipated trip generation of 73 vehicles per weekday and 91 vehicles per weekend. Based on this low level of anticipated

trip generation, the proposed project would not be expected to substantially increase air pollutant emissions due to mobile sources. In addition, the project would not result in a substantial source of energy or area source emissions. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standards. Impacts would be **less than significant**.

Localized CO Impacts. Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. The BAAQMD CEQA Guidelines include recommended methodologies for quantifying concentrations of localized CO levels for proposed transportation projects. A screening level analysis using guidance from the BAAQMD CEQA Guidelines was performed to determine the project's impacts. The screening methodology provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD CEQA Guidelines, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

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

Implementation of the proposed project would not conflict with the policies or programs of the Alameda County Transportation Commission, which is the applicable county congestion management agency. As identified above, the proposed trail would result in an anticipated trip generation of 73 vehicles per weekday and 91 vehicles per weekend. Therefore, the project's contribution to peak hour traffic volumes at intersections in the vicinity of the project site would be well below 44,000 vehicles per hour. As such, the proposed project would not result in localized CO concentrations that exceed State or federal standards. This impact would be **less than significant**.

Threshold 4.2.3: Expose sensitive receptors to substantial pollutant concentrations. Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks.

According to the BAAQMD, a project would result in a significant impact if it would individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10.0 in 1 million, increase non-cancer risk of greater than 1.0 on the hazard index (chronic or acute), or an annual average ambient PM_{2.5} increase greater than 0.3 micrograms per cubic meter (µg/m³). A significant cumulative impact would occur if the project in combination with other projects within a 1,000-foot radius of the project site would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100.0 in 1 million, an increased non-cancer risk of greater than 10.0 on the hazard index (chronic), or an ambient PM_{2.5} increase greater than 0.8 µg/m³ on an annual average basis. Impacts from substantial pollutant concentrations are discussed below.

The proposed trail alignment would begin at Niles Plaza, west of Mission Boulevard in the Niles District within Fremont, and extend along Niles Boulevard, across Alameda Creek on Mission Boulevard, and along the existing Alameda Creek Trail. This portion of the proposed trail alignment would be within a developed, urban area. Land uses along the proposed trail alignment include primarily commercial and civic uses, with some residential development. Sensitive receptors are adjacent to the project site including residential uses. As described in Threshold 4.2-2 above, construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement the BAAQMD's Basic Construction Mitigation Measures as specified in Mitigation Measure AIR-1. With adherence to Mitigation Measure AIR-1, project construction emissions would be below the BAAQMD's significance thresholds. Additionally, due to the linear nature of the project, construction activities at any one receptor location would take place for a limited duration. Once the project is constructed, the project would not be a source of substantial emissions. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during project construction or operation. With implementation of Mitigation Measure AIR-1, potential impacts would be **less than significant with mitigation**.

Threshold 4.2.4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. During construction, the various diesel-powered vehicles and equipment in use on site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. Additionally, the proposed uses that would be developed within the project site are not expected to produce any offensive odors that would result in frequent odor complaints. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be **less than significant**.

4.2.2.3 Cumulative Impacts

According to the BAAQMD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to independently create regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The BAAQMD is currently designated as a nonattainment area for State and national O₃ standards and national particulate matter ambient air quality standards. BAAQMD nonattainment status is

attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Therefore, if daily average or annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the proposed project would result in a cumulatively significant impact. As described above, the proposed project would not exceed emission thresholds established by the BAAQMD. Therefore, the proposed project would not result in a cumulatively considerable contribution to regional air quality impacts, and the cumulative impact would be **less than significant**.

4.3 BIOLOGICAL RESOURCES

This section addresses the biological resources in the project area, including (1) vegetation communities and wildlife habitats, (2) regulatory context, (3) potentially occurring special-status species, (4) sensitive habitats such as wetlands, and (5) potential impacts to biological resources associated with implementation of the proposed project. Mitigation measures are identified as necessary.

4.3.1 Setting

The following subsection describes (1) the methods used to establish the baseline conditions for biological resources in the project area, (2) the regulatory context related to biological resources, and (3) existing biological resources occurring within and around the vicinity of the project area.

4.3.1.1 Methods

Prior to conducting the field surveys, LSA searched the California Natural Diversity Database (CNDDDB)³⁶ for occurrence records of special-status species within a 3-mile radius of the project area and compiled a list of all special-status plants and animals that are known to occur in the vicinity. The list also includes special-status species known by LSA biologists to occur in the project area or observed during the field survey and for which suitable habitat exists on or adjacent to the project area. Species that may occur within 3 miles of the project area but are restricted to salt marsh or other similar marine habitats associated with the San Francisco Bay are not included in the discussion, because, due to the lack of suitable habitat, they do not occur in inland locations such as Niles Canyon and the East Bay Hills. Survey methods within the project corridor are discussed below for the Phase 1 and Phases 2 and 3 alignments.

Phase 1. Field surveys of the Phase 1 portion of the project area were conducted on July 27, 2022, and November 11, 2022; most of the trail alignment was covered on foot. Additional surveys were conducted on May 8, 9, 17, and 18, 2023 to map vegetation communities, inventoried trees, survey for rare plants, and delineate the extent of jurisdictional waters. Surveys included observations within the project area and relevant adjoining areas; for the purposes of this section the project area and adjoining areas are collectively termed the “survey area” (Figure 4.3-1). The project area refers to the area where ground-disturbing work for construction of the proposed project could take place.

The field surveys focused on searching for (1) evidence for special-status plant and animal species and/or habitats that could support such species, (2) sensitive plant communities, and (3) wetlands and drainage features and inventorying trees. Plants and animals observed during the survey were recorded in field notes and digital photographs were taken to document cover types and habitats. The Jepson Manual³⁷ and online updates (Jepson eFlora)³⁸ were used as the primary sources for plant taxonomy and identification.

³⁶ California Department of Fish and Wildlife (CDFW). 2023. California Natural Diversity Database. Sacramento: CDFW, Natural Resources Division. July 10.

³⁷ Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, Second Edition. Berkeley: University of California Press.

³⁸ Jepson eFlora: <https://ucjeps.berkeley.edu/eflora/>.

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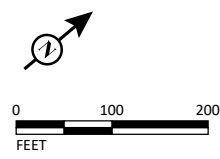
LSA

LEGEND

- Survey Area
- Project Area
- Ordinary High Water

Land Cover Types

- Coast Live Oak Woodlands
- California Sycamore Woodlands
- Wild Oats Grassland / Ruderal
- Alameda Creek/Creek Bed
- Developed



SOURCE: Nearmap (05/2022).

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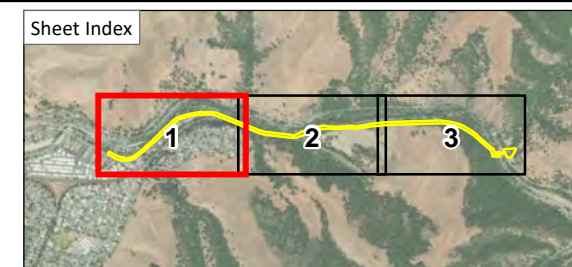





FIGURE 4.3-1
Sheet 1 of 3

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



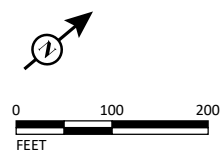
LSA

LEGEND

-  Survey Area
-  Project Area
-  Ordinary High Water

Land Cover Types

-  Coast Live Oak Woodlands
-  California Sycamore Woodlands
-  Wild Oats Grassland / Ruderal
-  Alameda Creek/Creek Bed
-  Developed



SOURCE: Nearmap (05/2022).

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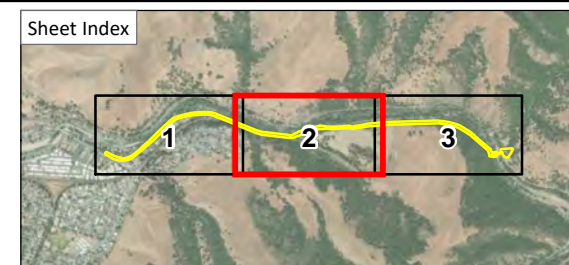


FIGURE 4.3-1
Sheet 2 of 3

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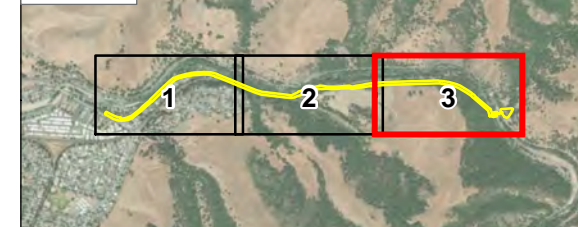
LEGEND

- Survey Area
- Project Area
- Ordinary High Water

Land Cover Types

- Coast Live Oak Woodlands
- California Sycamore Woodlands
- Wild Oats Grassland / Ruderal
- Alameda Creek/Creek Bed
- Developed

Sheet Index



SOURCE: Nearmap (05/2022).

I:\STU2001\GIS\Maps\BioReport\Figure 4.3.1_Land Cover.mxd (9/12/2023)

FIGURE 4.3-1
Sheet 3 of 3

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The tree inventory included identifying and mapping trees in the project area and survey area; however, portions of the eastern Phase 1 project/survey area were inaccessible and unsafe to inventory due to very steep slopes and cliff faces, and the number of trees in this area was estimated.

The area where tree numbers were estimated is within the gap, with no numbered trees, between approximately tree number 237 on the west side to tree number 345 on the east side of the project area (Figure 4.3-2, Sheet 3). The tree number estimates were calculated by using the tree counts within a 0.24-acre area on the west side of the gap and a 0.36-acre area on the east side of the count gap. The species composition and density in these two count areas similar to that in the uncounted gap as determined by examination of the steep slopes with binoculars (8 x 32) from turnouts along State Route (SR) 84 and along the Niles Canyon Railroad right-of-way. The species composition and density information from these counted areas was then used to estimate the number of trees in the surveyed area.

Phase 2 and 3. The Phase 2 and 3 portions of the project area were surveyed on September 23, 2022. Because these phases are evaluated at a programmatic level and detailed plans for the proposed project during these phases are not available, the survey was conducted by vehicle driving along SR 84 with periodic stops at selected locations along the roadway where the cover types and other biological features could be evaluated at a general reconnaissance level. As in the July 17 and November 11 surveys, observations were recorded in a field notebook and digital photographs were taken to document cover types and habitats. Binoculars (8 x 32) were used to aid in the identification of wildlife and view distant habitats in inaccessible areas along the proposed project corridor.

4.3.1.2 Existing Conditions

This section describes existing vegetation and wildlife habitat values, potentially occurring special-status plant and wildlife species, sensitive vegetation types, and potentially jurisdictional waters within the project area, beginning with Phase 1 and then Phases 2 and 3. Vegetation categories follow the Manual of California Vegetation³⁹ as much as possible and include California sycamore woodlands (*Platanus racemosa* Woodland Alliance), coast live oak woodland (*Quercus agrifolia* Woodland Alliance), and wild oats grassland (*Avena [barbata, fatua]* Semi-Natural Stands).

Land Cover Types: Phase 1. The primary vegetation cover types in the Phase 1 project area include a mixture of riparian species, mainly along the north side (i.e., creek side) of the corridor, and upland trees on the south side.

California Sycamore Woodlands. In addition to California sycamores (*Platanus racemosa*), other native trees in this woodland along the alignment include box elder (*Acer negundo*), white alder (*Alnus rhombifolia*), northern California black walnut (*Juglans hindsii*), Fremont cottonwood (*Populus fremontii*), black cottonwood (*P. trichocarpa*), coast live oak (*Quercus agrifolia*) red willow (*Salix laevigata*), and arroyo willow (*S. lasiolepis*). Thickets of California wild grape (*Vitis californica*) are also prominent in the riparian understory riparian along the project corridor.

³⁹ Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. Second edition. Sacramento: California Native Plant Society Press.

Coast Live Oak Woodland. In addition to coast live oak, other trees in this woodland include California buckeye (*Aesculus californica*), big-leaf maple (*Acer macrophyllum*), Valley oak (*Quercus lobata*), holly-leaved cherry (*Prunus ilicifolia*), and California bay (*Umbellularia californica*). Understory shrubs include poison oak (*Toxicodendron diversilobum*). Along relatively steep, north-facing slopes in the eastern portion of Phase 1, California bay is one of the dominant canopy species in this forest, with an understory that is relatively open and a deep bed of leaf litter.

Wild Oats Grassland/Ruderal. These two vegetation types are discussed together because they form a mosaic in open areas along the trail alignment. Wild oak grassland is dominated by wild oat (*Avena barbata* and/or *A. fatua*); these two nonnative grasses can form almost pure stands but are often mixed with other weedy nonnative species, as well as some native grasses and forbs, such as those discussed in the below in the description of ruderal vegetation. Ruderal vegetation is generally defined as vegetation that is growing on disturbed or waste lands and is typically dominated by invasive, nonnative plant species, although native species are also a frequent component of ruderal vegetation. Ruderal vegetation is highly variable in its species composition and is not a category defined in the California Manual of Vegetation.⁴⁰

Along the alignment, open areas outside the tree canopy are dominated by ruderal vegetation with nonnative grasses such as wild oat, Italian rye grass (*Festuca perennis*), soft chess (*Bromus hordeaceus*), and ripgut grass (*Bromus diandrus*), but there are also scattered clumps of native grasses such as purple needle grass (*Stipa pulchra*) present in some areas. Large patches of poison hemlock (*Conium maculatum*), a nonnative invasive plant, are present near the southern end of project corridor west of Old Canyon Road and patches of Mission prickly-pear (*Opuntia ficus-indica*), a nonnative cactus, were also present at scattered locations. Himalayan blackberry (*Rubus armeniacus*), wild radish (*Raphanus sativus*), French broom (*Genista monspessulana*), English plantain (*Plantago lanceolata*), fennel (*Foeniculum vulgare*), and broad leaf filaree (*Erodium botrys*) are also nonnative plants prominent in ruderal areas within the alignment. Also present are scattered native shrubs such as blue elderberry (*Sambucus mexicanus*), poison oak, California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*); however, there are no extensive areas of scrub vegetation within or adjacent to the Phase 1 project corridor. Small numbers of nonnative trees are also present in ruderal areas along Old Canyon Road and California Pottery Company Road including tree of heaven (*Ailanthus altissima*), red gum (*Eucalyptus camaldulensis*), purple leaf plum (*Prunus cerasifera*), Peruvian pepper (*Schinus molle*), and Mexican fan palm (*Washingtonia robusta*).

Developed. This land cover type includes the shoulder of Old Canyon Road and the California Pottery Company Road along the western portion of the Phase 1 project area, the site of the California Pottery Company where the buildings have been demolished and the area is now bare ground. The project corridor runs along the north side of Old Canyon Road and just south of the road is residential development.

⁴⁰ Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. Second edition. Sacramento: California Native Plant Society Press.

Land Cover Types: Phases 2 and 3.Vegetation cover along Phases 2 and 3 of the project corridor is like that along the portion of Phase 1 in Niles Canyon, dense coast live oak woodland and/or California bay forest along the north slopes of the hills south of SR 84 and more open oak woodland and grassland on the south slopes north of the highway. A corridor of riparian woodland like that along the Phase 1 alignment is also present along Alameda Creek adjacent to the Phase 2 and 3 alignments. Toward the eastern portion of the Phase 3 alignment more developed areas are present, including the Western Star Nursery and the community of Sunol.

Tree Inventory: Phase 1.As noted above, the tree inventory was conducted along the entire Phase 1 project area, except for a section of the project area that was unsafe to survey due to very steep slopes. As noted above, the area not inventoried is shown on Figure 4.3-2, Sheet 3 where there is a gap with no numbered trees between approximately tree number 237 on the west side to tree 345 on the east side of the project area. The total number of inventoried trees within the Phase 1 project area included 175 trees including 20 species, with 1 species of pine (1 individual) that could be identified only to the taxonomic level of genus and 4 unknown (mostly dead trees) species (Table 4.3.A). Tree species within the survey area but outside the project area and unlikely to be disturbed by the proposed project are also shown in Table 4.3.A. The dominant native tree species in the inventoried areas and their numbers are coast live oak (90), red willow (16), California bay (13), California buckeye (8), California sycamore (7), big leaf maple (6), and Northern California black walnut (6) (Table 4.3.A).

The gap where trees were not counted (Figure 4.3-2 Sheet 3) includes 2.35 acres of the survey area and 1.17 acres of the Phase 1 project area. The number of trees estimated to be present in these areas are 133 trees in the survey area and 66 trees in the Phase 1 project area. Based on the tree species present in the count areas on the western and eastern ends of the uncounted gap and inspection of the slopes within the uncounted gap with binoculars, the dominant trees in the uncounted gap appear to be mainly coast live oaks and California bays.

Animals. Wildlife observed during the field surveys included mostly common bird species associated with oak woodlands and aquatic habitat along Alameda Creek. Typical oak woodland species observed included band-tailed pigeon (*Patagioenas fasciata*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Dryobates nuttallii*), California scrub-jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), oak titmouse (*Baeolophus ridgwayi*), white-breasted nuthatch (*Sitta carolinensis*), and Bewick's wren (*Thryomanes bewickii*). Other common species observed included mourning dove (*Zenaida macroura*), Anna's Hummingbird (*Calypte anna*), bushtit (*Psaltriparus minimus*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), dark-eyed junco (*Junco hyemalis*), and California towhee (*Melospiza crissalis*).

Raptors observed during the field surveys included turkey vulture (*Cathartes aura*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), and bald eagle (*Haliaeetus leucocephalus*).

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LSA

LEGEND

- Survey Area
- Project Area

Trees

- *Quercus agrifolia* (coast live oak) (187 trees)
- *Salix laevigata* (red willow) (29 trees)
- *Umbellularia californica* (California bay) (27 trees)
- *Platanus racemosa* (California sycamore) (18 trees)
- *Acer macrophyllum* (big leaf maple) (15 trees)
- *Aesculus californica* (California buckeye) (15 trees)
- *Juglans hindsii* (Northern California black walnut) (11 trees)
- *Populus fremontii* (Fremont cottonwood) (8 trees)
- *Sambucus mexicana* (blue elderberry) (6 trees)
- *Quercus lobata* (valley oak) (5 trees)
- Other Species with fewer than 5 individuals (35 trees)

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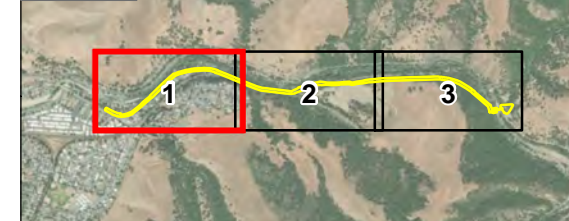
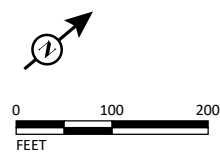


FIGURE 4.3-2
Sheet 1 of 3

Niles Canyon Trail Project
Environmental Impact Report
Tree Map



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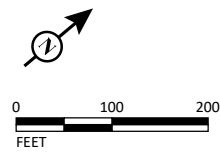
LSA

LEGEND

- Survey Area
- Project Area

Trees

- *Quercus agrifolia* (coast live oak) (187 trees)
- *Salix laevigata* (red willow) (29 trees)
- *Umbellularia californica* (California bay) (27 trees)
- *Platanus racemosa* (California sycamore) (18 trees)
- *Acer macrophyllum* (big leaf maple) (15 trees)
- *Aesculus californica* (California buckeye) (15 trees)
- *Juglans hindsii* (Northern California black walnut) (11 trees)
- *Populus fremontii* (Fremont cottonwood) (8 trees)
- *Sambucus mexicana* (blue elderberry) (6 trees)
- *Quercus lobata* (valley oak) (5 trees)
- Other Species with fewer than 5 individuals (35 trees)



SOURCE: Google (2022)

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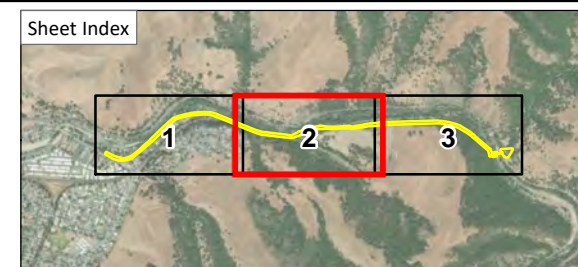


FIGURE 4.3-2
Sheet 2 of 3

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LSA

LEGEND

- Survey Area
- Project Area

Trees

- *Quercus agrifolia* (coast live oak) (187 trees)
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Sheet Index

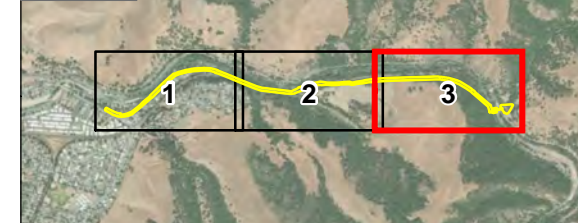


FIGURE 4.3-2
Sheet 3 of 3

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Table 4.3.A: Phase 1 Project Area Tree Inventory

Species	Within Project Area	Outside Project Area	Total Within Survey Area
Big leaf maple (<i>Acer macrophyllum</i>)	6	9	15
Box elder (<i>Acer negundo</i>)	1	-	1
California buckeye (<i>Aesculus californica</i>)	8	7	15
Tree of heaven* (<i>Ailanthus altissima</i>)	3	-	3
White alder (<i>Alnus rhombifolia</i>)	1	-	1
River red gum* (<i>Eucalyptus camaldulensis</i>)	-	1	1
Eucalyptus* (<i>Eucalyptus</i> sp.)	-	1	1
Oregon ash (<i>Fraxinus latifolia</i>)	1	-	1
Cypress sp. (<i>Hesperocyparis</i> sp.)	-	2	2
English walnut* (<i>Juglans regia</i>)	1	-	1
Northern California black walnut (<i>Juglans hindsii</i>)	6	5	11
Pine* (<i>Pinus</i> sp.)	1	-	1
California sycamore (<i>Platanus racemose</i>)	7	11	18
Fremont cottonwood (<i>Populus fremontii</i>)	4	4	8
Purple leaf plum* (<i>Prunus cerasifera</i>)	1	-	1
Holly-leaf cherry (<i>Prunus ilicifolia</i>)	2	-	2
Coast live oak (<i>Quercus agrifolia</i>)	90	97	187
Valley oak (<i>Quercus lobata</i>)	2	3	5
Oak (<i>Quercus</i> sp.)	-	1	1
Red willow (<i>Salix laevigata</i>)	16	13	29
Arroyo willow (<i>Salix lasiolepis</i>)	2	2	4
Blue elderberry (<i>Sambucus mexicana</i>)	3	3	6
Brazilian pepper* (<i>Schinus terebinthifolius</i>)	1	-	1
California bay (<i>Umbellularia californica</i>)	13	14	27
Mexican fan palm* (<i>Washingtonia robusta</i>)	-	4	4
Unknown	4	6	10
Total Trees	173	183	356

Source: LSA Field Survey (2023).

* = Species not native to California and/or Alameda County

Species associated with the aquatic habitats and/or riparian woodland along the creek included mallard (*Anas platyrhynchos*), common merganser (*Mergus merganser*), snowy egret (*Egretta thula*), green heron (*Butorides virescens*), belted kingfisher (*Megaceryle alcyon*), black phoebe (*Sayornis nigricans*), and song sparrow (*Melospiza melodia*). American kestrel (*Falco sparverius*), a small falcon associated with open grasslands, were also seen in the grasslands adjacent to the Phase 1 alignment.

Mammals observed during the surveys included both the native western gray squirrel (*Sciurus griseus*) and nonnative eastern fox squirrel (*Sciurus niger*), mule deer (*Odocoileus hemionus*), and feral cats (*Felis catus*). California ground squirrels (*Spermophilus beecheyi*), a generally common small mammal in open habitats within the East Bay Hills, were not observed during the field surveys; the burrows of this small mammal provide important underground habitat for a variety of amphibians, reptiles, and arthropods. Reptiles observed along the alignment include southern alligator lizard (*Elgaria multicarinata*) and western fence lizard (*Sceloporus occidentalis*), both common Bay Area species. A large Sacramento pikeminnow (*Ptychocheilus grandis*), a native fish, was also observed in a creek pool adjacent to the project corridor.

Special-Status Species: For the purposes of this analysis, special-status species are defined as follows:

- Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act or California Endangered Species Act
- Plant species assigned to California Rare Plant Ranks 1A, 1B, or 2
- Wildlife species designated as Species of Special Concern or Fully Protected Species by the California Department of Fish and Wildlife (CDFW)
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the *State CEQA Guidelines*
- Species considered as a taxon of special concern by local agencies

The following includes a description of special-status plant and wildlife species that potentially occur within the project area and vicinity. Special-status plant and wildlife species evaluated for the proposed project and their potential for occurrence on and in the vicinity of the alignment are identified and discussed in Tables 4.3.B and 4.3.C, respectively.

Plants. Based on the results of the database search, literature review, and field surveys, seven special-status plant species were identified as potentially occurring in the project area including chaparral harebell (*Campanula exigua*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*), long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*), California alkali grass (*Puccinellia simplex*), most beautiful jewel flower (*Streptanthus albidus* ssp. *peramoenus*), and northern slender pondweed (*Stuckenia filiformis* ssp. *alpina*). Except for Congdon's tarplant and Santa Clara red ribbons, none of these species are likely to occur within the project corridor due to the lack of suitable habitats (Table 4.3.B).

Congdon's tarplant and Santa Clara red ribbons have CNDDDB occurrence records within 3 miles of the project corridor. Open habitats such as the grasslands and ruderal areas along the project corridor provide potential habitat for Congdon's tarplant and the coast live oak woodland stands along the corridor provide potential habitat for Santa Clara red ribbons; however, neither of these plant species were observed during the field surveys which were conducted within their booming periods.

Table 4.3.B: Special-Status Plant Species Potentially Occurring in the Vicinity of the Project Area

Species	Status (Federal/State/RPR)	Habitat Requirements	Blooming Period	Potential of Occurrence
Chaparral harebell <i>Campanula exigua</i>	-/-/1B	Annual, herb; occurs on talus slopes, generally on serpentinite, 984–4,100 feet in elevation.	May to June	Low Potential: There are no serpentinite-derived soils along the project corridor and this species was not observed during field surveys.
Congdon’s tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	-/-/1B	Annual herb; occurs on terraces, swales, floodplains, grassland, disturbed sites less than 984 feet in elevation.	June to October	Moderate Potential: There are limited areas in open habitats along the project corridor that provide potential habitat, but this species was not observed during field surveys.
Santa Clara red ribbons <i>Clarkia concinna</i> ssp. <i>automixa</i>	-/-/1B	Annual herb; occurs in chaparral and woodland; 295–1,500 feet in elevation.	April to July, primary May to June.	High Potential: There are CNDDB records of this species from Niles Canyon ¹ and this plant could occur in the oak woodland all along the project corridor.
Long-styled sand-spurrey <i>Spergularia macrotheca</i> var. <i>longistyla</i>	-/-/1B	Perennial herb; occurs in meadows, seeps, marshes, and swamps, 0–835 feet in elevation.	February to May	Low Potential: There is a single record of this species in the project vicinity from the mouth of Niles Canyon ¹ ; however suitable habitat does not occur within Phase 1 of the project corridor.
California alkali grass <i>Puccinellia simplex</i>	-/-/1B	Annual herb; occurs in saline flats and mineral springs; 0-2952 feet in elevation	April-June	Low Potential: There are no saline flats or mineral springs in or near the project corridor and this species was not observed during field surveys.
Most beautiful jewel flower <i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	-/-/1B	Annual herb; foothill woodland, chaparral, and grasslands often on serpentine soils 310–3,280 feet in elevation.,	April to September	Low Potential: There is only one old, undated record in the project vicinity based on a collection near Niles; there are no serpentinite derived soils along the project corridor and this species was not observed during field surveys.
Northern slender pondweed <i>Stuckenia filiformis</i> ssp. <i>alpina</i>	-/-/2B	Perennial rhizomatous herb (aquatic); occurs in marshes and swamps in shallow freshwater.	May to July	Low Potential: This species is only known from three locations in Alameda County, none of which are in Niles Canyon. The closest record is from an imprecise location noted as “Alameda Creek area” (CNDDB occurrence #15) about 1 mile west of the western edge of the project area. Potential habitat may occur in backwaters along Alameda Creek in Niles Canyon, but these areas are not within the project corridor.

Sources: CNDDB (2022) and Calflora (2022).

¹ Calflora. 2022. The Calflora Database. Berkeley. Website: www.calflora.org/ (accessed Oct 18, 2022).

1B = Rare Plant Rank (RPR) 1B: plants considered rare, threatened, or endangered in California and elsewhere.

2B = RPR 2B: plants rare, threatened, or endangered in California but common elsewhere

CNDDB = California Natural Diversity Database

Table 4.3.C: Special-Status Animal Species Potentially Occurring in the Vicinity of the Project Area

Species	Status* (Federal/State)	Habitat Requirements	Potential for Occurrence
Fish			
Pacific lamprey <i>Entosphenus tridentatus</i>	-/CSC	Anadromous, adults primarily in marine waters, spawning in freshwater in gravel riffles and runs; ammocoetes (i.e., larva) in silt, mud, and sand in shallow backwaters and eddies of streams.	High Potential: This species is known to occur in Alameda Creek and is expected along the reach adjacent to the project area and at the proposed bridge crossing.
Steelhead (Central California coast DPS) <i>Oncorhynchus mykiss irideus</i>	FT/-	Coastal rivers and streams with cold water and deep (3 feet or greater) pools and runs; for spawning, requires clean, silt-free gravel beds (0.5–5 inches deep), with clear flowing water and shaded stream reaches. Spawning adults occur during winter high water.	High Potential: This species is known to occur in Alameda Creek and is expected along the reach adjacent to the project area and at the proposed bridge crossing.
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	FT/CT/--	Spends most of its life in underground burrows, primarily those of California ground squirrels (<i>Spermophilus beecheyi</i>). Breeds in vernal pools and ephemeral ponds, including cattle stock ponds. Breeds after the first rains in late fall and early winter when the wet season allows the salamander to migrate to the nearest pond, a journey that may be more than 1 mile and take several days. Lays eggs in small clusters or singly, which hatch after 14 to 21 days. The pools must hold water for a minimum of 12 weeks for the larvae to successfully metamorphose into their terrestrial form.	Low Potential: There are 21 CNDDDB occurrences within 3 miles of the project area; however, there is no suitable breeding habitat on or near the project corridor and potential upland habitat is limited. The closest occurrence record (CNDDDB #1093) is 0.98 mile southeast of the Phase 1 segment of the project corridor; the other closest records are 1.71 (CNDDDB#580) and 1.76 (CNDDDB# 586) miles to the southeast, respectively. These occurrences are in open rolling grassland habitat.
Foothill yellow-legged frog Central Coast DPS <i>Rana boylei</i>	FT/SE, CSC	Partly shaded, shallow streams and riffles with a rocky substrate; still backwaters for egg laying and larval development.	Low Potential: There is a single old record (1953) of this amphibian from Alameda Creek in Niles canyon. ^{1,2} Nonetheless this frog is generally considered extirpated from formerly inhabited stream courses in lower elevations around the San Francisco Bay including Alameda Creek in Niles Canyon. ³ Foothill yellow-legged frogs are still present in some headwater streams in the Alameda Creek watershed. The population in the Alameda Creek watershed is part of the Central Coast DPS and was federally listed as threatened species in August 2023. ⁴

Table 4.3.C: Special-Status Animal Species Potentially Occurring in the Vicinity of the Project Area

Species	Status* (Federal/State)	Habitat Requirements	Potential for Occurrence
California red-legged frog <i>Rana draytonii</i>	FT/CSC	Pond and streams, and associated uplands; requires areas of deep, still, and/or slow-moving water for breeding and larval development	Low Potential: The lack of CNDDDB records or historical museum specimens ² of this amphibian from Alameda Creek in Niles Canyon suggests that it may not occur in this reach of the creek.
Reptiles			
Western pond turtle <i>Actinemys marmorata</i> ⁵	-/CSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and adjacent grasslands or other open habitat for egg-laying.	High Potential: Suitable aquatic habitat is present along Alameda Creek and this species is likely present; the closest CNDDDB occurrence are along the creek adjacent to the Phase 3 segment of the project corridor, 0.13 mile from the proposed bridge crossing at Palomares Road. Nesting sites could occur within certain segments of the project corridor that occur in or near the creek.
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT/ST	This snake occurs in California sagebrush scrub and chaparral and adjacent grasslands, rock outcrops are also an important habitat element, and this species will also occur in open oak woodlands.	Low Potential: Suitable scrub habitat and rock outcrops are not nearby, but this species could occur occasionally in grasslands and open oak woodland near the trail alignment. The only CNDDDB records within 3 miles of the project area are north of Alameda Creek/Niles Canyon Road, the closest being a juvenile along Palomares Road 0.82 mile north northeast of Niles Canyon Road junction (CNDDDB #183). Critical habitat for this species in Niles Canyon is restricted to the area north of Niles Canyon Road; Palomares Road Staging Area 2 is within Critical Habitat, but this area is occupied by coast live oak woodland. No scrub or rock outcrops are present and there would be a low potential for this species at this location.
Birds			
White-tailed kite <i>Elanus leucurus</i>	-/CFP	Forages in open grasslands, road verges, meadows, and marshes. Nests in small to tall trees and forages over open grasslands for small mammals.	Moderate Potential (nesting): Suitable nesting habitat is present in riparian trees along Alameda Creek and isolated oaks in grassland adjacent to the alignment. This species could forage in areas of open grassland south of the project corridor.
Golden eagle <i>Aquila chrysaetos</i>	-/CFP	Forages over expansive open country, nests in large trees and on cliff ledges. Golden eagle nest sites in the Niles Canyon area are generally on the ridgelines, not in the canyon bottom	Low Potential (nesting): Prefers large, isolated trees for nest sites, generally in remote areas. A known nest site (2011) on Vargas Plateau is about 2,500 feet south of the project area and another in the hills north of SR 84 is about 3,000 feet from the Phase 1 project area. These nests sites are a considerable elevation above the canyon bottom. ⁶ Golden eagles have frequently been observed flying over Niles Canyon. Suitable foraging habitat is present in ridgeline grasslands and adjacent hills.

Table 4.3.C: Special-Status Animal Species Potentially Occurring in the Vicinity of the Project Area

Species	Status* (Federal/State)	Habitat Requirements	Potential for Occurrence
Bald eagle <i>Haliaeetus leucocephalus</i>	--/SE, CFP	Forages over open country, particularly around large waterbodies including rivers, lakes, and seacoasts. Nests in large trees and on cliff ledges.	Low Potential (nesting): The closest area of suitable foraging habitat is the Quarry Lakes Regional Recreation Area, about 1 mile west of the western edge of the alignment, where this species is an uncommon but regular visitor. No known nesting sites are within 3 miles of the project area; however, this species has recently been documented repeatedly in the Niles Canyon area by biologists monitoring golden eagles in the area. ⁶
Tricolored blackbird <i>Agelaius tricolor</i>	-/ST, CSC	Colonial nesting species requiring extensive areas of emergent marsh for breeding but will also occasionally use extensive areas of tall green herbaceous vegetation and in the Central Valley and Sierra Foothills with nests in large clumps of non-native Himalayan blackberry (<i>Rubus armeniacus</i>). Nesting colonies require nearby areas supporting abundant large insect (e.g., grasshoppers) populations. In the non-breeding season, forages in large flocks often with other blackbird species and European starlings (<i>Sturnus vulgaris</i>) in open ranchlands and pastures.	Low Potential (nesting/foraging): CNDDDB occurrence records of nesting colonies east of the eastern edge of the Phase 3 project area and LSA observations of large foraging flocks (early 2000s) in the Sunol Valley indicate that this species occurs (occurred) in the region. This species has declined dramatically in recent years. ⁷ Suitable tri-colored blackbird nesting and foraging habitat are not present in the project area, and this species would not be expected to nest or forage here.
Mammals			
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	-/CSC	Roosts primarily in abandoned buildings, mines, and caves; forages in open woodlands and along woodland edges. Roosting sites limited, extremely sensitive to human disturbance.	Low Potential (roosting habitat): No structures, mines, or caves that provide suitable roosting sites are present in the Phase 1 segment of the project corridor. This species could forage along the Alameda Creek corridor if a suitable roosting site is nearby.
Pallid bat <i>Antrozous pallidus</i>	-/CSC	Roosts in caves, tunnels, buildings, under bridges, and in tree hollows; forages over variety of habitats.	Moderate Potential (roosting/foraging habitat). Cavities in large trees along Alameda Creek, if present, could provide locations for transient day and night roosting. Individuals may fly or forage over the project area, especially along the open edges of the riparian habitat.
Western red bat <i>Lasiurus blossevillii</i>	-/CSC	Roosts in tree foliage within or near riparian woodlands. Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	High Potential (roosting/foraging habitat): This bat roosts in trees such as oaks, willows, and cottonwoods, and is likely present, at least seasonally, along the Alameda Creek corridor.

Table 4.3.C: Special-Status Animal Species Potentially Occurring in the Vicinity of the Project Area

Species	Status* (Federal/State)	Habitat Requirements	Potential for Occurrence
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	-/CSC	Primarily along riparian areas, chaparral, and woodlands. Feeds mainly on the seeds and fruit of woody plants such as acorns but also eats grasses and fungi. Builds conspicuous stick houses (nests) in trees and on the ground.	Moderate-High Potential: One CNDDDB occurrence (CNDDDB #6) is within 3 miles of the project area, based on an observation made in 2006 along Alameda Creek. Likely present in coast live oak woodlands along the entire alignment; however, no woodrat houses were observed within the Phase 1 segment of the project area during of the field survey.
Invertebrates			
Western bumble bee <i>Bombus occidentalis</i>	/SC/-	Feeds upon nectar and pollen from a variety of plant species but is most adapted to native plant species. Nests in abandoned rodent burrows and bird nests. The flight period in California is from early February to late November, peaking from June to September. Little is known about sites where queens overwinter. The species is currently restricted to high elevation sites in the Sierra Nevada and scattered coastal areas such as the Bay Area.	Low Potential: There are two CNDDDB records within 3 miles of the project area; these occurrences are based on collections in 1919, 1932, 1946, and 1969. This bee would not be expected to occur along much of the alignment that traverses deeply shaded understory of coast live oak woodland with few if any food plants for this species; however, if suitable food plants are present in open sunny habitat adjacent to the alignment, this species could occur.

Sources: Compiled by LSA (2023).

- ¹ California Department of Fish & Wildlife (CDFW). 2022. California Natural Diversity Database. Sacramento. April 7.
- ² Vertnet. n.d. Vertnet database. Website: <http://vertnet.org/> (accessed October 3, 2022).
- ³ California Department of Fish & Wildlife (CDFW). 2019. A Status Review of the of the Foothill Yellow-legged Frog (*Rana boylei*) in Sacramento, CA.
- ⁴ United States Fish and Wildlife Service. 2023. Endangered and Threatened Wildlife and Plants; Foothill Yellow-Legged Frog; Threatened Status With Section 4(d) Rule for Two Distinct Population Segments and Endangered Status for Two Distinct Population Segments. 88 FR 59698: 59698-59727.
- ⁵ Some workers place this species in the genus *Emys*: Thomson, R.C., A.N. Wright, and H.B. Schaffer. 2016. California Amphibian and Reptile Species of Special Concern. Sacramento, CDFW; and Berkeley and Los Angeles: University of California Press.
- ⁶ East Bay Regional Park District. Doug Bell. Wildlife Program Manager Personal Communication. September 28, 2023.
- ⁷ Central Valley Bird Club. 2015. Bulletin: Special Issue on the Status, Ecology, and Conservation of the Tricolored Blackbird. Vol. 17 No. 2-4.

CFP = California Fully Protected Species
 CSC = California Species of Special Concern
 DPS = distinct population segment

FE = Federally listed as endangered
 FT = Federally listed as threatened
 FC = Federal candidate species

SE = State listed as endangered
 ST = State listed as threatened
 SC = State candidate for listing as endangered or threatened

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Animals. Based on the results of the database search, literature review, and field surveys, 16 special-status animal species are evaluated as potentially occurring in the project area vicinity including the Pacific lamprey (*Entosphenus tridentatus*), steelhead (*Oncorhynchus mykiss irideus*), California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylei*), California red-legged frog (*Rana draytonii*), western pond turtle (*Actinemys marmorata*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), white tailed kite (*Elanus leucurus*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), tricolored blackbird (*Agelaius tricolor*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and western bumble bee (*Bombus occidentalis*). Table 4.3.C discusses the status, habitat requirements, and potential for occurrence of these 16 species.

The Pacific lamprey and steelhead are anadromous fish; the adults occur primarily in marine habitats but migrate up freshwater streams and rivers to spawn. The young develop in freshwater for one to several years until they migrate downstream to the ocean; both these species occur in Alameda Creek.

Three species of special-status amphibians, California tiger salamander, foothill yellow-legged frog, and California red-legged frog are known to occur or have historically occurred in the East Bay Hills. Only the California tiger salamander is known to have extant populations within 3 miles of the project corridor (Table 4.3.C), but this species is unlikely to be present along the trail alignment due to the lack of suitable breeding habitat (e.g., vernal pools, ephemeral ponds) in adjacent or nearby areas. In addition, California ground squirrel burrows provide essential upland habitat for California tiger salamander, but as noted above, this small mammal appears to be uncommon or absent from most of the survey area.

There are CNDDDB occurrence records of two special status reptile species within 3 miles of the project area: the western pond turtle and the Alameda whipsnake (Table 4.3.C). There are occurrence records of western pond turtle in the reach of Alameda creek along the western portion of the Phase 3 segment of the project area and this species likely occurs downstream as well, though none were observed during the field surveys. The lack of scrub habitats and associated rock outcrops within or adjacent to the project area and the fact that much of the trail alignment runs through shady coast live oak woodlands suggests that the Alameda whipsnake has a low potential of occurrence.

East Bay Regional Parks biologists monitoring golden eagles in the Niles Canyon have documented at least two territories (one south and another north of the canyon respectively) which apparently overlap in the area over the canyon⁴¹. The northern territory is named Mexican House; the exact nest location is not certain, but apparently is about 3,000 feet south of SR 84 and at a considerable elevation above the canyon bottom⁴². Although the exact details of the eagle territories in the project area are not clear, LSA's observation during the field surveys of a golden eagle carrying nesting material may have involved the Mexican House pair.

⁴¹ East Bay Regional Park District. Doug Bell. Doug Bell. Wildlife Program Manager Personal Communication. September 28, 2023.

⁴² Ibid.

Most of the project area traverses shady coast live oak woodland that is not typical foraging or nesting habitat for white tailed kite, golden eagle, and bald eagle. White tailed kites could nest in tall trees along the edges of the wild oat grassland/ruderal habitats near the site of the old California Pottery Company, but none were observed during the field surveys.

There are CNDDDB records for Townsend's big-eared bat, pallid bat, and San Francisco dusky-footed woodrat within 3 miles of the project area, and all these species are expected to be present in Niles Canyon. In addition, riparian habitats adjacent to the project area provide excellent habitat for western red bats. There are no structures near the project area that appear to provide suitable maternity or day roosts for Townsend's big-eared and pallid bats but western red bats roost singly in trees and scattered individuals would be expected to be roosting in trees in the project area. As noted above, no dusky-footed woodrat nests were observed during the field survey, but they are likely present in the coast live oak woodland in the project area.

Western bumble bees forage on various native and nonnative flowering plants and there are old CNDDDB occurrence records (1919, 1932, 1946, 1969) for the hills east of the project site.

Jurisdictional Waters. Alameda Creek is a water of the United States and is therefore under the jurisdiction of the United States Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB). In addition, the area within the top of bank of the creek and the upland edge of the riparian corridor is under the jurisdiction of the CDFW.

Sensitive Natural Communities. The dominant natural community in the project area is coast live oak woodland which is not considered a sensitive natural community. California sycamore woodland is considered a sensitive natural community and occurs adjacent to the project area in portions of the Alameda Creek channel.

4.3.1.3 Regulatory Context

Relevant regulations concerning biological resources are summarized below.

Federal Regulations. The following federal regulations related to biological resources are applicable to the proposed project.

Federal Endangered Species Act. The federal Endangered Species Act (ESA) protects listed wildlife species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species.

The United States Fish and Wildlife Service (USFWS) has jurisdiction over federally listed threatened and endangered wildlife and plant species under the ESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under the ESA but may become listed future and are often considered in their review of a project. The National Marine Fisheries Service (NMFS) has jurisdiction over marine federally listed

threatened and endangered wildlife and fish including anadromous fish such as salmon and steelhead.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (MBTA) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, or their eggs and nests. As used in the MBTA, the term “take” is defined as “to pursue, hunt, shoot, capture, collect, kill, or attempt to pursue, hunt, shoot, capture, collect, or kill, unless the context otherwise requires.” Most bird species native to North America are protected under this act. On December 27, 2017, the Department of the Interior issued an opinion that the MBTA only applies to the intentional and not the inadvertent take of species protected under the Act. The word “take” is defined as meaning “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.” However, this opinion from the Department of the Interior is only the latest interpretation of the MBTA. This legal opinion is contrary to the long-standing interpretation for over 40 years that held the MBTA strictly prohibits the intentional or incidental killing of birds or destruction of their nests when in active use.

Clean Water Act. The federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters.

Section 404 of the CWA establishes a permit program administered by the USACE that regulates the discharge of the dredged or fill material into waters of the U.S., including wetlands. The USACE implementing regulations are found in CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency (EPA) in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Section 401 requires that a project applicant that is pursuing a federal license or permit allowing a discharge to waters of the U.S. to obtain State Certification of Water Quality, thereby ensuring that the discharge will comply with provisions of the CWA. The State Water Resources Control administers the certification program in California, primarily through its regional boards. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Under Section 10 of the River and Harbors Act, the USACE regulates the construction of any structure in or over any navigable water of the United States. Navigable waters are defined as “those waters of the U.S. 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.”

State Regulations. The following State regulations related to biological resources are applicable to the proposed project.

California Endangered Species Act. The California Endangered Species Act (CESA) is administered by the CDFW and prohibits the take of plant and wildlife species identified as

either threatened or endangered in the State of California by the Fish and Game Commission (Fish and Game Code Section 2050-2089). “Take” means hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Sections 2081 and 2080.1 of the CESA allow CDFW to authorize exceptions to the prohibition of take of the State-listed threatened or endangered plant and wildlife species for purposes such as public and private development.

California Environmental Quality Act. Section 15380(b) of the *State CEQA Guidelines* provides that a species not listed on the federal or State lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in ESA and CESA and the section of the California Fish and Game Code dealing with rare or endangered plant or wildlife species. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or the CDFW.

California Water Quality and Waterbody Regulatory Programs. Pursuant to Section 401 of the federal Clean Water Act, projects that are regulated by the USACE must obtain water quality certification from the RWQCB. This certification ensures that projects will meet State water quality standards. The RWQCB has a policy of no net loss of wetlands and typically requires the identification of mitigation for all impacts to wetlands before water quality certifications may be issued. For State waters that are not otherwise regulated by the USACE under Section 404, the RWQCB issues Waste Discharge Requirements, or waivers thereof, consistent with the Porter-Cologne Water Quality Control Act.

When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the “beneficial uses” associated with waters of the State. Generally, the RWQCB defines beneficial uses to include all the resources, services, and qualities of aquatic ecosystems and underground aquifers that benefit the State. For most construction projects, the RWQCB seeks to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. The RWQCB typically requires the use of construction and post-construction best management practices (BMPs) to protect and maintain water quality.

California Fish and Game Code. The CDFW is also responsible for enforcing the California Fish and Game Code, which contains several provisions potentially relevant to construction projects. For example, Section 1600 of the Fish and Game Code governs the issuance of Streambed Alteration Agreements. Streambed Alteration Agreements are required whenever project activities substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as such by CDFW.

The Fish and Game Code also lists wildlife species designated as Fully Protected or Protected, which may not be taken or possessed at any time. CDFW does not issue licenses or permits for take of these species except for necessary scientific research or live capture and relocation pursuant to a permit for the protection of livestock. Fully Protected species are listed in Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the Fish and Game Code, while Protected amphibians and reptiles are listed in Chapter 5, Sections 41 and 42.

Section 3503 of the Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. These provisions, along with the federal MBTA, essentially serve to protect nesting native birds. Non-native species, including European starling, house sparrow, and rock pigeon, are not afforded any protection under the MBTA or California Fish and Game Code.

California Rare Plant Ranks. Special-status plants in California are assigned to one of five “California Rare Plant Ranks” by a collaborative group of over 300 botanists in government, academia, non-governmental organizations, and the private sector. This effort is jointly managed by the CDFW and the California Native Plant Society (CNPS). The five California Rare Plant Ranks currently recognized by the CNDDDB are:

- **Rare Plant Rank 1A:** Presumed extinct in California.
- **Rare Plant Rank 1B:** Rare, threatened, or endangered in California and elsewhere.
- **Rare Plant Rank 2:** Rare, threatened, or endangered in California but more common elsewhere.
- **Rare Plant Rank 3:** A review list of plants about which more information is needed.
- **Rare Plant Rank 4:** A watch list of plants of limited distribution.

All the plant species on List 1A, List 1B, and List 2 meet the requirements of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (CESA) of the Fish and Game Code and are eligible for State listing. Therefore, plants appearing on Lists 1A, 1B, or 2 are considered to meet CEQA’s Section 15380 criteria and effects to these species would be considered “significant” for the purposes of CEQA.

Special-Status Natural Communities. The CDFW tracks the occurrences of natural plant communities that are of limited distribution Statewide or within a county or region and are often vulnerable to environmental effects of projects. In the most recent list of vegetation alliances/natural communities recognized in California,⁴³ alliances with a NatureServe State ranking code of S1 through S3 are considered “highly imperiled” and impacts to stands of these vegetation types/natural communities may be considered significant under CEQA. These special-status natural communities are sometimes considered by lead or trustee agencies, but generally are not afforded the same protection as CNPS List 1B and 2 plant species. Many special-status natural communities support special-status plants and wildlife and are addressed under CEQA as habitat for those species.

⁴³ California Department of Fish and Wildlife. 2021. Natural Communities List Arranged Alphabetically by Life Form. Biogeographic Data Branch, Vegetation Classification and Mapping Program. April. Website: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline>.

Most types of wetlands and riparian communities are also considered special-status natural communities due to their limited distribution in California. While impacts to such communities would be considered significant under CEQA, wetlands and riparian communities are also afforded legal protection under Sections 401 and 404 of the federal Clean Water Act and Section 1602 of California Fish and Game Code (see above). Project proponents impacting wetlands and/or riparian communities must therefore obtain permits from the USACE, the RWQCB, and/or the CDFW, as well as comply with CEQA. As such, these communities are typically addressed separately from “non-jurisdictional” special-status natural communities when evaluating project impacts under CEQA.

Regional and Local Resource Protection Policies. The following regional and local policies pertaining to visual resources are applicable to the proposed project.

Alameda County General Plan Policies. The Alameda County General Plan Conservation Element includes the following goals and objectives related to biological resources.

- **Goal B.** To protect and enhance wildlife habitats and natural vegetation areas in Alameda County.
 - *Objective 1:* To identify areas of critical or sensitive concern for wildlife and vegetation.
 - *Objective 2:* To maintain and, if necessary, restore deteriorating environments to a level of diversity appropriate in this area of California.
 - *Objective 3:* To identify the principles of resource management as criteria for resource evaluation.
 - *Objective 4:* To educate government, business and citizens to conserve and protect wildlife resources.

The Alameda County General Plan Open Space Element includes the following objectives and objectives related to biological resources.

- **To provide a continuous system of open space for the preservation, enhancement, and protection of natural scenic features and preservation and protection of watershed and wildlife areas and agricultural areas.**
 - **Include Areas of Irreplaceable Natural and Man-made Resources.** The open space plan should include areas of irreplaceable natural and man-made resources, including areas of topographical, geographical, or historical significance; land and water areas of outstanding natural scenic qualities; and outstanding views of natural or man-made significance. Such irreplaceable areas should be designated as permanent open space on the plan.
 - **Include Existing, Potential, and Depleted Wildlife Habitats.** Existing and potential marine and wildlife habitats should be preserved in a natural, undeveloped state as part

of the open space plan, as a means of preserving and attracting wildlife. Depleted habitats adaptable to restoration should also be included as open space. All habitats should be established as sanctuaries or refuges and closed to the public, except for ecological study in selected areas.

- **Natural Resources Within Open Space Areas Should be Permanently Protected.** Within open space areas, either publicly or privately owned, removal of mature trees should not be permitted without the permission of the local authority. Alteration of streambeds or bodies of water and adjacent vegetation should be permitted only as a means of erosion or flood control, as permitted by the adopted plans of regional or local jurisdictions, and in such a manner to enhance water courses, scenic shoreline and marshlands within the county.

East County Area Plan Policies. The East County Area Plan includes the following policies and goals related biological resources.

- **Biological Resources Goal:** To preserve a variety of plant communities and wildlife habitat.
 - **Policy 121:** The County shall secure open space lands, through acquisition of easements or fee title, specifically for the preservation and protection of indigenous vegetation and wildlife.
 - **Policy 122:** The County shall encourage that wetland mitigation be consolidated in areas that are relatively large and adjacent to or otherwise connected to open space. To the extent possible, these areas should be included in, adjacent to, or linked through open space corridors with lands designated as "Resource Management" that are managed specifically for the preservation and enhancement of biological resources.
 - **Policy 123:** Where site-specific impacts on biological resources resulting from a proposed land use outside the Urban Growth Boundary are identified, the County shall encourage that mitigation is complementary to the goals and objectives of the ECAP. To that end, the County shall recommend that mitigation efforts occur in areas designated as "Resource Management" or on lands adjacent to or otherwise contiguous with these lands in order to establish a continuous open space system in East County and to provide for long term protection of biological resources.
 - **Policy 124:** The County shall encourage the maintenance of biological diversity in East County by including a variety of plant communities and animal habitats in areas designated for open space.
 - **Policy 125:** The County shall encourage preservation of areas known to support special status species.
 - **Policy 126:** The County shall encourage no net loss of riparian and seasonal wetlands.

- *Policy 127:* The County shall encourage the preservation of East County's oak woodland plant communities.
- *Policy 128:* The County shall ensure that, where quarries will be reclaimed as open space, reclamation plans are designed to restore biological value to sites through appropriate revegetation, contouring of lakes to simulate natural bodies of water, and protection or in-kind replacement of significant trees.
- *Policy 129:* The County shall protect existing riparian woodland habitat present along the Arroyo Mocho, Arroyo Del Valle, Arroyo Las Positas, Arroyo de la Laguna; and Alamo, Tassajara, and Alameda Creeks. Exceptions to these requirements shall apply for those portions of the Arroyo del Valle to be excavated for water transfer Lakes A and B under the Specific Plan for the Livermore- Amador Valley Quarry Area Reclamation, which shall instead be subject to riparian habitat restoration as specified by Policies 128 and 164; and for any approved quarry operations in Regionally Significant Construction Aggregate Resource Sector C (Arroyo Mocho) or any other streambeds, which shall also be subject to habitat restoration under Policies 128 and 164, and according to applicable State Public Resources Code requirements, to the extent that proposed reclamation specifies riparian habitat as the end use.
- *Policy 130:* The County shall preserve an open space corridor connecting the Bird's Beak Preserve with lands designated "Resource Management." This open space corridor shall vary in width between 50 and 150 feet.
- *Policy 131:* The County shall require that roadways be designed to minimize impacts to wildlife corridor and regional trails. Where appropriate, grade-separated crossings and/or other features shall be used to maintain the viability of the affected corridor.
- *Policy 132:* The County shall designate a zone of approximately 200 yards around the perimeter of the defined Bird's Beak Preserve in North Livermore as a Special Management Area. Within this zone, all proposed land uses and project designs shall be evaluated regarding their potential to effect the viability of the Springtown valley sink scrub habitat, and mitigation shall be incorporated into the approval of detailed development plans within this 200 yard zone to avoid the impact. Mitigation may take the form of clustering development to avoid sensitive areas, management practices, land swap with the FCC Monitoring Station, or other appropriate measures.
- *Policy 133:* The County shall require that the impacts of wind turbine operations on bird populations are minimized.
 - Implementation Program 55: The County shall develop management guidelines for lands designated "Resource Management" for the purpose of maintaining and/or enhancing existing plant communities and wildlife habitats. The County shall identify organizations that may be suitable to manage the open space.

- Implementation Program 56: The County shall develop specific biological survey protocols for special status plants and animals to be used in evaluating proposed activities within the Urban Growth Boundary, in consultation with federal and state resource agencies.
- Implementation Program 57: The County shall establish mitigation measures for biological resources affected by activities and development within the Urban Growth Boundary. To this end, the County shall consult with federal and state resource agencies to establish mitigation measures for specific special status taxa identified within the Urban Growth Boundary (e.g., mitigation fees, relocation, recreation of habitat within open space).

Alameda County Tree Ordinance. Chapter 12.11 of the Alameda County General Ordinance Code⁴⁴ aims to preserve trees within the County of Alameda (County) right-of-way and to control the planting, maintenance, and removal of those trees. Trees are defined as any tree that meets the following criteria: any woody perennial plant characterized by having a single trunk or multi-trunk structure at least 10 feet high and having a major trunk that is at least 2 inches in diameter taken at breast height (DBH) taken at 4.5 feet from the ground. It shall also include those plants generally designated as trees and any trees that have been planted as replacement trees under the County Tree Ordinance or any trees planted by the County. The County right-of-way includes land, which by deed, conveyance, agreement, dedication, usage, or process of law is reserved for use by the County or any other public entity or by the licensees or agents of the County or any other public entity.

An encroachment permit is required for the planting, maintenance, or removal of any tree in the County right-of-way, and all associated facilities, such as irrigation systems, tree wells, root barriers and supports. The application for an encroachment permit must be filed with and approved by the Director of the Alameda County Public Works Agency prior to beginning the proposed activity or work.

Alameda County Watercourse Protection Ordinance. Chapter 13.12 of the Alameda County General Ordinance Code⁴⁵ is intended to safeguard and preserve watercourses⁴⁶, protect lives and property, prevent damage due to flooding, protect drainage facilities, control erosion and sedimentation, restrict discharge of polluted materials and enhance recreational and beneficial uses of watercourses. The ordinance establishes setbacks (generally 20 feet from the top of

⁴⁴ County of Alameda. 2004a. Alameda County Ordinance Code, Chapter 12.11, The Alameda County Tree Ordinance. Website: http://co.alameda.ca.us/pwa/programs/tree/tree_ordinance.htm (accessed April 11, 2022).

⁴⁵ County of Alameda. 2004b. Alameda County Ordinance Code, Chapter 13.12: Watercourse Protection. Website: https://library.municode.com/ca/alameda_county/codes/code_of_ordinances?nodeId=TIT13PUSE_CH13.12WAPR (accessed April 11, 2022).

⁴⁶ As defined in the Alameda County Ordinance Code, a watercourse means any conduit or appurtenant structure or any natural or man-made channel through which water flows continuously or intermittently in a definite direction and course, or which is used for the holding, delay, or storage of water. The definition of natural channel may generally be limited to those channels having a watershed area of fifty (50) acres or more, except when the Director of Public Works determines that the definition must be extended to a natural channel with a watershed area smaller than fifty (50) acres.

bank) within which development is prohibited unless the Director of Public Works grants a permit. Activities that are exempt from the Watercourse Protection Ordinance include agricultural operations, work within the public right-of-way, routine maintenance, emergency work, or other activities conducted at the discretion of the Director of Public Works.

East Alameda County Conservation Strategy. The project site is within Conservation Zone 14 of the East Alameda County Conservation Strategy (EACCS).⁴⁷ The EACCS is intended to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County, while improving and streamlining the environmental permitting process for impacts resulting from infrastructure and development projects. The EACCS enables local projects to comply with state and federal regulatory requirements within a framework of comprehensive conservation goals and objectives and be implemented using consistent and standardized mitigation requirements. Alameda County is a partner in the EACCS and uses the document to provide a baseline inventory of biological resources and conservation priorities during project-level planning and environmental permitting.

City of Fremont General Plan Policies. The City of Fremont General Plan Conservation Element includes the following goals and policies related biological resources.

- **Goal 7-1 Biological Resources.** A thriving natural environment with protected habitat that enhances the biological value of the City and preserves the open space frame.
 - ***Policy 7-1.1: Preservation of Natural Habitat.*** Preserve and protect fish, wildlife, and plant species and their habitats including wetlands, creeks, lakes, ponds, saltwater bodies and other riparian areas. Maintain these areas for their critical biological values and to help improve water quality.
 - **Implementation 7-1.1.A: Protect Riparian and Wetland Areas.** Preserve and minimize impacts to natural and semi-natural wetland areas, including riparian corridors, vernal pools and their wildlife habitat through the development and environmental review process. Riparian areas and wetlands should be protected and/or restored as project amenities. Require mitigation for potential significant environmental impacts on riparian areas from development.
 - **Implementation 7-1.1.B: Evaluate Development near Bodies of Water.** Evaluate development within 100 feet of the top of bank of riparian areas and water bodies, including creeks, lakes, ponds, marshes, and vernal pools. This distance shall be increased to 200 feet in areas above the toe of the hill (TOH). Carefully assess the extent and characteristics of riparian corridors and creeks to a minimum distance of 100 feet from the top of bank below the toe of the hill and 200 feet from the top of bank above the toe of the hill. Consider the full spectrum of habitat needs for vegetation and wildlife in environmental assessments of these areas.

⁴⁷ ICF International. 2010. East Alameda County Conservation Strategy. Final Draft. October. (ICF 00906.08.) San Jose, California. Prepared for East Alameda County Conservation Strategy Steering Committee, Livermore, California.

- Implementation 7-1.1.C: Control Measures to Limit Soil Erosion. Implement control measures in riparian areas to prevent soil erosion and minimize runoff of excess nutrients, sediments and pesticides. Provide for maximum retention of natural vegetation and topographic features adjacent to the buffer described in Implementation 7-1.1.B.
- Implementation 7-1.1.D: Conservation of Habitat and Natural Areas. Require conservation, protection and/or revegetation of habitat and natural areas for nesting, foraging and retreat for projects that impact such areas.
- *Policy 7-1.2: Protection of Species.* Preserve and protect rare, threatened, endangered and candidate species and their habitats consistent with State and Federal law.
 - Implementation 7-1.2.A: Creation of Habitat Protection Areas. Work with public and private entities to establish habitat protection areas to provide habitat for rare, threatened, endangered or candidate species. Designate these areas as open space and regulate development within these areas
 - Implementation 7-1.2.B: Weed Abatement. Develop regulations that address the habitat impacts from weed abatement and the draining and disking of fields, grasslands, wetlands and other potential wildlife habitat areas.
 - Implementation 7-1.2.C: Limit Development in Habitat Protection Areas. Evaluate and limit development near designated habitat protection areas unless sufficient mitigation can be provided to reduce impacts to insignificant levels.
 - Implementation 7-1.2.D: Mitigation of Special Status Species. When off-site mitigation is required for special status species, require that mitigation be provided within the City of Fremont to the maximum extent practical. If not practical in the City of Fremont require mitigation in Alameda County, followed by the nine-county Bay Area.
- *Policy 7-1.3: Preservation of Hill Areas.* Preserve and protect the Hill Area woodlands and vegetative areas, especially along the ridgeline, in canyons and on vegetated north facing slopes.
 - Implementation 7-1.3.A: Hillside Initiatives. Continue to implement the Hillside Initiative (Measure A-1981) and the Hill Area Initiative (Measure T-2002) and enforce regulations related to Hill Area development. See also the Community Plan Element for specific goals and policies for the Hill Area.
- *Policy 7-1.4: Open Space Frame.* Maintain and expand the Open Space Frame.
 - Implementation 7-1.4.A: Limit Development of Open Space. In lands outside of the urban growth boundary regulate the type and amount of development to preserve open space characteristics and values while considering the needs of private

property owners and public or quasi-public agencies. See the Land Use Element for additional goals and policies related to Open Space.

- *Policy 7-1.5: Promotion of Interagency Coordination.* Promote interagency coordination for the protection and preservation of biological resources.
 - Implementation 7-1.5.A: Maximizing Use of Public Lands. Maximize the biological values of publicly owned lands, consistent with other public purposes (recreation, flood control, groundwater recharge, etc.) when opportunities for preservation occur.
 - Implementation 7-1.5.B: Preparation of Habitat Conservation Plans. Coordinate with other public agencies such as the Alameda County Flood Control and Water Conservation District, the Alameda County Water District, East Bay Regional Park District and Don Edwards National Wildlife Refuge to prepare habitat conservation plans (HCP) for publicly owned unique natural areas.
 - Implementation 7-1.5.C: Preservation of Wetlands in Creek and Flood Areas. Encourage the Alameda County Flood Control and Water Conservation District and the Alameda County Water District to preserve, enhance, and restore wetlands that are under their jurisdiction.
- *Policy 7-1.6: Educate Residents about Local Natural Resources.* Promote public education, environmental programs and stewardship of natural resources within the City.
 - Implementation 7-1.6.A: Education Programs. Continue to lead education programs in biology and natural resources to aid in the understanding of the natural environment.
 - Implementation 7-1.6.B: Natural Interpretative Centers. Maintain and increase natural interpretative centers in City and Regional Parks, where appropriate and when funding is available.
- *Policy 7-1.7: Mitigate Development Impacts.* Mitigate the impacts of development on the natural environment to the extent possible through sound planning, design, and management of development projects.
 - Implementation 7-1.7.A: Evaluate Projects with CEQA. Evaluate development projects for impacts to the natural environment per the California Environmental Quality Act (CEQA) and require measures to mitigate potential impacts to less than significant levels.
- *Policy 7-1.8: Urban Forest.* Promote and protect the City's urban forest and maintain healthy tree resources within the City.
 - Implementation 7-1.8.A: Tree Master Plan. Prepare a Tree Master Plan to promote healthy tree resources in the City and to identify tree species along various corridors in the City.

- Implementation 7-1.8.B: Monitor Tree Resources. Actively monitor the City's tree resources for disease and impaired growth and replace as required.
- Implementation 7-1.8.C: Residential Tree Planting Program. Encourage property owners to preserve and care for trees on their property and to plant additional trees in appropriate locations.
- Implementation 7-1.8.D: Tree Preservation Ordinance. Enforce the City's Tree Preservation ordinance and continue to make information regarding the ordinance easily available to the public and development community.
- Implementation 7-1.8.E: Tree Removal Requests. Continue to carefully review tree removal permit requests for conformance with City removal criteria (i.e. fire or safety risk, state of disease).
- Implementation 7-1.8.F: Encourage Planting of Native Trees. Encourage planting of native tree species in new development and redevelopment projects and the replacement of native trees when trees are proposed for removal. In particular, encourage tree planting near structures to shade buildings and reduce energy requirements.
- Implementation 7-1.8.G: Landmark Tree Program. Maintain and expand the Landmark Tree Program to protect locally significant tree resources and include other trees if they meet eligibility requirements.

City of Fremont Tree Preservation Ordinance. Chapter 18.215, Tree Preservation, of the City of Fremont Municipal Code⁴⁸ prohibits the removal, damage, or relocation of any private or landmark tree, whether publicly or privately owned.

- **18.215.040 Prohibition on Removal of or Damage to Trees Except When Expressly Permitted.** No person shall remove, damage, or relocate a private tree or any landmark tree, whether publicly or privately owned, except as follows:
 - When authorized by a permit issued by the landscape architect, which permit shall, while any person is removing or damaging the subject tree, be posted on the lot by the applicant so as to be prominently visible from the street;
 - When removal, damage or relocation is allowed without permit under Section 18.215.050;
 - When expressly authorized as part of a city-issued entitlement or permit for a development project; or

⁴⁸ City of Fremont. 1990. City of Fremont Municipal Code, Chapter 18.125, Tree Preservation. Website: www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18215.html#18.215.020 (accessed April 12, 2022).

- In the case of a landmark tree, when authorized by the city council in accordance with this chapter. (Ord. 2481 § 1, 7-23-02. 1990 Code § 4-5103.)
- **18.215.050 Trees subject to or exempt from permit requirements.**
 - Permit or Other Authorization Required for Private Trees Other Than Landmark Trees. A permit or other authorization conferred in accordance with this chapter is required to remove, damage, or relocate a private tree if it is:
 - A tree having a DBH of six inches or more and located on a vacant or underdeveloped lot;
 - A tree having a DBH of six inches or more and located on a developed lot which is the subject of a contemplated or pending application for a development project;
 - A native tree or tree of exceptional adaptability to the Fremont area having a DBH of 10 inches or more;
 - A tree having a DBH of 18 inches or more;
 - A tree that was required by the city to be planted or retained as mitigation for the removal of a tree;
 - A tree planted or retained as a condition of any city-conferred development project approval, including approvals conferred prior to adoption of this chapter; or
 - One of six or more trees of the same species that are located on the same lot and that each have six or more inches in DBH.
 - Permit or Other Authorization Required for All Landmark Trees. Authorization conferred in accordance with this chapter is required to remove, damage or relocate any landmark tree, whether privately or publicly owned.
 - Trees Exempt from Permit Requirements. Except as provided in this subsection (c), no permit or other authorization conferred in accordance with this chapter and no mitigation is required to remove, damage, or relocate a private tree if it is:
 - A tree on a developed lot not greater than 10,000 square feet in area and zoned either R-1 or single-family detached planned district, when the tree is behind the forward-most face of the front of the principal building. Any architectural feature that is allowed to project into a required front yard under Section 18.170.060 shall not constitute any part of the face of a building for the purposes of this subsection. This exemption shall not apply to any landmark tree or to any tree planted or retained in accordance with any city-imposed requirement;
 - A container tree;

- A fruit or nut tree of a species grown for commercial food production, except a black walnut or olive tree; or
- A private tree or a landmark tree removed or damaged under emergency circumstances as follows:
 - The tree has been damaged by storms, floods, earthquakes, or by any other cause; and a city official has determined that its immediate removal or further damage is necessary to protect persons from imminent personal injury or to prevent imminent and substantial damage to property;
 - When immediate removal or damage is determined to be necessary by fire department personnel actively engaged in fighting a fire; or
 - When immediate removal or damage is determined by the landscape architect to be necessary to protect persons from imminent personal injury or to prevent imminent and substantial damage to property; or
 - A tree, other than a landmark tree, removed or damaged by a public utility to the extent that such removal or damage is necessary for building or maintaining the public utility's facilities. (Ord. 2481 § 1, 7-23-02; Ord. 11-2010 § 8, 5-25-10. 1990 Code § 4-5104.)
- **8.215.080 Standards for Mitigation of Authorized Removal of Private Protected Trees.**
When a private protected tree's removal is authorized in accordance with this chapter, mitigation shall be required as follows:
 - Required mitigation for each tree removed shall be the planting of one 24-inch box replacement tree, except for a single-family home a 15-gallon replacement tree shall be planted, of a species and in a location approved by the person or entity imposing mitigation requirements under this chapter. When, because of lot size, configuration or development, the property cannot fully accommodate the mitigation that would otherwise be required under this subsection (a)(1), the applicant shall pay the city a fee in lieu of on-site replacement for each tree that is not replaced on site. The amount of the fee shall be equal to the per unit cost to the city for a planted 24-inch box tree as established by the city's last award of a contract following a competitive bid for such work.
 - Replacement requirements for trees removed from a lot which is the subject of a development project application shall be imposed in addition to any requirement for planting trees that would otherwise be imposed as a condition of project approval.
 - Replacement trees shall be planted in accordance with standard details that are on file with the engineering division of the city.

The mitigation this section requires may be waived or reduced when the removal of the tree has a beneficial effect on the city's urban forest or the cost of mitigation is disproportionately large when contrasted to the loss to the city's urban forest caused by tree removal.

4.3.2 Impacts and Mitigation Measures

The following section identifies potential impacts to biological resources that could result from implementation of the proposed project. This section first lists the criteria by which significance is determined, followed by a discussion of impacts and mitigation measures, as necessary.

4.3.2.1 Criteria of Significance

The following thresholds of significance were adapted from Appendix G of the *State CEQA Guidelines*. Based on these thresholds, implementation of the proposed project would have a significant impact on biological resources if it would:

- Threshold 4.3.1:** 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 CDFW or USFWS;
- Threshold 4.3.2:** 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;
- Threshold 4.3.3:** Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act or State-protected wetlands as defined through the Porter-Cologne Water Quality Control Act through direct removal, filling, hydrological interruption, or other means;
- Threshold 4.3.4:** 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;
- Threshold 4.3.5:** Conflict with any local policies or ordinances protecting biological resources, including the City's tree preservation ordinances; or
- Threshold 4.3.6:** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans.

4.3.2.2 Project Impacts

The following section discusses potential impacts related to biological resources associated with development of the proposed project, with Phase 1 evaluated at the project level and Phases 2 and 3 evaluated at a programmatic level. The analysis prescribes mitigation measures that would reduce identified impacts to a less-than-significant level, if necessary.

Threshold 4.3.1: Special-Status Species. The potential for the proposed project to impact species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, the USFWS or the NMFS is described below.

Special-Status Plant Species. Based on the results of the CNDDDB review, seven special-status plant species were identified as potentially occurring in the project area vicinity including chaparral harebell, Congdon's tarplant, Santa Clara red ribbons, long-styled sand-spurrey, California alkali grass, most beautiful jewel flower, and northern slender pondweed (Table 4.3.A). The habitats, primarily coast live oak woodlands and wild oat grassland/ruderal, that are present in the project area suggest that Santa Clara red ribbons (coast live oak woodlands) and Congdon's tarplant (wild oat grassland/ruderal) are the only species that have a moderate to high potential to occur within the project area; however, these species were not observed during the field surveys. Long-styled sand-spurrey, and northern slender pondweed occur largely in vegetated wetland habitats which are not present in the project area; the aquatic habitat along Alameda Creek at the proposed trail crossing is a rocky stream bed, subject to high winter flows, and does not provide suitable habitat for these two wetland plants (Table 4.3.A). Due to the absence of suitable habitat chaparral harebell, California alkali grass, and most beautiful jewel flower would be unlikely to occur in the project area (Table 4.3.A).

If present in the project area, special-status plant species could be adversely affected through direct removal or disturbance to the habitats in which they grow. This is a **potentially significant** impact.

Impact BIO-1: Implementation of the proposed project could result in the permanent disturbance of special-status plant species, if present on or near the project area.

Impacts to annual special-status plant species would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-1a and BIO-1b, which require pre-construction surveys for special-status plants and preparation of a Rare Plant Mitigation Plan if special-status plant species cannot be avoided.

Mitigation Measure BIO-1a Prior to the initiation of construction of each trail segment within undeveloped areas, protocol-level surveys shall be conducted by a qualified biologist for the presence of special-status plants. The surveys shall be conducted in accordance with the California Department of Fish and Wildlife *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. If special-status species are found during the surveys, impacts to such plant species shall be avoided or minimized with implementation of Mitigation Measures BIO-1b.

Mitigation Measure BIO-1b If annual special-status plants are found along the trail alignment and if avoidance of special-status populations is not possible, then a Rare Plant Mitigation Plan shall be designed and

implemented. CDFW approval of the Rare Plant Mitigation Plan is required before implementation of an activity that could directly or indirectly impact a federally or state listed or CNPS Rare Plant Rank 1A, 1B, 2A, or 2B species, and under no circumstances shall state or federally listed plants be impacted without additional consultation with appropriate regulatory agencies. At a minimum, the plan shall include the following elements:

- For annual species, seed shall be collected from plants that will be impacted, seed stored in an appropriate seed banking facility, and a portion of the seeds shall be redistributed in the project vicinity, as directed by the qualified botanist. Individual plants may also be transplanted. For perennial species, seed collection and seed banking may be augmented by transplanting entire plants or cuttings, as directed by the qualified botanist.
- Suitable sites shall be identified in Niles Canyon (or other nearby suitable location) and prepared for redistribution of seeds (or transplants) at mitigation ratios that are appropriate for the species lifeform (e.g., annual or perennial) and success based on performance standards calibrated by established reference populations. The plan shall outline the site preparation activities.
- Monitoring surveys of the seeded or transplanted areas shall be conducted for a minimum of 3 years. The project proponent shall prepare monitoring reports that document the monitoring results and the success of the rare plant mitigation program.
- Mitigation shall be deemed successful when the mitigation population provides the same ecological functions as the impacted population, after considering natural fluctuations in population size, health, etc. This shall include each of the relocated species establishes at least one stable population of approximately the same size of the impacted population, defined as species presence and population size over a 3-year period, considering fluctuations in local reference populations. If this goal is not achieved in 4 years, then contingency measures shall be implemented. Such measures shall include evaluating the environmental or other characteristics affecting plant survival and implementing corrective measures, which may include additional seeding and planting; altering or implementing a

weed control regime; or introducing or altering other management activities. Efforts shall continue until the mitigation site meets the success criteria for two consecutive years.

With implementation of Mitigation Measure BIO-1, impacts to annual special-status plant species would be reduced to **less than significant with mitigation**.

Special-Status Animals. Based on the results of the CNDDDB search and fieldwork conducted by LSA biologists, 16 species of special-status animals were determined to potentially occur within the project area, including Pacific lamprey, steelhead, California tiger salamander, foothill yellow-legged frog, California red-legged frog, Western pond turtle, Alameda whipsnake, white-tailed kite, golden eagle, bald eagle, tricolored blackbird, Townsend's big-eared bat, pallid bat, Western red bat, San Francisco dusky-footed woodrat, and Western bumble bee. In addition to special-status species, numerous other common animal species are known to occur in Niles Canyon and could occur in the project area. As discussed in Table 4.3.C, special-status amphibian and some bird species evaluated in this EIR, including California tiger salamander, foothill yellow-legged frog, California red-legged frog, tricolored blackbird, and Western bumble bee are not expected to be present within the project area, and, therefore, no specific impact to these species are anticipated. Implementation of the proposed project would result in the loss of woodland and grassland habitats within the project area. Special-status wildlife species could also be impacted both directly and indirectly during construction activities. This is a **potentially significant** impact.

The potential for protected resources to be impacted by construction of the proposed project are a function of the likelihood the species is present when the project is constructed, as well as the type and duration of construction activities. Another factor is the sensitivity of the species or resource to disturbance. For example, roosting bats may not react to construction activities near its roost during the day, whereas a raptor may abandon its nest if construction is within 100 feet from the nest.

Impact BIO-2: Construction of the proposed project could directly and indirectly result in potentially significant impacts to common and special-status wildlife species.

In addition to the species-specific mitigation measures identified further below, the following mitigation measures, which require that an environmental education program be conducted prior to project construction and that BMPs be implemented during project construction, would be implemented to reduce potential direct and indirect impacts to special-status species to a less than significant level.

Mitigation Measure BIO-2a Prior to the initiation of construction activities (including staging of equipment and clearing of vegetation) all personnel associated with project construction shall attend an Environmental Awareness Training. The training shall be prepared and conducted by a qualified biologist to aid workers in recognizing special-status species and other biological

resources that occur or may occur in the project area. The specifics of this program shall include identification of the special-status species and habitats, a description of the regulatory status, and review of the measures required to reduce impacts to biological resources on the project area. Each worker shall be given a handout with key points. At the end of the training, all workers shall sign to document their participation in the program and understanding of the measures.

Mitigation Measure BIO-2b

During project construction, the contractor shall implement the following Best Management Practices (BMPs):

- During construction of the trail, no pets or firearms shall be allowed at the project area, except for authorized law enforcement personnel.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from any wetlands or waterbodies. Secondary containment shall be used during refueling.
- All vehicles and equipment shall be maintained in good working condition and free of leaks.
- During construction, all necessary BMPs shall be implemented to ensure that no soil or other materials are discharged into Alameda Creek. BMPs shall include the use of wattles and silt fences along access roads and around staging and equipment storage areas. Construction mats, gravel, or other methods to reduce erosion shall be incorporated into the design of any temporary roads in the streambed work area and on hillslopes.
- To prevent the entanglement of wildlife, no erosion control devices containing plastic monofilament netting shall be used or stored in the project area.
- Construction personnel shall not feed or otherwise attract wildlife in the project area. All food-related trash and garbage shall be placed in animal-proof containers which shall be emptied or removed from the construction area on a regular basis.

- Construction activities shall be restricted to the daytime hours, from 30 minutes after sunrise to 30 minutes before sunset.
- To reduce the potential for vehicle strikes, all construction-related traffic shall not exceed 5 miles per hour on unpaved roads.
- All small mammal burrows shall be avoided to the maximum extent possible. If a burrow must be impacted, a qualified biologist shall use hand tools to excavate the burrow to inspect it for special-status species. If any special-status species are seen, work shall stop in the immediate area and the animal shall not be further disturbed.
- In the unlikely event a special-status species is inadvertently killed or injured or if a special-status species is observed to be injured, dead, or entrapped, the construction crew shall stop work and notify the USFWS and CDFW.
- Upon completion of trail construction, temporarily impacted areas shall be restored to pre-project grades and contours and stabilized to prevent erosion. A seed mix of native grass and forb species shall be applied to all the grassland areas the project disturbed. The seed shall be from sources that are regionally appropriate for the project area.

With implementation of Mitigation Measures BIO-2a and 2b, in conjunction with species-specific measures described below, impacts to common and special-status wildlife species would be reduced to **less than significant with mitigation**, by ensuring that direct and indirect effects to special-status species are avoided during project construction.

As described above, based on a review of the species' habitat requirements, the existing habitats on the site, and connections or barriers to other populations in open space lands, it was determined that ten special-status animal species could be impacted by the proposed project. These species are described further below.

Pacific Lamprey and Steelhead. The Pacific lamprey, a California species of special concern, and Central California Coast distinct population segment (DPS) of steelhead, federally listed as threatened, are known to occur in Alameda Creek⁴⁹. However, Alameda Creek is not

⁴⁹ Leidy, R.A. 2007. Ecology, Assemblage Structure, Distribution, and Status of Fishes in Streams Tributary to the San Francisco Estuary, California. SFEI Contribution #530. Oakland: San Francisco Estuary Institute.

designated as Critical Habitat for the Central California Coast DPS (NOAA 2005)⁵⁰. The section of creek adjacent to the project area likely provides spawning and rearing habitat for Pacific lamprey but may not provide high quality spawning and rearing habitat for steelhead. Steelhead generally spawn in more upstream areas with cooler water temperatures, but the creek is an important passage corridor for adult fish traveling to potential spawning habitat upstream and juvenile fish moving downstream to marine habitats.

Construction of the proposed project would require placement of bridge supports within the Alameda Creek channel to support the new pedestrian bridge at the Palomares connection at the east end of the Phase 1 project area (New Bridge 1) and at a second bridge (New Bridge 2) at one of three alternative locations in the Phase 2 or 3 project area (Figure 3-5). This is a **potentially significant** impact.

Impact BIO-3: Construction of the proposed project could directly or indirectly result in potentially significant impacts to steelhead, Pacific lamprey, and other aquatic wildlife from construction associated with the pedestrian bridge crossings over the Alameda Creek channel.

Implementation of the following measures would reduce potential direct and indirect impacts to Pacific lamprey, steelhead, and other aquatic wildlife species from work within the Alameda Creek channel at proposed bridge crossings by requiring environmental awareness training and monitoring for in-water work, restricting work to the low-flow season, and implementing BMPs during work within and near creek channels.

Mitigation Measure BIO-3a

A qualified biologist shall be present at the work site until all ground-disturbing activities associated with work in the creekbed has been completed and the Environmental Awareness Training program (BIO-2a) been completed by all workers. After this time, the contractor shall designate a qualified monitor that will ensure on-site compliance with all avoidance and minimization efforts when the qualified biologist is not on site. The qualified biologist shall ensure that the qualified monitor is familiar with the avoidance and minimization efforts and is able to identify all the special-status species that may occur in the project area. The qualified monitor and the qualified biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USFWS, NMFS, and the CDFW. If work is stopped, the resident engineer for the proposed project shall be notified immediately by the qualified biologist or the qualified on-site monitor; the engineer shall notify the County. If a federally listed species

⁵⁰ National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS). 2005. Designation of critical habitat for seven Evolutionary Significant Units of Pacific Salmon and Steelhead. 70 *Federal Register* 170: 52488-52627.

is found in the work area during construction and a Biological Opinion does not include the species, the qualified biologist/monitor must stop work and immediately notify the County and they shall then consult with NMFS and shall then advise the contractor on how to proceed. The County shall contact the CDFW.

Mitigation Measure BIO-3c

Work within Alameda Creek shall be restricted to the low-flow season between June 15 and October 31. This work window coincides with the period when steelhead adults and juveniles are least likely to be in this portion of the river, thereby minimizing potential impacts to steelhead.

Mitigation Measure BIO-3d

During construction, heavy equipment shall be restricted to the demarcated work area in the creekbed. The work area within the creekbed shall be delineated by Environmentally Sensitive Area (ESA) fencing, which shall be placed between the work area adjacent to jurisdictional areas to keep construction equipment and personnel out of these areas and prevent inadvertent impacts to the streambed outside the designated work area. A qualified biologist shall assist construction personnel in fence placement.

Mitigation Measure BIO-3e

No fill material, including asphalt or concrete, shall be allowed to enter the creek, except for clean river rock. Any concrete structures (e.g., pier footings) below the tops of banks shall be poured in tightly sealed forms and shall not be allowed contact with surface waters until the cement has fully cured. Poured concrete shall be excluded from the wetted channel for a period of 30 days after it is poured. During that time, the poured concrete shall be kept moist and runoff from the concrete shall not be allowed to enter the river. Commercial sealants may be applied to the poured concrete surface in locations where the exclusion of water flow for a long period is difficult. If a sealant is used, water shall be excluded from the site until the sealant is dry and fully cured according to the manufacturers' specifications.

Mitigation Measure BIO-3f

The pH of water downstream of the in-channel work area shall be monitored by a qualified biologist before and after pouring of concrete until it cures. Water that contacts wet concrete and has a pH greater than 9.0 shall be pumped out of the work area and disposed of outside the river channel. No substances toxic to aquatic life shall be discharged into Alameda Creek (e.g., diesel fuel, oil, hydraulic fluid, runoff from curing concrete). Best management practices shall be

used to keep toxic substances and fill materials out of aquatic habitats.

Mitigation Measure BIO-3g

Based on the June 15 and October 31 work window, the creek channel at the bent work site may not need to be dewatered due to low flows; however, a water diversion system should be in place in the event of water releases from upstream dams or unseasonal storm events. Water diversions shall allow unrestricted passage of adult and juvenile steelhead, Pacific lamprey, and other aquatic wildlife through the work area. Any temporary dam or other artificial diversion shall be constructed shall only from materials such as sheet pile, sandbags or clean gravel, which shall cause little or no siltation. No other diversion method shall be used without authorization of NMFS and CDFW. If another diversion method is preferred, the County must submit a plan detailing the desired diversion method. Authorization of any other diversion method shall be at the discretion of NMFS and CDFW. During dewatering of cofferdam areas, pump intakes shall be screened with no larger than 0.2-inch (5-millimeter) wire mesh to prevent steelhead and other aquatic wildlife from entering the pump system. Pumped water shall be released into a portable storage tank to allow suspended sediment to settle prior to being released back into the river or by using some other method approved by NMFS and CDFW that shall prevent sediment from entering the creek. The qualified biologist shall be on site to assist in the implementation of the dewatering and river diversions, to monitor the placement and removal of dewatering and diversion devices, and to capture and relocate any stranded steelhead, lampreys, or other aquatic wildlife.

Mitigation Measure BIO-3h:

Dewatering may require the relocation of steelhead, lampreys, or other aquatic wildlife. If dewatering is required, a qualified biologist shall coordinate with the NMFS (for steelhead) and CDFW and the County, to identify a suitable upstream or downstream location within Alameda Creek where aquatic wildlife captured within the dewatered area would be relocated. Once the dewatering and diversion structures have been installed, the qualified biologist shall make periodic inspections of the site (weekly). A final inspection of the site shall also be made by the qualified biologist after completion of the work in the creekbed. Nonnative aquatic species such as American bullfrog (*Rana catesbeiana*), crayfish, and centrarchid fish

found during the proposed action shall be removed and humanely dispatched by the qualified biologist, who shall be responsible for ensuring their activities comply with the California Fish and Game Code. After completion of the project, the qualified biologist shall prepare a report providing the results of the removal/relocation effort for submittal to the NMFS and CDFW. The report shall also include information on nonnative species that were removed from the project area.

With implementation of Mitigation Measure BIO-3, impacts to Pacific lamprey, steelhead, and other aquatic wildlife species would be reduced to **less than significant with mitigation**.

Alameda Whipsnake. Because whipsnakes occur in low densities and spend most of their time in chaparral communities and around rock outcrops that are not present along the trail alignment, it is unlikely any would be encountered during trail construction. Potential direct effects on Alameda whipsnake may result from the crushing of individuals by construction equipment, vehicles, or crews while working within suitable habitat. This is a **potentially significant** impact.

Impact BIO-4: Construction of the proposed project could directly and indirectly result in potentially significant impacts to Alameda whipsnake, if this species is present in the project area during construction.

Any Alameda whipsnakes that happened to be on the proposed trail alignment would likely flee project personnel before they were in danger. Due to the small size of the construction area relative to the surrounding open space, the temporary disturbance during construction would be a negligible impact. There is only a negligible potential to affect whipsnake that may be in the few burrows within the trail alignment during the proposed trail construction. During operation of the trail, there is a negligible potential for a basking Alameda whipsnake to be crushed by a pedestrian, equestrian, or cyclist. Alameda whipsnake do occasionally occur in woodlands but spend most of their time in large patches of chaparral, which, as noted above, are not present within or near the trail alignment. Furthermore, Alameda whipsnakes are very fast, and would almost certainly flee any large object moving toward them.

Implementation of the following mitigation measure would reduce potential impacts to Alameda whipsnake during project construction by requiring environmental awareness training for construction personnel and conducting pre-construction surveys.

Mitigation Measure BIO-4a Information on the Alameda striped racer shall be included in the environmental education program, as detailed in Mitigation Measure BIO-2a.

Mitigation Measure BIO-4b A qualified biologist shall survey for Alameda striped racer during all initial ground-disturbing activities on the site. If an Alameda striped

racer is found, work shall stop in the immediate area until the snake has left the area of its own volition. Alternately, it shall be captured and relocated away from the construction area by a USFWS and CDFW-approved biologist in accordance with an approved relocation plan in compliance with all applicable regulations and guidelines. The biologist shall submit the results of the survey (and capture/relocation plan if applicable) to CDFW and USFWS for review and approval. If needed, Alameda County shall obtain the appropriate permits from USFWS and CDFW or shall obtain concurrence from these agencies that no permits are required prior to initiation of construction activities. If permits are obtained, Alameda County shall implement all additional conditions stipulated in the permits.

With implementation of Mitigation Measures BIO-4a and 4b, impacts to Alameda whipsnake would be reduced to **less than significant with mitigation**, by ensuring that direct and indirect effects to this species are avoided during project construction.

Western Pond Turtle. As noted above (Table 4.3.B) western pond turtles are known to occur in the reach of Alameda Creek along the Phase 3 project area and could occur in downstream areas of the creek in Niles Canyon. The construction of New Bridge 1 for the Palomares connection at the eastern end of the Phase 1 project area and the second bridge (New Bridge 2) in the Phase 2 or 3 project area would require work in the bed of Alameda Creek where western pond turtles could be present, resulting in direct and indirect impacts to this species during project construction. This is a **potentially significant impact**.

The remainder of the proposed trail alignment would be constructed largely along the steep north facing slopes on the south side of Niles Canyon. This area is covered in coast live oak woodland with a mostly closed canopy of oaks and California bays with a deeply shaded understory. Suitable nesting habitat for western pond turtle typically includes open areas with southern exposure and soils that are soft enough for nest excavation, suggesting the steep shaded slopes along most of the trail alignment are not optimal for western pond turtle nesting. In addition, much of the western portion of the Phase 1 project area is along existing paved roads, railroad tracks, or graded areas that would not be used by western pond turtles.

Impact BIO-5: Construction and operation of proposed creek crossings, including New Bridge 1 (Palomares Overcrossing) and New Bridge 2 could result in a potentially significant impact to western pond turtle.

Implementation of the following mitigation measure, in addition to general avoidance and minimization measures discussed in Mitigation Measures BIO-2a and BIO-2b and Mitigation Measures BIO-3a through BIO-3f, would reduce potential direct impacts to western pond turtle a less-than-significant level by requiring environmental awareness training, pre-construction surveys for western pond turtle, and monitoring during construction within the creekbed.

Mitigation Measure BIO-5a Information on the western pond turtles shall be included in the Environmental Awareness Training program as detailed in Mitigation Measure BIO-2a.

Mitigation Measure BIO-5b Before any ground-disturbing activities start in the creekbed, a qualified biologist shall conduct a survey for western pond turtles within a 100-foot buffer up and down stream of the work area. If western pond turtles are found within the 100-foot buffer, they shall be monitored by the qualified biologist. If a turtle enters the work area and is in danger of being impacted by project activity, all work shall stop until the turtle can be relocated per mitigation measure BIO-3h. After completion of the project, the qualified biologist shall prepare a report providing the results of the monitoring effort including any turtle observations within the 100-foot buffer and the details of any removal/relocation activities for submittal to the CDFW. The report will also include information on nonnative species that were removed from the project area.

Implementation of Mitigation Measures BIO-5, BIO-2a, BIO-2b and BIO-3a through BIO-3f would reduce potential direct impacts to western pond turtle **less than significant with mitigation**, by ensuring that direct and indirect effects to this species are avoided during project construction and operation.

Nesting Golden Eagles and/or Bald Eagles. As noted above, golden and bald eagles were observed flying over Niles Canyon during the field surveys in the Phase 1 project area. According to East Bay Regional Parks biologists⁵¹ who monitor eagles in this area, the Phase 1 project area might be within the overlap of two golden eagle territories; however, the nest sites within these territories are on the ridges outside the canyon, approximately 3,000 feet north of SR 84 and 2,500 feet south, respectively and at a considerably higher elevation than the project area. Therefore, there is a low potential for these species to nest in large trees in Niles Canyon near the project area. However, if an active nest was in the canyon near the project area construction-related activities could result in loss or abandonment through noise, vibration, or most likely from visual disturbance. If project activities resulted in golden and/or bald eagle nest failure this would be a **potentially significant** impact.

Impact BIO-6: Construction of the proposed project, including bridges and retaining walls could result in significant impacts to nesting golden eagles and or bald eagles.

Implementation of the following mitigation measure, in addition to Mitigation Measures BIO-2a and BIO-2b, would reduce potential direct impacts to nesting golden eagle and/or

⁵¹ East Bay Regional Park District. Doug Bell. Wildlife Program Manager. Personal Communication. September 27, 2023.

bald eagles to a less than significant level by requiring establishment of buffers around known nest sites during the nesting season and monitoring during construction activities.

Mitigation Measure BIO-6

Within 15 days prior to the initiation of ground-disturbing activities during the nesting season (February 1 to August 31), a qualified biologist shall coordinate with East Bay Regional Parks and/or United States Geological Survey biologists monitoring eagles in the Niles Canyon area to determine if any active nests are present within 1,000 feet of the project area.

If nesting eagles are present, a buffer free from new construction disturbance shall be established within a 1,000-foot radius of the nest. No new project-related construction activities (i.e., activities that were not already ongoing when the nest was established, or that are of a substantially greater intensity than when the nest was established) shall be undertaken within the buffer. In some cases (e.g., if the activity is not visible from the nest site), it is possible that a lesser buffer would be adequate to avoid disturbance of the nesting eagles, but such a variance would be set by a qualified biologist in consultation with the CDFW. In such a case, the biologist shall monitor the behavior of the nesting birds during the first full day of construction activity immediately surrounding the buffer. The biologist shall look for signs of stress such as repeated alarm calls, agitated behavior, or departure of the birds from the nest. If the birds do not show signs of habituation to the new disturbance by resuming their normal nesting activities, work within the vicinity of the nest shall stop and the CDFW shall be consulted to refine the buffer determination. If the birds continue their normal activities, the biologist shall inspect the nest site every 1 to 2 days (the frequency determined in consultation with the CDFW) for as long as the nest is active, and work is ongoing within the reduced buffer to confirm that the birds are tolerant of the construction activities.

Any required buffer shall remain in place until young are no longer dependent on the nest, or until the nesting attempt fails (for reasons other than project activities) and it is determined that the birds will not attempt to re-nest. A qualified biologist shall determine through direct observation when the nest is no longer in use. Before construction activities take place within the buffer area, the biologist must confirm that the nest is no longer active.

Implementation of Mitigation Measures BIO-6, BIO-2a, and BIO-2b would reduce potential impacts to nesting golden eagle and/or bald eagle **less than significant with mitigation**, by ensuring that direct and indirect effects to golden and bald eagle nests are avoided during project construction.

Nesting Birds. The proposed project has the potential to impact nesting birds protected by the MBTA and/or California Fish and Game code, including special-status species such as the white-tailed kite, either directly from removing the nest or indirectly from noise or human presence during construction of the proposed trail. Breeding seasons vary from year to year depending on the species, weather, and other conditions, but nesting birds could be disturbed any time from February through August. Within the project area, birds may nest in trees, shrubs, grasslands, bare ground, and on man-made structures and equipment. Breeding birds are most likely to abandon nests early in the nest cycle. If the young birds are forced to fledge early, they could be subject to predation or starvation, which could result in reproductive failure. Approximately 240⁵² trees occur directly or overlap into the Phase 1 project area and removal or trimming these trees could negatively affect nesting birds; this would be a **potentially significant** impact. Implementation of Phases 2 and 3 of the proposed project would also likely require tree removal and/or trimming, which could impact nesting birds, if tree removal occurs during the nesting bird season.

Impact BIO-7: Construction of the proposed project could result in a potentially significant impact to nesting special-status or otherwise protected bird species.

Implementation of the following mitigation measure, in addition to Mitigation Measures BIO-2a and BIO-2b, would reduce potential impacts to nesting birds to a less-than-significant level, by requiring pre-construction nesting bird surveys and establishment of buffers around identified nests.

Mitigation Measure BIO-7

Prior to construction activities taking place during the nesting bird season (February 1 through August 31), preconstruction activity surveys for nesting birds shall be conducted by a qualified biologist to ensure disturbance of active nests will be avoided or minimized during project implementation. Surveys shall be conducted no more than 7 days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., shrubs, ground, and structures) in the project area plus a surrounding 50-foot buffer for nests. If removal of potential nesting substrate or project grading will take place during more than one nesting season or in different parts of the project area over the course of a single season, then additional pre-activity surveys must be performed within

⁵² Includes 173 inventoried trees plus 66 trees estimated to be present in the Phase 1 area not inventoried see section 4.3.1.1 Methods.

7 days prior to initiation of work in any specific area. If the preconstruction activity survey does not identify the presence of any active nests on or within 50 feet of the project area, construction activities may proceed.

If nests are known to have eggs or young, or if they cannot be confirmed to be inactive or to lack eggs or young, are found, or adults are demonstrating nesting behavior, a qualified biologist shall establish an appropriate construction-free buffer around each nest. Nest buffers can vary depending the context of the nest location and the bird species therefore, a qualified biologist shall determine a suitable nesting buffer based on these factors. The buffer shall remain in place until the qualified biologist has confirmed that the nest is no longer active.

If a less than a 50-foot-wide nest buffer is determined to be appropriate for a particular nest or nests, a qualified biologist shall monitor the nest(s) before construction to document baseline nesting behavior and monitor the nest during construction to ensure nesting birds are not exhibiting signs of stress and territorial behavior. If signs of stress are observed during the monitoring, construction activities shall cease or the buffer will be increased, as determined by a qualified biologist, to a sufficient distance where the nesting birds are longer exhibiting signs of stress.

To prevent encroachment, the buffer shall be clearly marked for avoidance. The established buffer shall remain in effect until the young have fledged or the nest is no longer active as confirmed by the qualified biologist.

Implementation of Mitigation Measures BIO-7, BIO-2a, and BIO-2b would reduce potential impacts to nesting birds **less than significant with mitigation**, by ensuring that direct and indirect effects to nesting birds are avoided during project construction.

San Francisco Dusky-Footed Woodrat. Woodrat houses on the ground and in trees could be destroyed by tree removal and trail construction, leading to direct and indirect mortality of San Francisco dusky-footed woodrat. This is a **potentially significant** impact.

Impact BIO-8: Proposed construction of the trail could result in a potentially significant impact to San Francisco dusky-footed woodrat.

Implementation of the following mitigation measure, in addition to Mitigation Measures BIO-2a and BIO-2b, would reduce potential direct impacts to San Francisco dusky-footed woodrat to a less-than-significant level, by requiring environmental awareness training,

preconstruction surveys, establishment of buffers and relocation of woodrat houses, if needed.

Mitigation Measure BIO-8a Information on the San Francisco dusky-footed woodrat shall be included in the environmental education program, as detailed in Mitigation Measure BIO-2a.

Mitigation Measure BIO-8b A qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrat houses in suitable habitat for this species within 14 days prior to any tree removal or ground-disturbing activities. Any woodrat houses shall be identified, and their locations mapped and flagged to be avoided during construction activities. If a woodrat house is within a 25-foot buffer of the project area, to prevent encroachment, the buffer shall be clearly marked for avoidance. The established buffer shall remain in effect until work has been completed along the section of trail near the nest. If it is not possible to avoid a woodrat house, a qualified biologist shall develop a relocation plan. The relocation plan shall be submitted to CDFW for approval and then implemented as necessary. Copies of the relocation plan shall be provided to the County.

With implementation of Mitigation Measures BIO-8, BIO-2a, and BIO-2b potential impacts to San Francisco dusky-footed woodrat would be reduced to **less than significant with mitigation**, by ensuring that direct and indirect effects to this species are avoided during project construction.

Roosting Bats. Various species of bat that typically roost among the foliage of trees, such as the western red bat, a species of special concern (Table 4.3.B), and hoary bat (*Lasiurus cinereus*) could be impacted by tree removal activities during trail construction, leading to direct and indirect mortality. In addition, large, older trees, especially those that may have deep cavities, such as western sycamore, can provide day roosts or maternity roosts for some species of bats, such as the pallid bat. This is a **potentially significant** impact.

Roosting western red or hoary bats would likely not be impacted by tree removal due to the large amount of suitable roosting habitat that would remain intact on and adjacent to the project area. Individual western red or hoary bats roosting in trees during tree removal would likely fly away and seek alternative roost sites when disturbed.

Impact BIO-9: Construction of the proposed project could result in a potentially significant impact to tree-roosting bats.

Implementation of the following mitigation measure, in addition to Mitigation Measures BIO-2a and BIO-2b, would reduce potential direct impacts to tree roosting bats to a less than

significant level, by requiring environmental awareness training, preconstruction surveys, establishment of buffers and appropriate tree removal/trimming procedures.

Mitigation Measure BIO-9a Information on the bats shall be included in the environmental education program, as detailed in Mitigation Measure BIO-2a.

Mitigation Measure BIO-9b Large, old trees with deep cavities that could provide bat night- or maternity-roosting habitat shall be avoided to the greatest extent possible. If impacts to such trees are unavoidable and tree removal is scheduled during the pallid bat maternity season (April to August), large old trees scheduled to be removed shall be surveyed for the potential presence of maternity roosts within 2 weeks of the scheduled removal. Trees with suitable cavities for potential maternity colonies will be closely examined for the presence of bats and a qualified biologist shall conduct a dusk/evening emergence survey to determine if a given cavity is occupied. If it is determined that a given cavity supports bats, a minimum 25-foot buffer marked with orange construction fencing shall be established around the tree. The tree will not be removed until after August 31, when most bats would have likely dispersed away from their maternity colonies. The 25-foot buffer is suggested as a minimum. If bat roosts are found in trees within or near the clearing limits, an appropriate buffer will be established and left undisturbed. Buffer widths will be determined by a qualified biologist on a site-specific basis.

Mitigation Measure BIO-9c To ensure foliage roosting bats are protected to the greatest extent feasible, trees or large limbs to be removed shall be allowed to stay in place where they fall for 24 hours (i.e., overnight) after being cut to allow any foliage-roosting bats to leave the fallen trees or limbs before they are chipped or hauled out of the project area.

With implementation of Mitigation Measures BIO-9, BIO-2a, and BIO-2b, impacts to bats would be reduced to **less than significant with mitigation**, by ensuring that direct and indirect effects to this species are avoided during project construction.

With implementation of Mitigation Measures BIO-1 through BIO-9, impacts to special-status plants and wildlife, including steelhead, Pacific lamprey, western pond turtle, San Francisco dusky-footed wood rat, nesting golden eagle/bald eagle, special-status birds and other nesting birds, and roosting bats would be reduced to **less than significant with mitigation**.

Threshold 4.3.2: Riparian Habitat and Sensitive Natural Communities. The CDFW tracks the occurrences of natural plant communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sawyer et.al⁵³ lists vegetation alliances with State rarity rankings of S1 to S3 as considered “highly imperiled” and project impacts to “high-quality occurrences” of these alliances could be considered significant under CEQA. Most types of wetlands, including alkali wetlands and riparian communities, are also considered sensitive natural communities due to their limited distribution in California. The CNDDDB search identified a small area of sycamore alluvial woodland, which is equivalent to California sycamore woodland, within 3 miles of the project are in Sunol Valley (1.81 miles upstream of the project area). However, California sycamore woodland is also present along portions of Alameda Creek adjacent to the Phase 1 project area.

The proposed project has been designed to avoid impacts to riparian habitat where possible and impacts to riparian trees or woody vegetation would be minimized, but some riparian habitat, including trees, herbaceous vegetation, such as annual grasses and ruderal plants, could be impacted during construction of the proposed bridge crossings over Alameda Creek. New Bridge 1 for the Palomares connection at the eastern end of the Phase 1 project area and the second bridge (New Bridge 2) in the Phase 2 or 3 project area would require work in the bed of Alameda Creek. This is a **potentially significant** impact.

Impact BIO-10: Construction of the proposed overcrossings would result in permanent and temporary impacts to riparian habitat associated with Alameda Creek.

Bridge construction for the proposed project would permanently and temporarily impact small areas of the creekbed at bridge bent placement sites. Implementation of the Mitigation Measure BIO-10 would reduce impacts to riparian habitat to a less than significant level by requiring compliance with regulatory permits and revegetation of temporarily disturbed areas and replacement/replanting of riparian vegetation.

Mitigation Measure BIO-10

Prior to any vegetation removal or other work within the riparian corridor along Alameda Creek, the County shall apply for a Lake or Streambed Alteration Agreement (LSAA) from CDFW. The LSAA shall include measures to protect aquatic and wildlife resources during construction. All conditions of the LSAA would be implemented. However, as the LSAA has not yet been issued, at a minimum, the following measures shall be implemented:

- Disturbance or removal of vegetation shall not exceed the minimum necessary to complete the trail improvement work.
- Protective fencing shall be placed along the drip line of riparian trees to prevent compaction of the root zone and to avoid damage to riparian vegetation by people or equipment.

⁵³ Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. Second edition. Sacramento: California Native Plant Society Press.

- Branches and/or limbs overhanging the work areas that may be impacted shall be properly pruned prior to mobilization of equipment under the supervision of a certified arborist.
- Riparian herbaceous vegetation permanently impacted by the proposed project shall be mitigated by planting riparian trees and/or shrubs along Alameda Creek and/or the tributary at a minimum 1:1 ratio (square footage of trees/shrubs planted: square footage of herbaceous vegetation removed and additional square footage of shading of Alameda Creek and the tributary). All replacement trees and shrubs shall be from nursery stock grown from seeds or cuttings collected in the same genetic provenance as the project site. A Riparian Revegetation Plan shall be prepared with specific success criteria and contingency measures to be implemented if success criteria are not met. The plantings shall be monitored and maintained for five years or until the success criteria are met.
- Temporarily disturbed areas along the banks of Alameda Creek shall be seeded with a riparian native seed mix. A Riparian Revegetation Plan shall be prepared with a specific seed mix and success criteria for the seeded areas and include contingency measures to be implemented if success criteria are not met. Seeded areas shall be monitored for 5 years or until the success criteria are met.

With implementation of Mitigation Measure BIO-10, impacts to riparian habitat would be reduced to **less than significant with mitigation**, by ensuring that impacts to riparian habitat are minimized and any impacted areas are revegetated.

Threshold 4.3.3: Federally Protected Wetlands. Alameda Creek, which is subject to regulation under Section 404 of the federal Clean Water Act and California Porter-Cologne Water Quality Control Act, occurs within portions of the project area. Phase 1 of the proposed trail alignment would largely avoid any wetland areas; however, the proposed project would include construction of a pedestrian bridge (New Bridge 1) over Alameda Creek at the Palomares connection (Figures 3-7 and 3-8). In addition, a second bridge (New Bridge 2) would be constructed as part of Phase 3, which would also require work in the bed of Alameda Creek. Construction of these crossings could adversely affect the creekbed through direct filling, or indirectly through increased erosion or sedimentation. This is a **potentially significant** impact.

In accordance with State and federal requirements, impacts to the waters of the United States or waters of the State resulting from project implementation would require appropriate permits from the USACE, the RWQCB, and the CDFW.

A formal jurisdictional wetland delineation was conducted for the Phase 1 project area and would need to be submitted with the required the permit applications. No seasonal wetlands or wetland

vegetation were observed within the Phase 1 project area. A jurisdictional delineation would also need to be conducted within the Phase 2 and 3 project areas of the alignment to ensure potentially jurisdictional features, such as seasonal wetlands, would be identified and avoided to the greatest extent feasible.

Impact BIO-11: Construction of the proposed overcrossings would result in permanent and temporary impacts to Alameda Creek, a federally protected wetland. Construction of Phases 2 and 3 could also result in impacts to federally protected wetland areas that have not yet been delineated.

With implementation of Mitigation Measures BIO-11a and BIO-11b, potential impacts to wetlands would be reduced to less than significant levels by requiring that the County obtain appropriate regulatory permits and comply with all permit conditions, including compensatory mitigation at a ratio of 1:1.

Mitigation Measure BIO-11a The County shall apply for and obtain permits from the United States Army Corps of Engineers (USACE, Clean Water Act [CWA] Section 404 permit), Regional Water Quality Control Board (RWQCB, CWA Section 401 water quality certification), and California Department of Fish and Wildlife (CDFW, Fish and Game Code Section 1602 Streambed Alteration Agreement) prior to construction. Indirect impacts to the water quality of Alameda Creek due to excess sedimentation shall be avoided through the preparation and implementation of a Stormwater Pollution Prevention Plan in accordance with National Pollution Discharge Elimination System and RWQCB requirements. The County shall also implement best management practices as recommended or required by the RWQCB to protect water quality. Additional measures shall include:

- Any impacts to the creek or tributary, or seasonal wetlands, if present along the alignment, shall be mitigated by providing enhancements to the creek/tributary at a minimum 1:1 ratio. Enhancements shall encompass the same amount of square footage or linear feet of waters of the United States or waters of the State that are impacted by the project. If in-kind mitigation is not possible, mitigation can be completed out-of-kind at a minimum 1.5:1 ratio. These enhancements shall include planting of native riparian plants and/or removal of nonnative invasive plants. A Wetland Mitigation and Monitoring Plan shall be prepared and implemented for the enhancements. This plan shall be subject to approval by the USACE, the RWQCB, and/or the CDFW prior to any disturbance of the creek/tributary. Additionally, all required permits and certifications shall be obtained from the USACE, the RWQCB,

and/or the CDFW prior to any disturbance of the creekbed and all permit conditions shall be implemented.

- Temporary silt fencing shall be placed at the top of creek/tributary banks and along the perimeter of the seasonal wetlands, as feasible, to prevent entry of fill during construction.
- Temporary environmentally sensitive area fencing shall be installed where needed to prevent construction equipment and workers from entering the creek/tributary or wetlands.
- All work in and around the creek shall take place during the dry season (June 15 and October 31) during seasonal low flows.
- Upon completion of construction, construction work areas within and adjacent to waters of the United States/State shall be restored and stabilized to prevent erosion. A seed mix of native and naturalized grass and forb species shall be applied to all the upland areas temporarily disturbed by the project. The seed shall be from sources that are regionally appropriate for the site.
- All creek channel portions and uplands adjacent to, but outside of, the construction footprint shall be avoided during construction and no fill shall be allowed to enter these areas. Exclusion fencing (e.g., silt fence) shall be installed to mark the limits of the construction footprint. The biological monitor shall oversee the installation of the fencing and periodically monitor the work area to ensure avoidance of the stream channels.
- During project construction, no soil or other construction materials shall be stored in or allowed to enter the stream channels or seasonal wetlands. All stockpiled fill and other materials shall be kept at least 50 feet from the channel edges and seasonal wetlands.
- Construction activities shall be limited to periods of low rainfall/low creek flows. The project biologist shall consult the 72-hour weather forecasts from the National Weather Service (NWS) prior to the startup of any ground-disturbing activities near streams or wetlands. The County shall also keep the project biologist and engineers informed about any water releases from upstream reservoirs on Alameda Creek or its tributaries that could increase creek flows at the work site. Construction activities shall cease 24 hours prior to a 40 percent or greater forecast of rain from the NWS or scheduled releases

from upstream reservoirs. Construction may continue 24 hours after the rain ceases if there is no precipitation in the 24-hour forecast. Contractor specifications shall include the following worker restrictions and guidelines, at a minimum:

- Construction personnel and vehicles shall stay within designated work areas. Entry into adjacent lands or established exclusion zones shall be strictly prohibited.
- All work areas shall be maintained in clean condition. All trash (e.g., food scraps, cans, bottles, containers, wrappers, cigarette butts, and other discarded items) shall be placed in closed containers and properly disposed off-site.
- No pets or firearms shall be allowed on site.
- All vehicles and equipment shall be refueled and/or lubricated in a designated area at least 100 feet from aquatic habitats.

Mitigation Measure BIO-11b

Prior to construction of Phases 2 and 3, the County shall contract with a qualified biologist to conduct a jurisdictional delineation following the methods outlined in the USACE Interim Regional Supplement to the Corps of Engineers/Wetland Delineation Manual: Arid West Region and the 1987 Corps Wetland Delineation Manual to delineate the jurisdictional limits of non-wetland waters of the United States following the procedures set forth in 33 CFR 328.3(e). The delineation will also consider any additional information needs based on the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State as administered by the RWQCB. Further, the extent of any streambed and associated riparian areas subject to review by the CDFW under Section 1602 of the California Fish and Game Code will be determined. If the results of the jurisdictional delineation indicate that impacts to jurisdictional features would occur, the County shall obtain permits and authorizations from the regulatory agencies and comply with all permit conditions, as outlined in Mitigation Measure BIO-11a.

With implementation of Mitigation Measure BIO-11, impacts to federally protected wetlands would be reduced to **less than significant with mitigation**, by ensuring that impacts to jurisdictional waters are minimized and impacted areas are replaced.

Threshold 4.3.4: Wildlife Corridors and Native Wildlife Nursery Sites. Niles Creek and its riparian corridor provide movement and shelter habitat for a variety of terrestrial and aquatic wildlife. As noted above, the proposed bridge crossings, New Bridge 1 at the Palomares connection in the Phase 1 project area and New Bridge 2 in the Phase 3 project area (3 proposed alternatives), would require

the placement of bridge bents in the creekbed, but these bents would impact only a small area of creekbed that would not impede the movement of wildlife along the creek corridor. The placement of bridge bents in the stream would not result in a significant impact to fish or other aquatic wildlife movement.

Proposed trail retaining walls (Figure 3-4a and Figure 3-4b) in portions of the trail that traverse steep slopes could restrict some upslope and downslope wildlife movement. However, mid-sized and larger wildlife likely move primarily along the canyon (parallel to the slope contours) in areas where the slopes are steep, as supported by field observations that deer trails in these steep areas were oriented mainly along the slope contours and not perpendicular to the slope. Based on observations during the field surveys, deer trails approached the upper canyon edge mainly in low slope areas where retaining walls would not be required. This suggests that mid-sized to larger mammals that tend to move over longer distances would not be significantly impacted by these retaining walls. Nevertheless, proposed retaining walls may impede the movement of smaller mammals that traverse these slopes, resulting in a **potentially significant** impact.

Impact BIO-12: The placement of retaining walls and trail fencing associated with the proposed project could adversely impact wildlife movement.

Implementation of Mitigation Measure BIO-12 would reduce potential impacts related to wildlife movement to less than significant levels by requiring that proposed retaining walls be minimized to the greatest extent feasible and proposed fencing provides sufficient gaps to accommodate wildlife movement.

Mitigation Measure BIO-12 Retaining walls shall be minimized to the greatest extent feasible and used only in trail areas where they are essential for geotechnical/engineering reasons. Where fences are required along the trail, they shall be constructed to allow wildlife to move freely over the trail. A minimum 6-inch gap along the bottom of trail fences will allow smaller wildlife such as native rodents, turtles, and snakes to move freely. Periodic (e.g., 20-foot interval) 12-inch gaps 3 feet wide would allow mid-sized mammals to move freely through fence barriers. The fences should also be designed to allow easy movement of large mammals such as deer; fences should be no taller than 3–4 feet.

With implementation of Mitigation Measure BIO-12, potential impacts to wildlife movement would be reduced to **less than significant with mitigation**, by ensuring that proposed fencing accommodates wildlife movement.

Threshold 4.3.5: Policies to Protect Biological Resources. The Phase 1 project area is largely within the City of Fremont Hill Face Open Space lands and Phases 2 and 3 are within unincorporated Alameda County.

As described above, the County requires a permit for the removal of trees along the public right-of-way that are protected under the County's Tree Preservation Ordinance.⁵⁴ Qualified trees would include any woody perennial plant characterized by having a single trunk or multi-trunk structure at least 10-feet high and having a major trunk that is at least 2 inches DBH (4.5 feet from the ground). Other protected trees include those plants generally designated as trees and any trees that have been planted as replacement trees under the County Tree Ordinance or any trees planted by the County.

Chapter 18.215, Tree Preservation, of the City of Fremont Municipal Code⁵⁵ prohibits the removal, damage, or relocation of any private or landmark tree, whether publicly or privately owned, including trees having a DBH of 6 inches or more and located on a vacant or underdeveloped lot, native trees having a DBH of 10 inches or more, a tree having a DBH of 18 inches or more and one of 6 or more trees of the same species that are on the same lot and that each have 6 or more inches in DBH. Additionally, City Policy 7-1.3: Preservation of Hill Areas states, "*Preserve and protect the Hill Area woodlands and vegetative areas, especially along the ridgeline, in canyons and on vegetated north facing slopes.*"

Based on the tree inventory LSA conducted in 2023, approximately 240⁵⁶ trees occur in or overlap into the Phase 1 project area; however, based on the available project plans, the specific number and species of trees that would be impacted by the trail construction is uncertain. As noted above, the dominant native tree species in the inventoried areas and their numbers are coast live oak (90), red willow (16), California bay (13), California buckeye (8), California sycamore (7), big leaf maple (6), and Northern California black walnut (6). In addition, 66 native trees (mainly coast live oaks and California bays) are estimated to be present in a portion of the Phase 1 project area that was inaccessible and not inventoried. Removal, or lethal damage to large roots of trees would be a significant impact if not mitigated. In addition, trees outside the Phase 1 project area (i.e., within the survey area) could be negatively affected by construction activities if large roots extend into the project area. Removal of or damage of trees due to trail construction would conflict with the City of Fremont's Tree Preservation Ordinance, the Alameda County Tree Ordinance, and policies to protect natural resources within the Niles Canyon corridor. This is a **potentially significant** impact.

Impact BIO-13: Tree removal associated with the proposed project would conflict with the City of Fremont Tree Preservation Ordinance and the Alameda County Tree Ordinance.

Although Phase 1 would require removal of approximately 240 trees, the project footprint is long and very narrow relative to the area of woodland the proposed trail would traverse. Therefore, once completed, construction of the proposed trail would not significantly affect the ecological functions of the coast live oak/California bay woodland community from which the trees would be removed.

⁵⁴ County of Alameda. 2004a. Alameda County Ordinance Code, Chapter 12.11, The Alameda County Tree Ordinance. Website: http://co.alameda.ca.us/pwa/programs/tree/tree_ordinance.htm (accessed April 11, 2022).

⁵⁵ Fremont, City of. 1990. City of Fremont Municipal Code, Chapter 18.125, Tree Preservation. Website: www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18215.html#18.215.020 (accessed April 12, 2022).

⁵⁶ Includes 173 inventoried trees plus 66 trees estimated to be present in the Phase 1 area not inventoried, see above section 4.3.1.1 Methods.

Further, implementation of Mitigation Measures BIO-13a and BIO-13b, which require replacement of removed trees, would reduce potential impacts associated with tree removal to a less than significant level.

Due to the conceptual nature of the design for Phases 2 and 3, trees within the proposed trail corridor for these phases were not inventoried. However, it is anticipated that implementation of both Phases 2 and 3 would require tree removal and could result in lethal damage to large roots of trees, resulting in permanent tree loss.

Implementation of Mitigation Measures BIO-13a and BIO-13b would reduce potential impacts associated with tree removal to less than significant by requiring protection of trees to be retained and planting of replacement trees to be removed.

Mitigation Measure BIO-13a Prior to project construction, the County, in coordination with project engineers and a qualified biologist(s) or arborist(s) shall identify and quantify the trees that may need to be removed for trail construction. Following the tree survey, the County in coordination with the project engineer, and qualified biologist(s)/arborist(s) shall identify where native trees can be avoided and preserved.

All trees to be retained shall be protected during construction and shall be clearly identified on construction plans and marked in the field for preservation with highly visible construction fencing at a minimum around the dripline of the tree. No construction activities such as grading, vehicle parking, or storage of materials shall be conducted within the tree protection zones. The fencing shall be installed prior to any site clearing or grading activities and shall remain in place until construction is complete. The fence shall be a minimum of 4 feet tall and supported by stakes at least every 10 feet on center. Weatherproof signs shall be permanently posted on the fences, stating, at minimum, the following: "Tree Protection Zone – Keep out". A three-inch layer of chip mulch must be maintained within the Tree Protection Zone during construction to reduce soil compaction, improve aeration, enhance moisture retention and reduce temperature extremes.

Mitigation Measure BIO-13b Prior to project construction, the County in coordination with a qualified biologist(s)/arborist(s) familiar with the biology of native trees shall develop a comprehensive tree mitigation plan for the project. The tree mitigation shall at a minimum include the following elements:

- Native trees required to be removed or that could be damaged during project construction shall be replaced at an

establishment ratio of 1:1 (1 tree impacted to 1 tree planted and established).

- Replaced trees shall be planted within the Alameda Creek watershed, in areas within or adjacent to the project area (Phases 1–3).
- Replacement trees shall be clustered in a manner to promote establishment of a woodland environment or planted in suitable habitat adjacent to existing coast live oak/California bay woodland.
- Planted trees shall be monitored for a minimum of 5 years to ensure establishment. If individual trees die during the 5-year monitoring period, they shall be replaced in kind and monitored for 5 years to ensure establishment.

With implementation of Mitigation Measure BIO-13, impacts related to tree removal would be reduced to **less than significant with mitigation**, by ensuring that impacted trees are replaced in accordance with County and City policies.

Threshold 4.3.6: Habitat Conservation Plan. The property is within Conservation Zone CZ-14 of the EACCS area. The EACCS is not a regulatory framework but provides strategies for mitigating impacts to covered species such as the California tiger salamander, California red-legged, and Alameda whipsnake. Applicants with projects within the EACCS would work with the County to develop mitigation for covered species, such as those noted above that could be impacted by their project. As described above, mitigation has been provided for potential impacts to EACCS covered species that could occur in the project area. Therefore, the proposed project would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. **No impact** would occur.

4.3.2.3 Cumulative Impacts

The proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to biological resources. The proposed project site is long and narrow, and parallels established transportation corridors in Niles canyon such as SR 84 and active railways; however, the completed trail would be used by human foot and bicycle traffic, which is relatively quiet and slow moving. Trail use would likely be light during the night and would likely have little effect on the movements of local nocturnal wildlife movement. Because the trail is narrow relative to the surrounding habitats (e.g., coast live oak/California bay woodland and riparian corridor of Alameda Creek), it would not conflict with the ecological functions surrounding habitats. With implementation of the mitigation measure identified above, the proposed project would not make a significant contribution to cumulative impacts related to biological resources. In general, the impacts related to biological resources that would result from the proposed project would be confined to the project site, and other projects in the vicinity that could result in impacts related to biological resources would be subject to similar mitigation

requirements. Therefore, the proposed project, in combination with other past, present, and reasonably probable future projects, would not result in significant cumulative effects on land use. This impact would be **less than significant**.

4.4 CULTURAL RESOURCES

This section describes existing cultural resource conditions within the project area and vicinity, identifies potentially significant impacts to such resources that may result from development of the proposed project, and recommends mitigation measures to reduce the severity of potentially significant impacts. Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value for their historical significance. Examples of cultural resources include precontact (Native American) and historic-period archaeological sites, and historic buildings and bridges of architectural significance. The California Environmental Quality Act (CEQA) requires agencies that are considering projects that are subject to discretionary action to consider the potential impacts on cultural resources that may occur from project implementation (see Section 15064.5 and Appendix G of the *State CEQA Guidelines*). **Section 4.13, Tribal Cultural Resources**, of this Environmental Impact Report (EIR) addresses the topic of tribal cultural resources.

In addition to the references listed in this section, an Archaeological Resources Survey Study (Archaeological Report)⁵⁷ and Built Environment Resources Evaluation (Built Environment Report)⁵⁸ were prepared for the cultural resources located within the project area. The Archaeological Report and the Built Environment Report were used in the analysis provided in this section and are included as Appendices C and D.

4.4.1 Setting

The following subsection describes: (1) the methods used to establish the baseline conditions for cultural resources in the project area; (2) the regulatory context related to cultural resources; and (3) existing cultural resources occurring within and around the vicinity of the project area.

4.4.1.1 Methods

As outlined in Chapter 3.0 Project Description, this EIR analyzes the environmental impacts of all three phases, with Phase 1 evaluated at the project level and Phases 2 and 3 evaluated at a programmatic level. Therefore, the Phase 1 analysis, includes site-specific research along the proposed Phase 1 project corridor, including a reconnaissance field survey. The analysis for Phases 2 and 3 relies on background research, including review of previously prepared cultural resources assessments.

Phase 1. To characterize the setting for cultural resources at the project site, the following tasks were completed: (1) a cultural records search conducted by Northwest Information Center (NWIC) staff, map review and consultation with the Native American Heritage Commission (NAHC); (2) a field survey was completed to identify cultural resources; and (3) preparation of a letter report of findings documenting results of the background research and field survey. The results of these tasks are summarized below.

⁵⁷ LSA. 2023a. *Archaeological Resources Survey Study for the Niles Canyon Trail Project in Alameda County, California (LSA Project No. STU2001)*. April 28.

⁵⁸ LSA. 2023b. *Built Environment Cultural Resource with Phase 1 – Niles District to Palomares Road segment of the Proposed Niles Canyon Trail Alignment, Fremont, Alameda County, California (LSA Project No.: STU2001; Phase 06)*. August 7.

Northwest Information Center. On May 24, 2022, Jessika Akmenkalns (Researcher at the Northwest Information Center [NWIC]) conducted a record search at the NWIC of the California Historical Resources Information System in Rohnert Park. The NWIC, an affiliate of the California Office of Historic Preservation (OHP), is the official repository of cultural resources records and reports for Alameda County. The record search included a review of all recorded historic-period and precontact cultural resources within a 0.25-mile radius of the Phase 1 project corridor, as well as a review of known cultural resources surveys and excavation reports.

The record search results (NWIC File No. 21-1757) indicate that 17 previous cultural resources studies have included a portion of the Phase 1 project site and that 26 previous cultural resources studies have included a portion of the 0.25-mile search radius. The 17 previous cultural studies that included a portion of the Phase 1 project site consist of 13 surveys (S-000622, S-000727, S-000898, S-002607, S-014067, S-022820, S-024041, S-031996, S-035457, S-036481, S-048490, S-052670, and S-053063), 1 archaeological testing program (S-013554), 1 archaeological monitoring (S-033061), 1 historic resource evaluation (S-042549), and 1 archaeological evaluation (S-050893). An estimated 50 percent of the Phase 1 project site and 0.25-mile radius has been studied previously.

As a result of previous cultural resource studies, seven cultural resources have been recorded within the project site and seven cultural resources have been recorded within 0.25 mile of the Phase 1 project site. The seven cultural resources within the Phase 1 project site consist of P-01-000025 (a prehistoric village site), P-01-002192 (the historic-period Sunol Aqueduct), P-01-003280 (the historic-period Niles Old Town Complex), P-01-008189 (the historic-period Farwell Underpass), P-01-011357 (the historic-period Niles Canyon Railroad Historic District), P-01-011452 (the historic-period Alameda Creek Water Conveyance System), and P-01-011827 (the historic-period alignment of Alameda Creek). Of these seven resources mapped within the Phase 1 project site, only P-01-000025 is archaeological in nature.

The seven cultural resources within 0.25 mile of the Phase 1 project site consist of P-01-000227 (the historic-period Vallejo Mill, which also contains prehistoric components), P-01-001783 (the historic-period Southern Pacific Railroad), P-01-002190 (the historic-period Western Pacific Railroad), P-01-010778 (an isolated prehistoric artifact), P-01-011604 (isolated prehistoric artifacts), informal resource C-1519 (a prehistoric village), and informal resource C-1520 (a collection of prehistoric houses).

Aerial Photographs and Maps. Aerial photographs and historic maps that include the Phase 1 project site were also reviewed.⁵⁹ The results of the review are presented in Table 4.3.A.

⁵⁹ United States Geological Survey (USGS). n.d. USGS topoView. Website: <https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02> (accessed April 21, 2023).

Table 4.3.A: Aerial Photograph and Historic Map Review

Map/Photograph	Results
1906 <i>Pleasanton, California</i> map (Scale 1:62,500)	The Phase 1 project site is not developed with any buildings. Alameda Creek and a railroad are directly adjacent to the Phase 1 project site.
1941 <i>Pleasanton, California</i> map (Scale 1:62,500)	Buildings are depicted near the eastern terminus of Old Canyon Road.
1946 aerial photograph	Buildings are present near the eastern terminus of Old Canyon Road.
1953 <i>Niles, California</i> map (Scale 1:24,000)	The buildings near the eastern terminus of Old Canyon Road are labeled as a pottery plant. A pipeline is depicted and labeled adjacent to the railroad.

Compiled by LSA (2023) from the United States Geological Survey (n.d.) and National Environmental Title Research (n.d.).

A review of additional aerial photographs did not result in a definitive demolition date of the pottery plant buildings near the Phase 1 project site.

Native American Heritage Commission. A request was submitted to the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File (SLF) for the presence of Native American cultural resources that the proposed project might impact. The NAHC maintains the SLF database and is the official State repository of Native American sacred-site location records in California.

Cody Campagne, NAHC Cultural Resources Analyst, responded on May 17, 2022 that the SLF search resulted in negative findings for sacred lands in the vicinity of the Phase 1 project site.

Field Survey. A qualified architectural historian and qualified archaeologist conducted field reviews of the Phase 1 project corridor.

On September 9, 2022, a pedestrian survey of the Phase 1 project site was conducted along with two representatives of the North Valley Yokut Tribe.⁶⁰ The survey was conducted using transects spaced fewer than 3 meters (10 feet) apart and began near the intersection of Old Canyon Road and Clarke Drive. The entire length of the proposed Phase 1 trail segment was walked as depicted on field maps following Old Canyon Road and the California Pottery Company Road to Palomares Road. The proposed Phase 1 trail alignment is depicted following the ridgetop on the south side of the Niles Canyon Railroad District. Due to access and safety issues, the survey followed the railroad alignment up to and across Weller Bridge. Special attention was paid to rodent burrow holes and aprons as well as the vicinity of the recorded location of P-01-000025. Portions of the Phase 1 project site were unpaved and contained vegetation and duff as ground cover, whereas other portions were paved or covered with gravel.

A historical resources field review of the Phase 1 project corridor was conducted on September 9, 2022. The survey documented the condition of the four previously recorded historic resources and their setting within the Phase 1 segment in field notes and photographs. The architectural historian arrived at the western terminus of the Phase 1 segment near the intersection of Old

⁶⁰ As requested by the tribal representative during the AB 52 tribal consultation process. Please see Section 4.13, Tribal Cultural Resources.

Canyon Road and Clarke Drive and walked the entire length of the proposed trail segment as depicted on field maps following Old Canyon Road and the California Pottery Company Road to Palomares Road and back. As noted in the 2022 record search, a segment of the Sunol Aqueduct, a segment of the Spring Valley Creek Water Conveyance System, the Niles Canyon Railroad District, and the Farwell Bridge were identified. The proposed trail alignment is depicted following the ridgetop on the south side of the Niles Canyon Railroad District. Due to lack of access and safety, the survey followed the railroad alignment up to and across Weller Bridge. The survey did not identify any additional built environment cultural resources 45 years old or older that warranted evaluation. The historical resources in the survey area respond to the topographical constraints of this narrow gorge in the southern end of the Diablo Range and characterizes the landscape as one whose historical pattern is of movement, whether it be people, trains, automobiles, or water.

The surveyed area appears in fair condition as evidence of regular use near the end of Old Canyon Road and to the east beyond a gate onto the California Potter Company Road. Segments of intact asphalt paving were observed; however, the trail is largely unpaved. The western end of the Phase 1 project corridor appears to be a former two-lane road in a rural setting, later abandoned, that has fallen into disrepair over the last several decades. The survey did not identify any additional, non-previously evaluated built environment resources, materials, or features that appear 45 years old or older in the Phase 1 segment to warrant evaluation.⁶¹

Phase 2 and 3. Because Phases 2 and 3 are evaluated at a programmatic level and detailed maps of the trail alignment are not available, a record search at the NWIC and field surveys for these areas were not conducted.⁶² Record search results conducted as part of the 2015 study⁶³ entitled, “Expanding Regional Trail Connectivity Trail Options in Niles Canyon” and the *Expanding Regional Trail Connectivity in Niles Canyon Project Study Report*, dated April 2017⁶⁴ and information obtained as part of the tribal consultation were used to assess the potential for future trail phases to affect cultural resources.

⁶¹ The California Office of Historic Preservation guidance encourages a 45-year threshold for evaluation as “there is commonly a five-year lag between resource identification and the date that planning decisions are made. It explicitly encourages the collection of data about resources that may become eligible for the National Register or California Register of Historic Resources (California Register) within that planning period. Moreover, “OHP recognizes that there are a wide range of reasons for recording historical resources. It is understandable that within the constraints of a survey’s objectives it is not always reasonable or appropriate to record all historical resources as defined here. Professional judgement in the field is essential when determining whether or not a resource warrants recordation” (Office of Historic Preservation 1995:2).

⁶² Cultural resources records search results are only valid for up to two years and would need to be completed closer to project construction, as detailed further in Section 4.4.2.

⁶³ East Bay Regional Park District (EBRPD). 2015. *Expanding Regional Trail Connectivity Trail Options in Niles Canyon Feasibility Study*. December.

⁶⁴ BKF Engineers. 2017. *Expanding Regional Trail Connectivity in Niles Canyon Project Study Report*. April.

4.4.1.2 Existing Conditions

Geology. Geologic deposits exist under surficial sediments of the project site, specifically sandstone, shale, and conglomerate deposits that date to the Paleocene (66 million to 56 million years ago).⁶⁵

Prehistory. The Paleo-Archaic-Emergent cultural sequence developed by Fredrickson⁶⁶ is commonly used to interpret precontact occupation of the Bay Area. Fredrickson’s cultural sequence has been updated,⁶⁷ however, to account for new radiocarbon and archaeological data informing the timing and nature of Native Californian occupation during the precontact period. The updated sequence—briefly summarized below—consists of the Pleistocene-Holocene Transition/Paleo-Indian Period (cal 11,500 to 8,000 B.C.), the Early Holocene/Lower Archaic (cal 8,000-3,500 B.C.), the Early Period/Middle Archaic (cal 3,500-500 B.C.), the Lower Middle Period/Initial Upper Archaic (cal 500 B.C.-A.D. 430), the Upper Middle Period/Late Upper Archaic (cal A.D. 430-1050), the Initial Late Period/Lower Emergent (cal A.D. 1050 to 1550), and the Terminal Late Period/Upper Emergent (cal A.D. 1550 to contact).

The Paleo-Indian Period began with the first entry of people into California, with the San Francisco Bay area presumably settled between 11,500 to 8,000 B.C.⁶⁸ Human populations during the Paleo-Indian period were low and probably consisted of small groups moving frequently as a way to utilize plant and animal resources. Current research, however, is indicating more sedentism, plant processing, and trading than previously believed.

The Early Holocene is characterized by “a generalized mobile forager pattern,” as indicated by assemblages containing millingslabs and handstones, as well as large wide-stemmed and leaf-shaped projectile points.⁶⁹ Early Holocene archaeological sites are rare, although this may in part be due to ancient deposits likely underlying several feet of sediment or having been submerged by sea-level rise.⁷⁰ Early Holocene sites have been identified in interior Contra Costa County at Los

⁶⁵ California Geological Survey. 2015. Geologic Map of California. Website: <https://maps.conservation.ca.gov/cgs/gmc/> (accessed April 21, 2023).

⁶⁶ Fredrickson, David A. 1974. Cultural Diversity in Early Central California: A View from the North Coast Ranges. *The Journal of California Anthropology* 1(1):41-53.

⁶⁷ Milliken, Randall, Richard T. Fitzgerald, Mark G. Hylkema, Randy Groza, Thomas M. Origer, David G. Bieling, Alan Leventhal, Randy S. Wiberg, Andrew Gottsfield, Donna Gillette, Viviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson. 2007. Punctuated Culture Change in the San Francisco Bay Area. In *California Prehistory: Colonization, Culture, and Complexity*, T. L. Jones and K. A. Klar eds. pp. 99-123. Lanham, Maryland: AltaMira Press.

⁶⁸ Ibid.

⁶⁹ Milliken, Randall, et. al. 2007. Punctuated Culture Change in the San Francisco Bay Area. In *California Prehistory: Colonization, Culture, and Complexity*, T. L. Jones and K. A. Klar eds. pp. 99-123. Lanham, Maryland: AltaMira Press.

⁷⁰ Meyer, Jack and Jeffrey Rosenthal. 2007. *Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4*. Davis, California: Far Western Anthropological Research Group, Inc.

Vaqueros Reservoir, where a radiocarbon date of 9870 cal B.P. (7920 cal B.C.) was obtained from charcoal beneath an inverted millingslab associated with a deeply buried component.⁷¹

Although local variations occur, the Early Period is generally marked by increased sedentism, regional trade, and symbolic integration. Trade and symbolic integration is evidenced by marine shell ornaments, including rectangular *Olivella* and *Haliotis* shell ornaments.⁷² A transition from a forager adaption to semi-sedentism is indicated in the archaeological record of bayshore shellmounds during this period.

Symbolic integration systems and technology evolved during the Lower Middle Period. At the onset of the Middle Period—referred to as the Early-Middle Transition—rectangular shell beads, markers of the Early Period, are replaced in the archaeological record with stylistically new beads, including split-beveled and saucer *Olivella*. Other artifacts were also introduced during this period, including barbless fish spears, elk femur spatula, tubes, whistles, and bone basketry awls.⁷³ Culturally distinct traits appear by the Upper Middle Period, suggesting migration of a new population. This new population, known as the Meganos Aspect, is primarily characterized by its mortuary complex, which typically includes extended burial posture. The Meganos Aspect spread from the Sacramento-San Joaquin River Delta during the Early-Middle Transition to the Livermore Valley, reaching the Walnut Creek/San Ramon Valley by the Upper Middle Period.⁷⁴

The Initial Late Period is marked in part by increased sedentism, status ascription and social stratification observed in burial practices, and the introduction of new technology. The latter consists notably of the bow and arrow, which is evidenced in the archaeological record by arrow-sized projectile points. Other artifacts associated with the Initial Late Period include *Haliotis* “banjo” ornaments, *Olivella* callus cup beads, and collared smoking pipes.⁷⁵ It has been suggested that these changes in burial practices and artifacts is associated with the emergence of the Kuku Cult, a ceremonial system found throughout Northern California at the time of European contact.

Sudden cultural changes occurred during the Terminal Late Period, which are indicated by changes in artifact types. These include replacement of Initial Late Period shell bead types with clamshell disc beads, as well the appearance of toggle harpoon tips. The presence of magnesite tube beads and corner-notched arrowheads from the North Coast Ranges, and desert side-notched points from the Central Coast, along with other evidence, indicates widespread exchange of material culture in the

⁷¹ Meyer, Jack and Jeffrey Rosenthal. 1997. *Archaeological and Geoarchaeological Investigations at Eight Prehistoric Sites in the Los Vaqueros Reservoir Area, Contra Costa County, California*. Rohnert Park, California: Anthropological Studies Center.

⁷² Elsasser, Albert B. 1978. Development of Regional Prehistoric Cultures. In *Handbook of North American Indians* Volume 8: California, edited by R. F. Heizer, pp. 37-57. Washington, D.C.: Smithsonian Institution.

⁷³ Ibid.

⁷⁴ Bennyhoff, James A. 1994b. Variation within the Meganos Culture. In *Toward a New Taxonomic Framework for Central California Archaeology. Essays by James A. Bennyhoff and David A. Fredrickson*, R.E. Hughes, ed. pp. 81-89. Berkeley: University of California Archaeological Research Facility.

⁷⁵ Bennyhoff, James A. 1994a. Central California Augustine: Implications for Northern California Archaeology. In *Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson*, R. E. Hughes, ed. pp. 65-74. Berkeley: University of California Archaeological Research Facility.

Bay Area. This suggests considerable population movement and regional integration and may represent development of new regional cultural pattern that was interrupted by Spanish incursion into the Bay Area.⁷⁶

Ethnography. The project site is within the overlapping ethnographic territories of the Ohlone and Bay Miwok. The Ohlone territory stretched along the coast from the San Francisco Peninsula to south of Monterey Bay and inland as far as Livermore and Soledad. The Bay Miwok territory encompassed approximately 500 square miles in the upper reaches of the San Francisco Bay-Delta, primarily south of the Sacramento River and including Mount Diablo.⁷⁷

Ohlone is a linguistic subfamily of the Penutian language stock that consisted of eight distinct language branches (researchers are unsure whether these were dialects or distinct languages). Each of these was spoken in a particular geographic location by the resident tribelet(s).⁷⁸ The tribelet comprised the basic unit of political organization for the Ohlone, consisting of a “territory-holding group of one or more associated villages and smaller temporary encampments... Permanent villages were established near the coast, the bay, and along river drainages, while temporary camps were located in prime resource-processing areas. Some tribelets occupied a central village, while others had several villages within a few miles of each other.”⁷⁹

Bay Miwok belongs to the Eastern Miwok language group, which also includes the Plains Miwok and Sierran Miwok languages. As they did for the Ohlone, researchers have identified distinct tribelets for the Bay Miwok at the time of European contact, each comprised of one or more villages.⁸⁰ For both the Ohlone and Bay Miwok, subsistence activities: “centered around the seasonal availability of gathered resources, such as acorns, nuts, seeds, greens and bulbs; hunting deer, pronghorn, tule elk, smaller animals, sea mammals, and waterfowl; fishing; and collecting shellfish (clams, oysters, mussels, and abalone)...the Ohlone territory included the open coast, the littoral zone of the bay, and a variety of inland settings, each with a varied range of resources available within the territorial extent of a tribelets.”⁸¹

Unlike groups to the west, the Bay and [neighboring] Plains Miwok homeland was concentrated along the Sacramento and San Joaquin River delta, adjacent plains, and major tributary rivers. As

⁷⁶ American Society of Civil Engineers. 1977. *Historic Civil Engineering Landmarks of San Francisco and Northern California*. History and Heritage Committee, San Francisco Section, American Society of Civil Engineers.

⁷⁷ California Department of Transportation (Caltrans). 2017. *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4*. Oakland: Office of Cultural Resource Studies, California Department of Transportation District 4.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ California Department of Transportation (Caltrans). 2017. *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4*. Oakland: Office of Cultural Resource Studies, California Department of Transportation District 4.

such, it encompassed a wide range of micro-environments, including delta wetlands and marshes, lakes and sloughs, riparian forest, prairie grassland, and oak woodland/savanna.”⁸²

Historic Context. The project site is within the former lands of Mission San José, founded in 1797. By 1820, the Mission had vast tracts of land used to graze cattle and sheep, as well as to cultivate crops including wheat, corn, barley, peas, beans, and fruit. Wheat was a staple crop, and the Mission San José was one of the most prosperous of all the missions.

Mexican Independence in 1821 led to the demise of the California mission system, including Mission San José. The Rancho class wanted the agriculturally rich Mission lands and sought to end the era of religious control of the land and the agricultural economy. Between 1834 and 1836, all of the California missions were secularized. José de Jesús Vallejo, brother of Mariano Vallejo, was appointed the *comisionado* in charge of the secularization of Mission San José until 1840. In his influential position, José de Jesús Vallejo was able to acquire approximately 17,000 acres of the former mission land, which became Rancho Arroyo de la Alameda. In 1841, he constructed a grist mill on a flat area of land north of Alameda Creek.

Following the secularization of the missions between 1834 and 1836, many Ohlone worked as manual laborers and house servants on ranchos. Vallejo took advantage of the cheap labor source as his agricultural and mill operations grew, and, in 1856, a larger, more efficient mill was constructed approximately 40 feet west of the original mill.

During the early American period (1848–1865), the village of Vallejo Mills continued to grow as gold miners who, upon becoming disillusioned with prospecting, returned to farming in the area; many squatted on Vallejo’s land. By the 1850s, Vallejo Mills was the central gathering place for the agricultural community and consisted of stores, a hotel, and a restaurant. The hills and ridges above Vallejo Mills were used for grazing livestock. However, due to unwise investments and hefty property taxes, Vallejo was forced to sell off portions of the original rancho land; by the mid-1860s, the majority of the former rancho land, including the Vallejo Mills site, was sold.

In 1865, the Western Pacific Railroad Company began construction of an 11.6-mile-long segment of the transcontinental railroad through Niles Canyon. Completed in 1869, the rail line ran through the canyon to San Francisco and was the final segment of the first Transcontinental Railroad providing the first rail connection between the San Francisco Bay Area and the rest of the United States. During this time, the Central Pacific Railroad (CPRR) had acquired the Western Pacific Company.

The new railroad benefited the surrounding areas but led to the decline of the Vallejo Mills settlement. The railroad bypassed Vallejo Mills and established a station and facilities in Niles, 1,500 feet to the northwest of the mill site. As Niles continued to develop around the railroad operations, Vallejo Mills declined; mill operations ceased in 1884.

In 1880, the rail line through Niles Canyon became secondary to a new main line constructed through the towns of Benicia and Martinez. In 1889, the CPRR became a subsidiary of the Southern Pacific Railroad (SPRR) and the two merged in 1959. The tracks through Niles Canyon were in service

⁸² Ibid.

until 1984, when SPRR deeded the section of the railroad and right-of-way from Sunol to Niles to Alameda County. Today, the Pacific Locomotive Association operates the Niles Canyon Railway for historical tours.

Built Environment Resources. The following describes the built environment resources identified within or adjacent to the proposed trail corridor.

Phase 1. Supplemental background research, including a literature review, and a field review by an architectural historian identified the following four previously recorded built environment cultural resources more than 45 years old in the Phase 1 project segment. The following resources were identified and previously evaluated and are eligible for inclusion in the National Register or California Register individually or as contributing element to an identified historic district and are historical resources for the purposes of CEQA (Public Resources Code Section 21084.1).

- **P-01-002192/CA-ALA-583H; Sunol Aqueduct of the Spring Valley Water Company.** This resource consists of a 4.9-mile-long water conveyance structure paralleling Alameda Creek between Niles and Sunol. This segment was constructed in 1923 and replaced earlier wood box flues built in 1898–1900. The segment of the Sunol Aqueduct was evaluated in 1998 and assigned a California Historical Resource Status Code of “3,” indicating that it “[a]ppears eligible for listing in the National Register”. This segment of the Sunol Aqueduct is a historical resource for the purposes of CEQA.
- **P-01-003280; Niles Old Town Complex.** This resource consists of a “complex of historic sites and existing resources about [José de Jesús] Vallejo Mill (old Spanish town) and early transcontinental Railroad Depot terminus and small town with remainder of Essanay Studio activities and concentration of Victorian commercial and residential structures.” A rough sketch map prepared circa 1974 depicts an approximately six-square block concentration as the anchor to the complex with the Niles Boulevard, the Essanay Studio, the Niles Depot, and a segment of “Old Vallejo Street” that in turn leads to the Vallejo Mills site lying between the railroad to the north and Niles Canyon Road to the south. According to a “Historic Resources Inventory” form prepared by the Mission Peak Heritage Foundation in April 1974, the complex contains 7 sites and 17 structural or built environment elements. The Niles Old Town Complex was assigned a California Historical Resource Status Code of “7R,” indicating that it was “[i]dentified in Reconnaissance Level Survey or in an Area of Potential Effect (APE): Not evaluated.” LSA reviewed the Niles Old Town Complex during a field survey, and it appears eligible as a historic district for associations with the early economic and residential history of Niles and for the buildings’ collective architectural qualities. For the purposes of this evaluation, the Niles Old Town Complex is assumed to a historical resource for the purposes of CEQA.
- **P-01-008189; Farwell Bridge (a.k.a. Farwell Underpass); Caltrans Bridge #33-0035.** This resource consists of a five-span structure that carries a single-railroad track over State Route 84 (SR 84) and Alameda Creek at the intersection of Palomares Road. This structure was built in two phases, the first phase comprising the eastern abutment that carries the railroad

over SR 84 in 1865–66 and a second phase in 1896 that corresponds to the construction of the railroad bridge over Alameda Creek. The Caltrans Historic Bridge Inventory for State Agency Bridges indicates this bridge was built in 1932; however, as an evaluation by Caltrans suggests, this date may reflect when “the plate-girder span over the highway was replaced or enlarged at that time”, in addition, “the [concrete] facing of stone piers and abutments with concrete may have also occurred at that time.”⁸³

This resource was assigned a California Historical Resource Status Code of “1D” on October 13, 2010, indicating that it is a contributing element to a historic district. In addition, the September 2022 edition of the Caltrans Historic Bridge Inventory for State Agency Bridges indicates this structure was assigned a Historic Significance rating of “2” indicating the “Bridge is eligible for National Register.” The Farwell Bridge/Underpass is a historical resource for the purposes of CEQA.

- **P-01-011357; Southern Pacific Railroad – Alameda Canyon Line (a.k.a., Niles Canyon Transcontinental Railroad Historic District, Niles Canyon Railroad District).** This resource consists of a 6-mile segment of railroad that winds through Niles Canyon from Sunol Railroad Station on the east to the Niles Railroad Station on the west. The resource is classified as a historic district and its contributing elements include the railroad alignment through Niles Canyon, the railroad grade, ties and ballast, a telegraph line, and a code line “and all other structural components of the line.”⁸⁴ The boundary is determined by geographical and historical characteristics. This resource was recoded as a district in 2004 and assigned a California Historical Resource Status Code of “1S,” in 2010 indicating that it is “[i]ndividually listed in the NR[HP] by the Keeper [of the National Register]. Listed in the CR[HR].” SPRR–Alameda Canyon Line (a.k.a., Niles Canyon Transcontinental Railroad Historic District, Niles Canyon Railroad District) is a historical resource for the purposes of CEQA.
- **P-01-011452; Spring Valley Water Company Conveyance System.** This resource consists of the Sunol Dam, Sunol Aqueduct, Sunol Valley Filtration Galleries, Niles Dam, and the Niles Regulating Reservoir, as well as two sets of trans-bay pipelines. The Alameda Headquarters for the system is on the western boundary of Alameda Creek and includes 22 buildings and structures that were associated with the daily operations of Alameda Division of the Spring Valley Water Company. These resources were constructed between 1898 and 1930. This resource was evaluated in 2002 and assigned a California Historical Resource Status Code of “3,” indicating that it “[a]ppears eligible for listing in the National Register.” The Spring Valley Water Company Conveyance System is a historical resource for the purposes of CEQA.

⁸³ Hope, Andrew. 1994. *California Department of Parks and Recreation Series 523 individual resource form record of P-01-008189; Farwell Underpass Bridge (Bridge #33-0035)*. California Department of Transportation, District 4, Oakland, California. Form on file at Northwest Information Center, Rohnert Park, California.

⁸⁴ Scantlebury, Meg. 2004. *California Department of Parks and Recreation Series 523 district form record of P-01-011357; Southern Pacific Railroad – Alameda Canyon Line (a.k.a., Niles Canyon Transcontinental Railroad Historic District, Niles Canyon Railroad District)*. California Department of Transportation, District 4, Oakland, California. Form on file at Northwest Information Center, Rohnert Park, California.

No additional built environment cultural resources that may meet the definition of a historic property (36 CFR Part 800.16(l)(1)) or as a historical resource for the purposes of CEQA (Public Resources Code Section 21084.1) were identified within the Phase 1 proposed trail alignment.

Phases 2 and 3. Phases 2 and 3 would also be located near identified historical built environment resources, including the Sunol Aqueduct, Southern Pacific Railroad, and Spring Valley Water Conveyance System, described above.

4.4.1.3 Regulatory Context

The following describes the federal, State and local regulatory and policy requirements for cultural resources that are relevant to the proposed project.

Federal Regulations. Federal regulations applicable to the proposed project are described below.

National Historic Preservation Act. The National Historic Preservation Act (NHPA) of 1966 establishes the role and responsibilities of the federal government in historic preservation. Toward this end, the NHPA directs agencies (1) to identify and manage historic properties under their control; (2) to undertake actions that will advance the NHPA's provisions and avoid actions contrary to its purposes; (3) to consult with others while carrying out historic preservation activities; and (4) to consider the effects of their actions on historic properties.

Section 106 of the NHPA requires federal agencies to (1) take into account the effects of their undertakings on historic properties; and (2) afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on potential effects. The regulations that implement Section 106 and outline the historic preservation review process are at 36 Code of Federal Regulations (CFR) Part 800.

Some degree of review under Section 106 must be conducted for all federal, federally assisted, federally licensed, or federally funded projects. If a project is subject to federal jurisdiction and the project is an undertaking as defined at 36 CFR Part 800.16(y) with the potential to cause effects on historic properties (36 CFR Part 800.3(a)), Section 106 of the NHPA must be addressed to take into account the effect of the undertaking on any district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (National Register) (i.e., historic properties).

National Register of Historic Places. The National Register was authorized by Section 101 of the NHPA as the nation's official list of cultural resources worthy of preservation. Properties listed in the National Register consist of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Properties listed in or eligible for listing in the National Register are considered in planning and environmental review, and effects to such properties are primarily addressed under Section 106.

The criteria for determining a resource's eligibility for National Register listing are defined at 36 CFR Part 60.4 and are as follows:

. . .the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

- A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B) That are associated with the lives of persons significant in our past; or
- C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D) That have yielded, or may be likely to yield, information important in prehistory or history.

Under Criteria A, B, and C, the National Register places an emphasis on a resource appearing as it did during its period of significance to convey historical significance; under Criterion D, properties convey significance through the information they contain.

National Register Bulletin *How to Apply the National Register Criteria for Evaluation* (1997) states that, for a property to qualify for listing in the National Register, it must meet at least one of the National Register criteria by (1) being associated with an important historic context, *and* (2) retaining historic integrity of those features necessary to convey its significance.⁸⁵ The historic context of a resource will define the theme(s), geographical limits, and period of significance by which to evaluate a resource’s significance.⁸⁶

Generally, cultural properties must be 50 years of age or more to be eligible for listing in the National Register. According to the National Park Service, “properties that have achieved significance within the past 50 years shall not be considered eligible” unless such properties are “of exceptional importance.”⁸⁷

In addition to meeting one or more of the significance criteria, a cultural resource must retain its historical integrity to be considered eligible for listing in the National Register. Historical integrity is defined as the ability of a resource to convey its significance. The evaluation of integrity must be grounded in an understanding of a resource’s physical features and its environment, and how these relate to its significance. “The retention of specific aspects of integrity is paramount for a property to convey its significance.”⁸⁸ There are seven aspects of

⁸⁵ National Park Service. 1997. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*. Washington, D.C.: U.S. Department of the Interior, Washington, D.C.

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ National Park Service. 1997. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*. Washington, D.C.: U.S. Department of the Interior, Washington, D.C.

integrity to consider when evaluating a cultural resource: location, design, setting, materials, workmanship, feeling, and association.⁸⁹

- *Location* is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.
- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.
- *Setting* is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. Physical features that constitute the setting of a historic property can be either natural or manmade, including topographic features, vegetation, paths or fences, or relationships between buildings and other features or open space.
- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of the artisan's labor and skill in constructing or altering a building, structure, object, or site.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character.
- *Association* is the direct link between an important historic event or person and a historic property.

For archaeological resources, the term “integrity” is used to describe the level of preservation or quality of information contained within a district, site, or excavated assemblage. Integrity is relative to the specific significance which the resource conveys. Although it is possible to correlate the seven aspects of integrity with standard archaeological site characteristics, those aspects are often unclear for evaluating the ability of an archaeological resource to convey significance under Criterion D. Under Criterion D, the integrity of archaeological resources is judged according to the ability of the site to yield scientific and cultural information that can be used to address important research questions.⁹⁰

⁸⁹ Ibid.

⁹⁰ Little, Barbara J., Jan Townsend, Erika Martin Seibert, John Sprinkle, and John Knoerl. 2000. *Guidelines for Evaluating and Registering Archaeological Properties*. U.S. Department of the Interior, National Park Service, National Register of Historic Places.

Resources that have a significant association with an important historic context, meet the age guidelines, and possess integrity will generally be considered eligible for listing in the National Register.

State Regulations. State regulations applicable to the proposed project are described below.

California Environmental Quality Act. CEQA applies to all discretionary projects undertaken or subject to approval by the state's public agencies (14 California Code of Regulations [CCR] Section 15002(i)). Under the provisions of CEQA, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (14 CCR Section 15064.5(b)).

State CEQA Guidelines Section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (California Register) (as defined under California Public Resources Code [PRC], Section 5024.1; 14 CCR Section 4850, et seq.)
- Listed in a local register of historical resources (as defined at PRC Section 5020.1(k))
- Identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g)
- Determined to be a historical resource by a project's lead agency (14 CCR Section 15064.5(a))

A historical resource consists of "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...Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (14 CCR Section 15064.5(a)(3)).

If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (14 CCR Section 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project would have on the resource. Generally, a project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* shall be considered mitigated to a level of a less than significant impact on the historical resource (14 CCR Section 15064.5(b)(3)). As noted in Section 15126.4(b)(2) of the *State CEQA Guidelines*, "In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment will occur." Finally, CEQA requires that all

feasible mitigation be undertaken even if the mitigation does not reduce impacts to less than significant levels (14 CCR Section 15126.4(a)(1)).

California Register of Historical Resources. PRC Section 5024.1 established the California Register. The requirements for listing in the California Register, including the criterion for listing and having integrity, are similar to those of the National Register. Generally, a resource is considered by the lead agency to be “historically significant” if the resource meets the criteria for listing in the California Register (14 CCR Section 15064.5(a)(3)). For a cultural resource to qualify for listing in the California Register, it must be significant under one or more of the following criteria:

- **Criterion 1:** Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage
- **Criterion 2:** Associated with the lives of persons important in our past
- **Criterion 3:** Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- **Criterion 4:** Has yielded, or may be likely to yield, information important in prehistory or history

In addition to being significant under one or more of these criteria, a resource must retain enough of its historic character and appearance to be recognizable as a historical resource and be able to convey the reasons for its significance (14 CCR Section 4852(c)). Generally, a cultural resource must be 50 years or older to be eligible for the California Register (14 CCR Section 4852(d)(2)).

In addition to meeting one or more of the significance criteria, a cultural resource must retain its historical integrity to be considered eligible for listing in the California Register. Historical integrity is defined as “the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance.”⁹¹ The evaluation of integrity must be grounded in an understanding of a resource’s physical features, its environment, and how these relate to its significance. There are seven aspects of integrity to consider when evaluating a cultural resource (i.e., location, design, setting, materials, workmanship, feeling, and association), which are described as follows.⁹²

⁹¹ California Office of Historic Preservation, n.d. California Office of Historic Preservation Technical Assistance Series #6. *California Register and National Register: A Comparison*. California Office of Historic Preservation. California Office of Historic Preservation, Sacramento.

⁹² National Park Service, 1997. *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*. Washington, D.C.: U.S. Department of the Interior, Washington, D.C.

1. **Location** is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.
2. **Design** is the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.
3. **Setting** is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. Physical features that constitute the setting of a historic property can be either natural or manmade, including topographic features, vegetation, paths or fences, or relationships between buildings and other features or open space.
4. **Materials** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
5. **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of the artisan's labor and skill in constructing or altering a building, structure, object, or site.
6. **Feeling** is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character.
7. **Association** is the direct link between an important historic event or person and an historic property.

California PRC Section 5097.98. Section 5097.98 of the PRC states that the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5 (discussed below), shall immediately notify those persons (i.e., the Most Likely Descendant or "MLD") it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site.

California Health and Safety Code Section 7050.5. Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a

Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Regional and Local Regulations. The East County Area Plan and the City of Fremont General Plan and Municipal Code requirements related to cultural resources are described below.

East County Area Plan. The following goals and policies from the East County Area Plan pertaining to cultural resources would be applicable to the proposed project:

- **Cultural Resources Goal:** To protect cultural resources from development.
 - *Policy 136:* The County shall identify and preserve significant archaeological and historical resources, including structures and sites which contribute to the heritage of East County.
 - *Policy 137:* The County shall require development to be designed to avoid cultural resources or, if avoidance is determined by the County to be infeasible, to include implement appropriate mitigation measures that offset the impacts.
 - *Implementation Program 59:* The County shall require a background and records check of a project area if a project is located within an extreme or high archaeological sensitivity zone as determined by the County. If there is evidence of an archaeological site within a proposed project area, an archaeological survey by qualified professionals shall be required as a part of the environmental assessment process. If any archaeological sites are found during construction, all work in the immediate vicinity shall be suspended pending site investigation by a qualified archaeology professional. Proposed structures or roads on property that contains archaeological sites should be sited in consultation with a professional archaeologist to avoid damaging the archaeological sites. The County shall follow the California Environmental Quality Act (CEQA) Guidelines for cultural resource preservation procedures in reviewing development projects located near identified cultural resources. Appropriate measures for preserving an historic structure include renovation or moving it to another location. Proposals to remove historic structures shall be reviewed by qualified professionals.

City of Fremont General Plan. The City of Fremont General Plan Community Character Element includes the following goals and policies related to cultural resources:

- **GOAL 4-6: Historic Preservation and Cultural Resources.** Conservation and enhancement of Fremont's historic sites, buildings, structures, objects, and landscapes into the 21st Century and beyond.
 - *Policy 4-6.1: Protection of Historic Resources:* Identify, preserve, protect and maintain buildings, structures, objects, sites and districts which are reminders of past eras, events, and persons important in local, state, or national history. Historic structures which provide significant examples of architectural periods and styles of the past are irreplaceable assets. They should be protected to provide present and future

generations with examples of the physical environments in which past generations lived and worked. The needless destruction and impairment of significant historic resources must be prevented so that opportunities for public enjoyment and economic utilization of such resources are not diminished or lost.

- Implementation 4-6.1.A: Demolition, Alteration or Relocation of Historic Resources: Evaluate all applications for demolition, alteration or relocation of buildings, structures or objects constructed prior to 1955 to determine if there is sufficient significance and integrity to merit classification as a Potential Fremont Register Resource or formal designation as a Fremont Register Resource.
- *Policy 4-6.2: Construction and Alterations within Historic Areas:* Require new construction or alterations to Register Resources or Potential Register Resources located within a designated HOD or NCA to be subject to review and approval by the Historical Architectural Review Board (HARB). However, single-family residential properties (other than Fremont Register Resources and Potential Register Resources) located within an HOD or NCA are not subject to review by HARB.
 - Implementation 4-6.2.A: Secretary of the Interior Standards. Review proposed alterations to Register Resources and Potential Register Resources in a manner that is consistent with the recommended procedures and best practices provided in The Secretary of the Interior's Standards for the Treatment of Historic Properties, including guidelines for preserving, rehabilitating, restoring and reconstructing historic buildings.
- *Policy 4-6.3: Resource Documentation and Funding:* Identify and record significant historic and archaeological resources, and maximize the use of all potential funding sources, including those available through State and federal programs, for the preservation, rehabilitation, restoration and enhancement of such resources.

The City has an ongoing program of evaluating potential historic resources. In addition, project applicants may be required to evaluate historic resources as part of the development process. Property owners and the general public may also apply for listing of historic resources on the Fremont Register.

- Implementation 4-6.3.A: Document Historic Properties. Conduct historic resource evaluations as part of the development review process based upon considerations such as the age, character-defining features, location and setting of the property.
- *Policy 4-6.4: Historic Settings and Landscapes:* Identify and pursue measures to protect the historic settings and landscapes that contribute to Fremont's historic resources. The City shall review proposed development and redevelopment projects to ensure their compatibility with existing historic settings. In particular, such review shall address the scale, massing and on-site improvements of proposed development as it relates to historic settings. This policy recognizes that the historic value of a site may extend beyond structures and include the landscape and setting around a structure. This could

include heritage trees, gardens, historic plantings, significant landscape elements, fences and outbuildings, and other character-defining features.

- *Policy 4-6.5: Design Compatibility:* Preserve the architectural continuity and design integrity of historic districts and other areas of strong architectural character. New development within such areas does not need to replicate prevailing architectural styles exactly but should be complementary in form, height, and bulk.
- *Policy 4-6.6: Historic Preservation Regulations:* Observe local, State and federal historic preservation laws, regulations and codes to ensure conservation of Fremont's significant historic resources. These laws include but are not limited to Mills Act Historic Property contracts, the California Historical Building Code, and State laws related to archaeological resources.
 - Implementation 4-6.6.A: Mills Act. Encourage and facilitate the use of Mills Act historic property contracts.
 - Implementation 4-6.6.B: State Historical Building Code. Encourage and facilitate the use of the State Historical Building Code for alteration, rehabilitation and retrofit of Register Resources, Potential Register Resources and other qualifying historic buildings, structures and objects.
- *Policy 4-6.7: Infrastructure Improvements within Historic Districts:* Assess the potential impact of infrastructure improvements and other public improvement projects within HODs, NCAs, or other areas that warrant special considerations to ensure that the historic setting is not compromised as a result of the project, and to provide appropriate mitigation in the event that an adverse impact is projected to occur.
 - Implementation 4-6.7.A: Public Improvement Design Standards. Allow modification of standard specifications to protect significant historic settings and context.
- *Policy 4-6.10: Protection of Native American Remains:* Coordinate with representatives of local Native American organizations to ensure the protection of Native American resources and to follow appropriate mitigation, preservation, and recovery measures in the event such resources could be impacted by development.

City of Fremont Municipal Code. The following chapter of the City of Fremont Municipal Code pertaining to tribal cultural resources would be applicable to the proposed project:

Chapter 18.218. Standard Development Requirements to Address Resource Protection.

Section 18.218.010, Purpose and Intent, states that the purpose of this chapter is to ensure the universal application of standard development requirements for resource protection to development projects that have the potential to adversely disturb or impact (a) special-status species; (b) cultural resources; and (c) air quality due to construction activities such as grading, demolition, and tree and shrub removal. The California Public Resources Code and AB 52 (2014) both recognize the need for notification and evaluation procedures to protect

cultural resources that may be located in areas considered sacred lands or that may be accidentally discovered during construction activities.

For all these reasons, and in the interest of the public health, safety and welfare of the people of the city of Fremont, recognizing the private rights to develop and use property in a manner that is not prejudicial to the public interest, it is the purpose of this chapter to provide standard development requirements that would reduce potential significant impacts to natural resources.

The following Standard Development Requirements related to Cultural and Tribal Cultural Resources would apply to the proposed project:

1. **Notification, Affiliated California Native American Tribes.** Within 14 days of determining that an application for a project is complete or a decision by the city is made to undertake a project, the city shall provide formal notification to the designated contact or a tribal representative of traditionally and culturally affiliated California Native American tribes that have requested to receive such notice from the city. The written notification shall include a brief description of the proposed project and its location, project contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to Cal. Pub. Res. Code Section 64352.4.
2. **Accidental Discovery of Cultural Resources.** The following requirements shall be met to address the potential for accidental discovery of cultural resources during ground disturbing excavation:
 - a. The project proponent shall include a note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.
 - b. The project proponent shall retain a professional archaeologist to provide a preconstruction briefing to supervisory personnel of any excavation contractor to alert them to the possibility of exposing buried cultural resources, including significant prehistoric archaeological resources. The briefing shall discuss any cultural resources, including archaeological objects, that could be exposed, the need to stop excavation at the discovery, and the procedures to follow regarding discovery protection and notification of the project proponent and archaeological team.
 - c. In the event that any human remains or historical, archaeological or paleontological resources are discovered during ground disturbing excavation, the provisions of CEQA Guidelines Sections 15064.5(e) and (f), and of subsection (c)(2)(D) of this section, requiring cessation of work, notification, and immediate evaluation shall be followed.

- d. If resources are discovered during ground disturbing activities that may be classified as historical, unique archaeological, or tribal cultural resources, ground disturbing activities shall cease immediately, and the planning manager shall be notified. The resources will be evaluated by a qualified archaeologist and, in the planning manager's discretion, a tribal cultural monitor. If the resources are determined to be historical, unique archaeological, or tribal cultural resources, then a plan for avoiding the resources shall be prepared. If avoidance is infeasible, then all significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards. Any plan for avoidance or mitigation shall be subject to the approval of the planning manager.
 - e. As used herein, "historical resource" means a historical as defined by CEQA Guidelines Section 15064.5(a); "unique archaeological resource" means unique archaeological resource as defined by Cal. Pub. Res. Code Section 21083.2(g); and "tribal cultural resource" means tribal cultural resource as defined by Cal. Pub. Res. Code Section 21074. Collectively, these terms describe "significant cultural materials."
3. **Archaeological Monitoring.** New development projects with the potential to impact subsurface archaeological or cultural resources through grading, demolition, and/or new construction, if so determined by a site-specific study prepared by an archaeologist that meets the Secretary of the Interior's professional qualifications standards for archaeology, shall implement the following measures prior to any grubbing, grading, or ground disturbing activities:
 - a. An archaeologist shall monitor construction-related ground disturbance within the vicinity of project site features identified as having the potential to include subsurface archaeological, cultural, or tribal cultural resources that could be impacted through ground-disturbing activities related to the construction of the project. Monitoring should continue until the archaeologist determines that there is a low potential for encountering subsurface archaeological, cultural, or tribal cultural resources. An archaeologist that meets the Secretary of the Interior's professional qualifications standards for archaeology shall oversee the monitoring. Any compensation for time and expenses related to this activity shall be borne by the project proponent.
4. **Tribal Cultural Monitoring and Training.** Should the city receive a formal written request by the designated contact or a tribal representative of a traditionally and culturally affiliated California Native American tribe pursuant to Cal. Pub. Res. Code Section 64352.4 to have a tribal cultural representative present at the project site before or during construction activities to identify or monitor sites or objects of significance to Native Americans or to provide construction worker tribal cultural resources awareness training including applicable regulations and protocols for avoidance, confidentiality, and culturally appropriate treatment, the project proponent

shall honor that request and include tribal cultural monitoring or training as a component of their project. The tribal cultural representative shall have the ability to request that work be stopped, diverted, or slowed if sites or objects of significance to Native Americans are encountered within the direct impact area and shall be consulted for recommendations regarding the appropriate treatment of such sites or objects. Any compensation for time and expenses related to this activity shall be borne by the project proponent.

4.4.2 Impacts and Mitigation Measures

The following section identifies potential impacts to cultural resources that could result from the implementation of the proposed project. This section first lists the criteria by which significance is determined, followed by a discussion of impacts and mitigation measures.

4.4.2.1 Criteria of Significance

The following thresholds of significance are based on Appendix G of the *State CEQA Guidelines*. Based on these thresholds, implementation of the proposed project would have a significant impact related to cultural resources if it would:

- Threshold 4.4.1:** Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5;
- Threshold 4.4.2:** Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to *CEQA Guidelines* Section 15064.5; or
- Threshold 4.4.3:** Disturb any human remains, including those interred outside of formal cemeteries.

For the project to have “a substantial adverse change” on a historical resource, it would have to demolish, destroy, relocate, or alter the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*State CEQA Guidelines* Section 15064.5(b)). Archaeological sites may qualify as historical resources under CEQA (*State CEQA Guidelines* Section 15064.5(c)(1)).

Generally, for purposes of CEQA, the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register or an officially recognized local register of historical resources, or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g).

4.4.2.2 Project Impacts

The following describes the project’s potential impacts to cultural resources according to the significance criteria described above, with Phase 1 evaluated at the project level and Phases 2 and 3 evaluated at a programmatic level. The analysis prescribes mitigation measures that would reduce the identified impact to a less-than-significant level, if necessary.

Impacts to historical resources could occur from project implementation. Note that under the *State CEQA Guidelines*, “historical resources” can include both significant built-environment resources and archaeological deposits. Potential impacts to these two types of historical resources are discussed under the separate threshold discussions below.

Threshold 4.4.1: Built Environment Resources. The following describes the project’s potential impacts to built environment resources for Phase 1 and Phases 2 and 3.

Phase 1. As described in Section 4.4.1.2 above, four previously recorded built environment cultural resources more than 45 years old were identified in the Phase 1 project corridor. These resources were previously evaluated and are eligible for inclusion in the National Register or California Register individually or as contributing element to an identified historic district and are historical resources for the purposes of CEQA (Public Resources Code Section 21084.1). The potential for the project to impact each of these resources is described below.

- **P-01-002192/CA-ALA-583H; Sunol Aqueduct of the Spring Valley Water Company.** As outlined in **Chapter 3.0, Project Description**, a portion of the Phase 1 trail segment would follow the alignment of the existing Sunol Aqueduct. Because of the age and unknown structural capacity of the existing aqueduct, the project proposes to demolish the existing aqueduct and replace it with the proposed trail, as most of the aqueduct alignment is on a relatively shallow grade.

As described above, the Sunol Aqueduct was originally constructed in the early 1870s and is eligible for registration in the National Register. However, sections of it have already been removed, particularly on the Mission Clay property. As part of the proposed project, portions of the Sunol Aqueduct would be preserved and interpretive signage would be installed to commemorate the history of water infrastructure in Niles Canyon.

Under CEQA, the substantial adverse change in the significance of a historical resource is defined as the physical demolition, destruction or alteration of the resource or its immediate surroundings such that it no longer conveys the reasons for its significance. The proposed trail would not result in a material adverse change in the significance of this historical resources. Portions of the resource have been previously altered and such alterations did not result in the resource no longer retaining its eligibility for inclusion in the National Register or the California Register. Therefore, the proposed project would not cause a substantial adverse change in the significance of the Sunol Aqueduct. This impact would be **less than significant**.

- **P-01-003280; Niles Old Town Complex.** As outlined in **Chapter 3.0, Project Description**, the proposed project would include an extension from Vallejo Mills to downtown Niles, which would allow trail users to use the Niles Town Plaza parking area to access the proposed trail. Within the Niles Old Town Complex, the proposed project would remove some of the angled parking along Niles Boulevard and re-stripe the roadway to accommodate the trail linkage. In addition, sidewalk gaps would be closed to provide continuous pedestrian access along Niles Boulevard.

Although the proposed project would traverse the Niles Old Town Complex, none of the buildings and structures associated with the Niles Old Town Complex would be directly altered in any way as part of the proposed project. Minimal improvements associated with the proposed project would be at-grade (e.g., roadway striping, sidewalks). Therefore, the proposed project would not result in a change of setting, and the impact to the Niles Old Town Complex would be **less than significant**.

- P-01-008189; Farwell Bridge (a.k.a. Farwell Underpass); Caltrans Bridge #33-0035.** The proposed project would result in the construction of a pedestrian bridge to provide a link between Palomares Road and the proposed trail and to provide an off-highway multi-use route to the Niles District. The proposed bridge would cross straight over the Niles Canyon Railroad, Alameda Creek, SR 84, Palomares Road, and the existing Farwell Bridge. Construction of the proposed bridge structure directly over the Farwell Bridge would introduce a new visual feature and use that would alter the setting of this historic resources. As a result, the proposed project would alter the immediate surroundings of the resource and result in limited impairment of those physical characteristics that account for the resource’s California Register and National Register eligibility. This limited level of impairment it not, however, a “material impairment,” as defined in *State CEQA Guidelines* Section 15064.5[b][2], which occurs when a project alters or demolishes in an adverse manner “those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion” in a state or local historic registry.

With implementation of the proposed project, the Farwell Bridge would remain comprehensible for its associative qualities with important events and architectural/ engineering qualities. Specifically, the proposed project would not demolish, remove, destroy, or alter beyond recognition any elements of the historic bridge. The proposed bridge would not affect or otherwise compromise the surviving historical workmanship as expressed in the resource’s contributing elements. Further, the proposed structure would facilitate the movement of people through the area, which is a defining feature of the Niles Canyon and the Farwell Bridge. For the reasons stated above, the proposed project would not result in an alteration of the Farwell Bridge itself; therefore, it would not result in a material adverse change to the entire historic district to which the Farwell Bridge contributes. This impact would be **less than significant**.

- P-01-011357; Southern Pacific Railroad – Alameda Canyon Line (a.k.a., Niles Canyon Transcontinental Railroad Historic District, Niles Canyon Railroad District).** As outlined in **Chapter 3.0, Project Description**, a portion of the Phase 1 trail alignment would run parallel to the Niles Canyon Railway and the proposed Palomares Road Bridge would cross over the Niles Canyon Railway. To maintain safety, the project would include vertical separation of the trail from the railroad’s operations, which would include installation of a fence allowing for wildlife passage. To construct the trail along the steep slope near the Farwell Bridge, the project would include grading and installation of retaining walls.

The placement of a trail and retaining walls adjacent to the Niles Canyon Railway would introduce new visual features and use that would alter the setting of this historic district. As

a result, the proposed project would alter the immediate surroundings of the resource and result in limited impairment of those physical characteristics that account for the district's California Register and National Register eligibility. This limited level of impairment it not, however, a "material impairment," as defined in *State CEQA Guidelines* Section 15064.5[b][2], which occurs when a project alters or demolishes in an adverse manner "those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion" in a state or local historic registry.

The district's significance is based, in part, for its setting within a narrow, steeply walled Niles Canyon. The proposed project would introduce new visual elements within the district's boundary and near built environment elements that contribute to its overall significance. However, the proposed construction would allow people to safely pass through this historic district, which is the common historical association among its contributing elements. When completed, the historic district would remain comprehensible as an area associated with the resource's period of significance.

The built environment elements that convey the District's significance, i.e., "the railroad alignment through Niles Canyon, the railroad grade, ties and ballast, a telegraph line, and a code line, and 'all other structural components of the line', would remain in their historical locations, orientations, and functions." Therefore, the proposed project would not cause a substantial adverse change in the significance of this historic district. This impact would be **less than significant**.

- **P-01-011452; Spring Valley Water Company Conveyance System.** As described above, a portion of the Phase 1 trail segment would follow the alignment of the existing Sunol Aqueduct. Because of the age and unknown structural capacity of the existing aqueduct, the project proposes to demolish the existing aqueduct and replace it with the proposed trail, as most of the aqueduct alignment is on a relatively shallow grade. The proposed trail would not traverse or affect any other components of the Spring Valley Water Company Conveyance System (e.g., the Sunol Dam, Sunol Valley Filtration Galleries, Niles Dam, and the Niles Regulating Reservoir). Therefore, for the reasons stated above, the proposed project would not cause a substantial adverse change in the significance of the Sunol Aqueduct. This impact would be **less than significant**.

No additional built environment cultural resources that may meet the definition of a historic property (36 CFR Part 800.16(l)(1)) or as a historical resource for the purposes of CEQA (Public Resources Code Section 21084.1) were identified within the Phase 1 proposed trail alignment.

Phases 2 and 3. Phases 2 and 3 would be near identified historical built environment resources described above. The majority of the Phase 2 project segment would follow the alignment of the existing Sunol Aqueduct, which is a designated historic resource and a contributing feature to the historic Spring Valley Water Conveyance System. Portions of the Phase 2 and 3 segments would also follow closely along the Niles Canyon Railway, which is part of the Niles Canyon Transcontinental Railroad Historic District, Niles Canyon Railroad District. Additional historic period built environment resources could occur within or adjacent to the proposed trail alignment. This is a **potentially significant** impact.

Impact CUL-1: Construction of future Phase 2 and 3 trail alignments has the potential to impact built environmental resources in proximity to the trail alignment, resulting in a potential substantial adverse change on historical resources, as defined in CEQA Guidelines Section 15064.5.

Any built environment resources that may be historical resources per CEQA and would be impacted as a result of trail development would require project-specific evaluation per CEQA to determine whether avoidance or mitigation is appropriate. Anticipated steps for addressing historic-period built environment resources include, but may not be limited to, determining whether or not the historic-period building still stands on the parcel, completing a historic resources evaluation (including a property-specific research and an intensive-level architectural field survey) to determine the property’s eligibility for listing in the California Register and qualification as a “historical resource” per CEQA, and determining whether avoidance or mitigation is appropriate for the property. Implementation of Mitigation Measure CUL-1 would be required to address potentially significant impacts to built environment resources within the Phase 2 and 3 trail alignments.

Mitigation Measure CUL-1 **Historical Resource Evaluation.** Prior to development of any trail segment located on a parcel containing historic-period buildings (e.g., buildings over 50 years old), Alameda County shall complete a historic resources evaluation (including property-specific research and an intensive-level architectural field survey) to determine the property’s eligibility for listing in the California Register of Historic Resources and qualification as a “historical resource” per CEQA. If the resource is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the trail alignment shall be designed to avoid the subject parcel entirely or to eliminate aspects of the project that might impair the historic significance of the resource (e.g., reducing trail width, eliminating trail features such as signage, lighting, etc.).

Implementation of Mitigation Measure CUL-1 would ensure that the selected trail alignments for Phase 2 and 3 trail development would avoid potential impacts to built environment resources and ensure that this impact would be **less than significant with mitigation**.

Threshold 4.4.2: Archaeological Resources. The following describes the project’s potential impacts to archaeological resources for Phase 1 and Phases 2 and 3.

Phase 1. One archaeological resource (P-01-000025) was identified within the project site as a result of the record search, but no surficial remnants of the resource were observed during the survey. The Phase 1 project site has some sensitivity for cultural resources due to the number of prehistoric sites in the area and because Alameda Creek, which is directly adjacent to the Phase 1 project site, would have served as a food and water source for Native American populations in the area. While no surficial remnants of P-01-000025 were observed during the archaeological field survey, there is still potential for subsurface archaeological deposits associated with the resource to exist within the Phase 1 project site. This is a **potentially significant** impact.

Impact CUL-2: Project ground disturbance associated with Phase 1 development has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change on historical resources, as defined in CEQA Guidelines Section 15064.5.

Should significant archaeological deposits be unearthed during project construction, a substantial adverse change in the significance of a historical resource could occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired through loss of information important in understanding Alameda County's prehistory (*State CEQA Guidelines* Section 15064.5(b)(1)). When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource. Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (California PRC Section 21083.2). The proposed project would have a potentially significant impact on archaeological historical resources and unique archaeological resources unless mitigation described under Mitigation Measures CUL-1a through CUL-1c are incorporated.

Mitigation Measure CUL-2a Preparation of a Cultural Resources Monitoring Plan. Prior to project construction, Alameda County shall retain an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology to prepare a Cultural Resources Monitoring Plan in consultation with the North Valley Yokuts Tribe (Tribe). The Cultural Resources Monitoring Plan shall include (but not be limited to) the following components for archaeological and Native American monitoring:

- Person(s) responsible for conducting archaeological monitoring.
- Person(s) responsible for Native American monitoring.
- Procedures for notification in the event of the identification of cultural resources, as well as methods for treatment of such resources (e.g., documentation, collection, identification, repatriation).
- Methods of protection for cultural resources, including items such as protective fencing, security, and protocol for notifying local authorities (i.e., law enforcement) should looting or other resource damage occur.

The Cultural Resources Monitoring Plan shall include a stipulation that, if significant archaeological or tribal cultural resources are identified, all work shall stop immediately within 25 feet of the resource(s). The Cultural Resources Monitoring Plan shall also include a stipulation that, during the course of the monitoring, the frequency of archaeological and Native American monitoring may

be reduced based on the conditions and only if the Tribe and the qualified archaeologist agree.

Mitigation Measure CUL-2b

Cultural Resources and Tribal Cultural Resources Sensitivity WEAP Training. Prior to commencement of any ground disturbing activity, all personnel involved in project-related ground-disturbing activities (e.g., on-site construction managers, backhoe operators) shall be required to participate in a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]). The WEAP shall be developed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology, in consultation with input from the North Valley Yokuts Tribe (Tribe).

The WEAP training shall be conducted before any project-related ground-disturbing activities (including building foundation removal) begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

The WEAP training shall be presented by an archaeologist and a representative from the Tribe. Alameda County shall maintain a record of all construction personnel that have received the WEAP training. WEAP training recipient records shall be maintained by the applicant throughout the duration of construction.

Mitigation Measure CUL-2c

Archaeological Monitoring and Resource Protection.

Archaeological monitoring shall be conducted during all ground-disturbing activities associated with project implementation within the recorded boundary of and within 25 feet of the boundary of the recorded location of resource P-01-000025, including clearing and grubbing activities. Archaeological monitoring shall occur on a full-time basis during these excavation activities until the Project Archaeologist, based on the archaeological monitor's observations, is satisfied that there is little likelihood of encountering intact archaeological deposits. The Project Archaeologist may also

determine whether it is appropriate to reduce monitoring to spot-checking on a part-time basis. Monitoring procedures shall follow the Cultural Resources Monitoring Plan prepared under Mitigation Measure CUL-2a.

Construction crews shall stop all work within 25 feet of any archaeological discovery until an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology can assess the previously unrecorded discovery and provide recommendations. Resources could include subsurface historic-period features such as artifact-filled privies, wells, and refuse pits, and artifact deposits, along with concentrations of adobe, stone, or concrete walls or foundations, and concentrations of ceramic, glass, or metal materials. Native American archaeological materials could include obsidian and chert flaked stone tools (such as projectile and dart points), midden (culturally derived darkened soil containing heat-affected rock, artifacts, animal bones, and/or shellfish remains), and/or groundstone implements (e.g., mortars and pestles).

The mitigation measures described under Mitigation Measures CUL-2a through CUL-2c would ensure that (1) if archaeological cultural resources are identified during excavation, these would be evaluated, documented, and studied in accordance with standard archaeological practice, and (2) archaeological deposits would be treated in accordance with appropriate State codes and regulations. As such, implementation of these mitigation measures would reduce the project's potential impacts to archaeological historical resources during Phase 1 construction to **less-than-significant with mitigation**.

Phases 2 and 3. As described above, the project area has some sensitivity for cultural resources due to the number of prehistoric sites in the area and because Alameda Creek, which is directly adjacent to the Phase 2 project site and portions of the Phase 3 proposed trail alignment. Ground disturbance associated with future construction under Phases 2 and 3 has the potential to unearth archaeological historical resources. This is a **potentially significant** impact.

Impact CUL-3: Project ground disturbance associated with construction of future trail alignment Phases 2 and 3 has the potential to unearth significant archaeological deposits or resources, resulting in a potential substantial adverse change on historical resources, as defined in CEQA Guidelines Section 15064.5.

Future Phases 2 and 3 of the proposed project would have a potentially significant impact on archaeological historical resources and unique archaeological resources unless mitigation described under Mitigation Measures CUL-3a and CUL-3b are incorporated.

Mitigation Measure CUL-3a Phase I Archaeological Study. Prior to development of future trail segments, Alameda County shall conduct a Phase I archaeological study to incorporate up-to-date record search and field survey

results. Each segment-specific Phase I archaeological study shall be conducted to (1) identify archaeological deposits that may be impacted by the proposed project; (2) assess the potential for human remains; and (3) recommend procedures for avoiding or mitigating impacts to such deposits or remains, if warranted. Such procedures might include, but are not limited to, modification of the trail alignment/design to avoid sensitive resources, monitoring by a qualified archaeologist (meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology) during ground disturbing activities, documenting resources on State of California Department of Parks and Recreation Series 523 forms, recording the archaeological deposit, data recovery and analysis, and public outreach. Upon completion of the selected mitigations, a report documenting methods, findings, and recommendations shall be prepared by the qualified archaeologist and submitted to Alameda County for review, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate local curation facility and used for future research and public interpretive displays, as appropriate.

Mitigation Measure CUL-3b

Unanticipated Discovery. Should an archaeological deposit be encountered during construction of a future trail segment, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the County shall be responsible for funding and implementing appropriate mitigation measures. Mitigation measures may include recordation of the archaeological deposit, data recovery and analysis, and public outreach regarding the scientific and cultural importance of the discovery. Upon completion of the selected mitigations, a report documenting methods and findings shall be prepared by the qualified archaeologist and submitted to Alameda County. The final report shall be submitted to the Northwest Information Center at Sonoma State University.

The mitigation measures described under Mitigation Measures CUL-3a and CUL-3b would ensure that: (1) archaeological deposits that may be impacted by the proposed project will be identified prior to project construction; (2) the trail alignment/design would modified to avoid sensitive resources, if feasible; (3) if archaeological cultural resources are identified during excavation, these

would be evaluated, documented, and studied in accordance with standard archaeological practice, and (4) archaeological deposits and would be treated in accordance with appropriate State codes and regulations. As such, implementation of these mitigation measures would reduce the project's potential impacts to archaeological historical resources to **less than significant with mitigation**.

Threshold 4.4.3: Human Remains. There are no known human remains within the project area, although the potential to unearth such remains during construction cannot be ruled out. In the event that human remains are identified during project construction, these remains would be treated in accordance with Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code, as appropriate.

Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Native American MLD to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Section 5097.98 of the Public Resources Code states that, the NAHC, upon notification of the discovery of Native American human remains pursuant to Health and Safety Code Section 7050.5, shall immediately notify those persons (i.e., the MLD) it believes to be descended from the deceased. With permission of the landowner or a designated representative, the MLD may inspect the remains and any associated cultural materials and make recommendations for treatment or disposition of the remains and associated grave goods. The MLD shall provide recommendations or preferences for treatment of the remains and associated cultural materials within 48 hours of being granted access to the site. With these regulations in place, impacts on human remains would be **less than significant**.

4.4.2.3 Cumulative Impacts

The disturbance of historic built environment resources, prehistoric archaeological sites that underlie the project site, and potential disturbance of human remains, could have a cumulatively significant impact when considered with other past, present, or reasonably foreseeable projects in Alameda County, Fremont and Union City.

The cumulative geographic context for the project site considered as part of this analysis generally extends for a 2-mile radius around the trail alignment. Environmental documents available on the Caltrans' and City of Fremont's website were reviewed for projects identified in Table 4.A in Chapter 4.0, Setting, Impacts and Mitigation Measures, to assess the project's potential to cause a cumulatively considerable impact. Development within the immediate vicinity include transportation improvements projects along Niles Canyon Road and infill projects within the City of Fremont. Based on a review of available environmental documentation for these projects, no documentation was identified that indicates any of these projects would impact a built environment historic resource. The Final EIR/EA for the Arroyo de Laguna Bridge Project identified an adverse effect on one prehistoric archaeological site within the area of potential effect for the bridge

project. Mitigation measures, including monitoring, and data recovery, were identified to mitigate impacts to a less-than-significant level. Similarly, as described under Threshold 4.4.2 above, the County would be required to prepare a monitoring plan, conduct worker awareness training and conduct monitoring during project construction to mitigate impacts to the previously identified prehistoric site within the Phase 1 project site.

As is the case with the proposed project, projects identified in Table 4.A have the potential to result in unanticipated discoveries of historical and archaeological resources, and human remains during ground disturbance. These developments could adversely affect buried cultural resources through their destruction or disturbance. Before mitigation, therefore, developments within the County's jurisdiction, as well as other local recent and current developments, have the potential to cause adverse cumulative impacts to cultural resources due to their destruction or loss of historical integrity.

However, it should be noted that each development that the County or the City oversees would undergo environmental review, consistent with the County and City's current procedures, and would be subject to the similar mitigation measures as those recommended above and the applicable lead agency's standard mitigation measures or conditions of approval. Projects under City of Fremont review generally incorporate mitigation measures for accidental discoveries of buried cultural resources. Therefore, implementation of project-specific mitigation measures described herein and appropriate County and City policies and measures and conditions would reduce any potential cumulative impacts related to cultural resources to a less-than-significant level. Furthermore, because the mitigation for this project reduces impacts related to the historic integrity of identified resources to ensure the project does not cause a substantial adverse change in the significance of cultural resources, the proposed project would not result in a cumulatively considerable contribution to a significant impact to cultural resources. Therefore, cumulative impacts related to cultural resources would be **less than significant**.

4.5 GEOLOGY AND SOILS

This section describes the geologic environment of the project area and assesses potential impacts from seismically induced fault rupture, strong ground shaking, liquefaction, slope failure, lateral slope deformation, differential settlement, and unstable or expansive soils.

4.5.1 Setting

The following description of existing geologic and soils conditions in the project area is based on published and unpublished geologic reports and maps from the United States Geological Survey (USGS), the California Geological Survey (CGS), Association of Bay Area Governments (ABAG), and the County of Alameda.

4.5.1.1 Geologic Conditions

The topography, geology, and soil and groundwater conditions for the project site and its vicinity are described below.

Topography. According to published topographic maps, site grades along the project corridor range from 80 feet above mean sea level (msl) to 300 feet msl.⁹³

Regional Geology. The project area is within the Coast Ranges physiographic province of California. The Coast Ranges physiographic province is typified by a system of northwest-trending, fault-bounded mountain ranges and intervening alluvial valleys. More specifically, the site is in the East Bay Hills along a stretch of Alameda Creek that has eroded a meandering canyon through the hills.

Bedrock in the Coast Ranges consists of igneous, metamorphic, and sedimentary rocks that range in age from Jurassic to Pleistocene. The present physiography and geology of the Coast Ranges are the result of deformation and deposition along the tectonic boundary between the North American plate and the Pacific plate. Plate boundary fault movements are largely concentrated along the well-known fault zones, which include the San Andreas, Hayward, and Calaveras faults, as well as other, lesser-order faults.

Site Geology. Niles Canyon traverses the project area's northwest-trending geologic structure and exposes geologic units that range from Plio-Pleistocene Livermore Gravels to the Late Cretaceous Oakland Conglomerate.^{94,95} The southeast-plunging Niles Syncline⁹⁶ is at the western portion of Niles Canyon. Bedding on the northeastern limb of the syncline in the eastern portion of the canyon generally strikes northwest and dips from 50 to 80 degrees towards the southwest and bedding on the southwest limb generally strikes northwest and dips from 50 to 80 degrees towards the

⁹³ Engeo, Incorporated. 2023. *Alameda County Public Works Niles Canyon Trail Project, Fremont, California. Phase I Environmental Site Assessment*. July.

⁹⁴ Graymer, R.W., et al. 1994. Preliminary Geologic Map of the Niles 7.5 Minute Quadrangle, Alameda County, California, OFR 94-132.

⁹⁵ Graymer, R.W., et al. 1996. Preliminary Geologic Map Emphasizing Bedrock Formations in Alameda County, California. United States Geological Survey, Open File Report 96-252.

⁹⁶ A syncline is a trough or fold of stratified rock in which the strata slope upward from the axis.

northeast. Holocene alluvial deposits are mapped⁹⁷ along Alameda Creek with some Pleistocene alluvial terrace deposits preserved at some locations along the creek. A geologic map of the study area is provided as **Figure 4.5-1**. A brief description of the geologic units exposed within Niles Canyon and the relative landslide hazards with respect to the geologic unit is provided below.

Artificial Fill (Qaf). Artificial fill is present along portions of the existing roadway, railway corridors and in the area of the former Mission Clay Products property. Artificial fills generally comprise man-made deposit of various materials and ages. During recent mapping along the project corridor, fills generally comprising both clayey sand and sandy clay with varying amounts of gravel were observed. In some instances, these artificial fills are compacted and quite firm. Fills placed before 1965 are typically not compacted and consist simply of dumped materials.⁹⁸

Landslides (Qls). Previous landslide mapping by the California Geological Survey^{99,100} and Geomatrix¹⁰¹ shows a number of landslides present on canyon slopes above Alameda Creek. The various mapped landslides include deep-seated bedrock landslides, debris flows, rockfalls and shallow surficial earth flows.

- **Bedrock Landslides.** A number of deep-seated bedrock landslides have been identified in the project area (**Figure 4.5-1**). A “bedrock” landslide is a slope failure where the basal slip surface extends into the underlying bedrock. The geometry of the slip surface can be curved, as in a rotational slump, or planar, as in a translational landslide, which is a mass that slides downward and outward on top of an inclined planar surface. Notice the flatter surface that the moving material slides on. Material will accumulate at the toe of the landslide. And probably slide into homes. In both cases, relatively intact and undisturbed blocks of rock can be entrained within the transported landslide mass.
- **Debris Flows.** Debris flows are a type of landslide that can form during peak rainfall events when colluvium becomes saturated and fails, forming a fluid, mobile soil mass. Typically the formation and mobilization of debris flows is most likely on slopes that are inclined at 2:1 or steeper, and where the colluvium has a relatively low clay content. Under these conditions, debris flows have been known to travel relatively great distances from the source, sometimes entraining trees and boulders in their path. As identified in **Figure 4.5-1**, landslide debris overlies the aqueduct at several locations within the project area.

⁹⁷ Helley, E.J., Graymer, R.W., et al. 1997. Quaternary Geology of Alameda County and Surrounding Areas, California. United States Geological Survey, Open File Report 97-97.

⁹⁸ Helley, E.J., Graymer, R.W., et al. 1997. Quaternary Geology of Alameda County and Surrounding Areas, California. United States Geological Survey, Open File Report 97-97.

⁹⁹ Wieggers, M.O. 2011. Landslide Inventory Map of the Niles Quadrangle, Alameda, California. California Geological Survey, June.

¹⁰⁰ Perez, F.G., McCrink, T.P., et al. 2014. Combined Landslide Hazards Mapping for State Highway 84, Alameda, California. California Geological Survey, AEG Poster #15.

¹⁰¹ Geomatrix. 2003. Sunol and Niles Dam Removal Project, Alameda County, California. Figure 2-3, Project No. 6959.021.

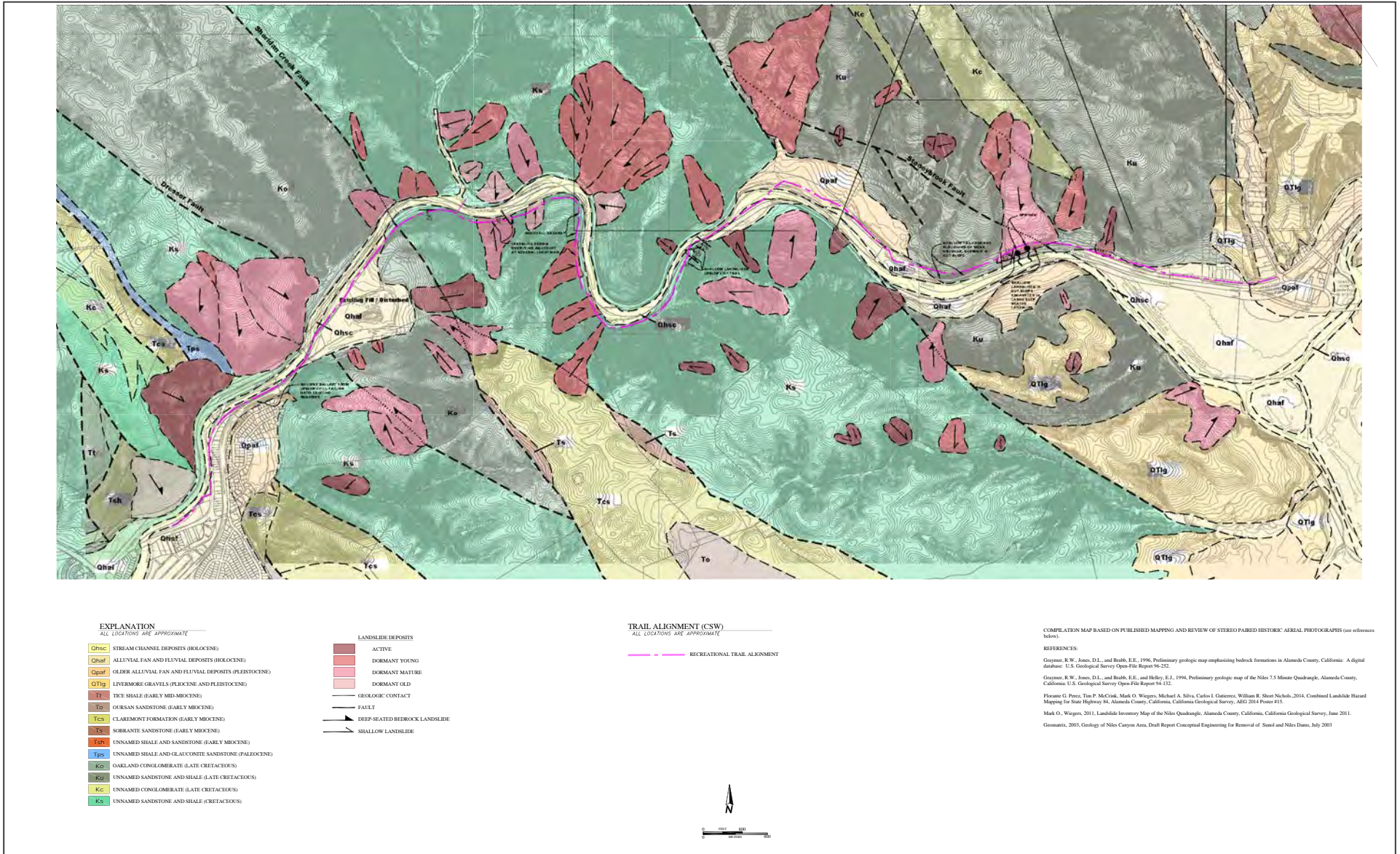
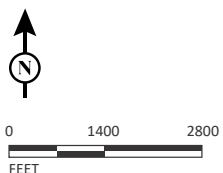


FIGURE 4.5-1

LSA



SOURCE: ENGeo

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- **Rockfall.** A rockfall is a fragment or small volume of rock detached by sliding, toppling, or falling, that falls along a steep slope or vertical cliff. The movement down slope is characterized by bouncing and flying along ballistic trajectories or by rolling on talus or debris slopes. As shown in **Figure 4.5-1**, a rock fall hazard is identified in the project area.
- **Earthflows.** Earthflows are a type of landslide that is characterized by mobilization as a viscous, slow-moving mass. Earthflows commonly move by a combination of semi-fluid flow and sliding along weak clay slip planes. They commonly grade into rotational slumps or translation landslides. Earthflows typically form when cohesive, clayey soils or weak bedrock become saturated and fail. Like debris flows, they commonly mobilize as a result of intense rains, but due to their high clay content they tend to move relatively slowly, and movements usually persist for some time following peak rainfalls. Earthflows often accumulate as lobate masses of soil with complex internal shearing. A number of earth flows have been mapped in the project area (**Figure 4.5-1**). In general, these features occupy drainage swales on the steep sided flanks of the ridges at the site.

Previous mapping by the CGS in the project area has assigned relative activities to the mapped landslides according to the following categories.

1. **Active:** Active landslides are those that exhibit evidence of recent or historic movement.
2. **Dormant Young:** No evidence of historic movement, but landslide morphology is fresh and un-eroded.
3. **Dormant Mature:** Landslide morphology has been smoothed and subdued by erosion.
4. **Dormant Old:** Landslide morphology has been significantly eroded and subdued.

Holocene Stream Channel Deposits (Qhsc). These deposits are Holocene in age and occupy the active and recently active stream channels. These deposits generally comprise poorly to well-sorted sand, silt, silty sand, or sandy gravel with minor cobbles.¹⁰² According to the State of California Seismic Hazard Zone Map¹⁰³ covering the area, these deposits are susceptible to liquefaction and subject to permanent ground displacement during seismic ground shaking.

Holocene Alluvial Fan and Fluvial Deposits (Qhaf). These deposits are Holocene in age and occupy the narrow valley floor adjacent to the active stream channel. These deposits are generally medium dense to dense and comprise gravely sand or sandy gravel that generally grades upward, to sandy or silty clay. According to the State of California Seismic Hazard Zone

¹⁰² Helley, E.J., Graymer, R.W., et al. 1997. Quaternary Geology of Alameda County and Surrounding Areas, California. United States Geological Survey, Open File Report 97-97.

¹⁰³ California Geological Survey. 2004. Seismic Hazard Zone Report of the Niles 7.5-minute Quadrangle, Alameda County California. *Seismic Hazard Zone Report 098*.

Map¹⁰⁴ covering the area, these deposits are susceptible to liquefaction and subject to permanent ground displacement during seismic ground shaking.

Pleistocene Alluvial Fan and Fluvial Deposits (Qpaf). These deposits are Pleistocene in age and occupy a higher topographic position adjacent to the active stream channels. These deposits are generally dense and comprise gravely and clayey sand or clayey gravel with grain size the decreases upward to sandy clay. the grain size is decreasing upward,

Pliocene and Pleistocene Livermore Gravels (QTlg). These deposits are Pliocene and Pleistocene in age and are found in the east portion of the canyon. The Livermore gravels comprise a poorly cemented, clast supported, well imbricated, planar bedded gravel with sandstone interbeds. This geologic unit is not exposed in significant areas along project corridor. Where exposed in road cuts and along steep slopes, this geologic unit is susceptible to shallow landslides and debris flows.

Middle Miocene Tice Shale (Tt). These deposits are distinctly bedded, dark brown, gray and tan, marine mudstone, claystone and siliceous shale with numerous massive lenses of orange weathering dolomite. This bedrock unit outcrops at the northwestern portion of the canyon. This geologic unit is not exposed along the project corridor.

Middle Miocene Oursan Sandstone (To). These deposits are distinctly to indistinctly bedded black marine mudstone and tan to brown siltstone and fine-grained sandstone. Contains lenses of bright orange, weathering dolomite. This bedrock unit outcrops south of the canyon along the axis of the Niles Syncline. This geologic unit is not exposed along the project corridor.

Middle Miocene Claremont Formation (Tcs). These deposits are thin, bedded, gray chert with very thin dark brown to gray siliceous shale interbeds. This bedrock unit outcrops as a fault-bound panel of rock at the western portion of the canyon and south of the canyon along the axis of the Niles Syncline. This geologic unit is not exposed along the project corridor.

Middle Miocene Sobrante Sandstone (Ts). These deposits are white, fine- to medium-grained quartz sandstone and gray to black clayey shale. This bedrock unit outcrops at the base of the Claremont formation south of the canyon along the limbs of the Niles Syncline. This geologic unit is not exposed along the proposed trail alignment.

Early Miocene Unnamed Shale, Sandstone, Chert, and Dolomite (Tsh). These deposits consist of massive orange weathering, medium-grained, quartz sandstone. Laminated gray chert interbedded with dolomite. Dark gray concretionary siltstone, mudstone, and conglomerate. This bedrock unit outcrops at northwestern portion of the canyon. This geologic unit is not exposed along the project corridor.

Paleocene Unnamed Siltstone and Glauconite Sandstone (Tps). These deposits are dark gray, siltstone, claystone and shale, indistinctly to distinctly bedded. Grades downward to coarse-grained, green, glauconite-rich, lithic sandstone. This bedrock unit outcrops at the base of the

¹⁰⁴ Ibid.

Cretaceous at the western portion of the canyon. This geologic unit is not exposed along the project corridor.

Late Cretaceous Oakland Sandstone (Ko). These deposits consist of biotite and quartz rich, massive, medium- to coarse-grained wacke with interbedded lenses of pebble to cobble conglomerate. A large number of clasts comprise silicic volcanic. This unit outcrops at the western portion of the canyon.

A relatively large landslide (10 acres) is mapped on the steep slope along the north side of State Route 84. Where exposed in steep cuts along the highway, this geologic unit is susceptible to rockfalls and debris flows. This geologic unit is exposed along a short section of the project corridor just east of the old brickyard. Steep slopes in this area are considered susceptible to shallow landslides.

Late Cretaceous Unnamed Sedimentary Rocks (Ku). These deposits consists of biotite bearing, coarse- to fine-grained, graywacke and lithic wacke, siltstone and mudstone with lenses of pebble and boulder conglomerate (Kc). This geologic unit outcrops at the eastern portion of the canyon. Along the project corridor, bedding attitudes¹⁰⁵ measured in this bedrock unit generally strike north-south and dip towards the west between 40 and 50 degrees. In localized areas, outcrop scale folds were observed within the cut slopes.

Several large landslides are mapped in this geologic unit along the project corridor (**Figure 4.5-1**). The largest of the mapped landslides is located along the north side of State Route 84. Based on its morphology, it is considered to be an old, inactive landslide. Cuts for the Niles Canyon Railway expose lower portions of the landslide. Springs, wetland vegetation, and shallow landslides were observed across large areas of the cut slope. The existing mapped landslides should be considered highly susceptible to earthquake-induced landslide movement. Existing steep slopes along the canyon in this geologic unit are considered highly susceptible to shallow landslides and debris flows.

Cretaceous Unnamed Sandstone and Shale (Ks). Mica-bearing, cross-bedded, coarse- to fine-grained granitic sandstone, siltstone and shale. Biotite and quartz rich, massive, medium- to coarse-grained wacke with interbedded lenses of pebble to cobble conglomerate. Large amount of clasts comprise silicic volcanic. This is the most pervasive geologic unit exposed along the project corridor in the canyon. This geologic unit outcrops at the western and central portions of the canyon. Along the project corridor, within the central portion of the canyon, bedding attitudes measured in this bedrock unit generally strike northwest and dip towards the southwest between 25 and 75 degrees. In localized areas, bedding flattens slightly and strikes more in an east-west direction.

Several large landslide complexes and individual landslides occur in this geologic unit in the canyon. Landslides within this unit vary from shallow earthflows to deep-seated bedrock landslides. Many of the larger mapped landslides are not considered historically active however

¹⁰⁵ Attitude refers to the three-dimensional orientation or positioning of a given geological feature, such as a bed, a joint, a fold, etc.

many of them appear to be relatively young and susceptible to seismic induced landslide movement and capable of shedding smaller earth and debris flows especially where exposed in steep cuts along the roadway and railway alignments. Existing steep slopes along the canyon in this geologic unit should be considered highly susceptible to shallow landslides and debris flows.

4.5.1.2 Seismic and Geologic Hazards

The entire Bay Area region is within the San Andreas Fault Zone, a complex of active faults. The San Andreas Fault Zone has generated numerous historic earthquakes in Northern California. This level of active seismicity results in relatively high seismic risk in the Bay Area region. The following section describes existing seismic and geologic hazards present at the project area.

Surface Rupture. Surface rupture occurs when the ground surface breaks due to fault movement during an earthquake. Surface rupture generally can be assumed to occur along an active major fault trace. The project site is in a seismically active area, the San Francisco Bay Area, which is within the vicinity of the San Andreas Fault System at the margin between the Pacific Tectonic Plate and the North American Tectonic Plate.¹⁰⁶ The San Andreas Fault System includes major active earthquake faults. Known, active earthquake faults near the proposed trail alignment include the San Andreas, Hayward, and Calaveras faults. The Greenville/Marsh Creek fault is 5 miles to the southwest and is the nearest Alquist-Priolo Earthquake fault zone to the project area.¹⁰⁷ The Calaveras fault is approximately 15 miles southwest of the project area. The Concord fault is approximately 13 miles to the northwest, and the Hayward fault is approximately 26 miles to the southwest. The West Napa fault is approximately 15 miles to the north. The San Andreas fault is approximately 50 miles to the southwest. The site is not within a State of California Earthquake Fault Zone, and no known active faults cross the site. Therefore, the risk of surface fault rupture at the site is considered low.

Ground Shaking. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake and is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. The Modified Mercalli Intensity (MMI) Scale is the most commonly used scale for measurement of the subjective effects of earthquake intensity (**Table 4.5.A**). The MMI values range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from VI to XII can cause moderate to significant structural damage.¹⁰⁸ During a major earthquake, strong to very strong ground shaking is expected to occur at the project site.¹⁰⁹

¹⁰⁶ Bartow, Alan, and Tor H. Nilsen. 1990. *Review of the Great Valley Sequence, Eastern Diablo Range and Northern San Joaquin Valley, Central California*. Department of the Interior, United States Geological Survey Open-File Report 90-226.

¹⁰⁷ California Geological Survey. 1982. Alquist-Priolo Earthquake Fault Zone Map. Website: www.conservation.ca.gov/cgs/alquist-priolo (accessed October 2023).

¹⁰⁸ California Geologic Survey. 2002. How Earthquakes and Their Effects are Measured. *Note 32*.

¹⁰⁹ Langan Engineering and Environmental Services, Inc. 2021. Updated Geotechnical Investigation, Northgate Town Square, San Rafael, California. December 22.

Table 4.5.A: Modified Mercalli Scale

Intensity Level	Description
I	Not felt except by a very few under especially favorable circumstances.
II	Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
III	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like the passing of a truck. Duration estimated.
IV	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
VII	Everybody runs outdoors. Damage negligible in a building of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Board fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted.

Source: How Earthquakes and Their Effects are Measured, Note 32. (California Geologic Survey. 2002b).

Mapping has been compiled by the Metropolitan Transportation Commission (MTC) and ABAG for the likely shaking intensities in the Bay Area that would have a 10 percent chance of occurring in any 50-year period. A large earthquake (magnitude 6.7 or greater) on one of the major active faults in the region would generate severe (MMI VIII) to violent (MMI IX) ground shaking at the project site.¹¹⁰

Liquefaction, Lateral Spreading, and Seismic Settlement. Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes transient loss of strength, which

¹¹⁰ Metropolitan Transportation Commission/Association of Bay Area Governments. 2018. Probabilistic Earthquake Shaking Hazard Map. Website: <https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8> (accessed April 18, 2022).

commonly causes ground displacement or ground failure to occur. Saturated soils are a necessary condition for liquefaction. Soil layers in areas where the groundwater table is near the surface have higher liquefaction potential than those in which the water table is at greater depths. Lateral spreading is a form of horizontal displacement of soil toward an open channel or other “free” face, such as an excavation boundary. In a lateral spreading failure, a layer of ground at the surface is carried on an underlying layer of liquefied material over a nearly flat surface toward a river channel or other bank. The lateral spreading hazard will tend to mirror the liquefaction hazard for a site.

As described previously, the Holocene alluvial deposits along the current drainage course are mapped as highly susceptible to liquefaction and should be considered subject to permanent ground displacement during seismic ground shaking. Based on mapping maintained by ABAG, the project area susceptibility to liquefaction ranges from “low” to “very high.”¹¹¹ Lateral spreading hazards typically mimic liquefaction hazards; therefore, the lateral spreading hazard is considered high in portions of the project area.

Landslides and Slope Stability. The strong ground motions that occur during earthquakes are capable of inducing landslides, generally where unstable slope conditions already exist. In addition, heavy precipitation events can induce earthflows or debris flows in areas where soils and rock on a hillslope or in a stream channel becomes saturated and unstable. Slope failure can occur as either rapid movement of large masses of soil (landslide) or slow, continuous movement (creep). The primary factors influencing the stability of a slope are 1) the nature of the underlying soil or bedrock, 2) the geometry of the slope (height and steepness), 3) rainfall, and 4) the presence of previous landslide deposits.

As described previously, deep-seated landslides have been mapped at several locations along the canyon slopes. According to the State of California Seismic Hazard Zone Map,¹¹² the slopes along much of the canyon are mapped within an area that has a potential for permanent ground displacement as a result of landslides triggered by ground shaking.

Settlement and Differential Settlement. Static settlement is the lowering of the land surface elevation as a result of loading (i.e., placing heavy loads, typically fill or structures), which often occurs with the development of a site. Differential settlement could occur if buildings or other improvements are built on variable low-strength foundation materials (including imported, non-engineered fill) or if improvements straddle the boundary between different types of subsurface materials (e.g., a boundary between native material and fill). Static settlement and differential settlement generally occur slowly enough that associated effects are not dangerous to inhabitants, but significant building damage can result over time.

Existing artificial fill is present at the site. The existing artificial fill is along the railway and roadway corridors, and in the vicinity of the Mission Clay Products property. Without documentation regarding the manner of placement, type of material used, and degree of compaction, the existing

¹¹¹ Association of Bay Area Governments. Bay Area Hazard Viewer, Website: <https://mtc.maps.arcgis.com/apps/mapviewer/index.html?layers=b88a7506b3054189b2cbd475371b1199> (accessed June 16, 2022).

¹¹² California Geological Survey. 2004. Seismic Hazard Zone Report of the Niles 7.5-minute Quadrangle, Alameda County California. *Seismic Hazard Zone Report 098*.

fill is considered non-engineered. Non-engineered fill can undergo consolidation that results in settlement under additional loads that is difficult to predict. In addition, non-engineered fill exposed in steep slopes can be subject to instability and downslope movement.

Expansive Soils. Expansion and contraction of soil volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly. Soils subject to shrink-swell expand and contract in response to changes in soil moisture, most notably when near-surface soils change from saturated to a low-moisture-content condition and back again. Expansion and contraction of soils is a negligible hazard in moderate-to-deep soils where minimal moisture changes and overlying material loads limit movement. As a consequence of such volume changes, structural damage to buildings and infrastructure may occur if the potentially expansive soils are not considered in project design and during construction. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction.

4.5.1.3 Paleontological Conditions

Paleontological resources include fossilized remains or traces of organisms, including plants, vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), and microscopic plants and animals (microfossils) as well as their imprints from a previous geological period. Collecting localities and the geologic formations containing those localities are also considered paleontological resources because they represent a limited, non-renewable resource that once destroyed, cannot be replaced. The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on paleontological resources. The SVP has helped define the value of paleontological resources and, in particular, states that significant paleontological resources are fossils and fossiliferous deposits consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 years).¹¹³

A search of paleontological localities in the fossil collections database maintained by the University of California Museum of Paleontology identified 543 fossil localities within Alameda County, including plants, invertebrates, vertebrates, and microfossils. The precise locations of the fossil localities are not provided in the database, and for many of the localities there is no information provided to infer even the general location within the county; however, based on the available information, it appears there are several localities potentially located near the project site, including:¹¹⁴

- An invertebrate fossil locality identified as “Niles Canyon” of Quaternary age

¹¹³ Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources.

¹¹⁴ University of California Museum of Paleontology. 2023. Collections Database, Locality Search. Website: <https://ucmpdb.berkeley.edu/loc.html> (accessed August 3, 2023).

- An invertebrate fossil locality identified as “Verona” of Neogene age
- Three invertebrate fossil localities identified as “Verona” of Tertiary age

The fill materials underlying the project site would not be expected to contain paleontological resources, because fossils are not generally preserved in fill materials due to the highly disturbed nature of fill materials. Based on the presence of many previously discovered paleontological resources in Alameda County and potentially near the project site, the native soils and bedrock underlying the project site potentially contain paleontological resources.

4.5.1.4 Regulatory Context

The following discussion includes a description of the regulatory context (including regulatory agencies and policy documents) for geologic and seismic issues as they relate to development within the project area. Federal, State, and local regulations and programs related to geology, seismicity, soils, and building safety that are applicable to the project are also described.

Federal Regulations. Federal regulations applicable to the proposed project include the National Earthquake Hazards and Reduction Program, as described below.

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 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 NEHRP goals are:

1. Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
2. Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
3. Improve earthquake hazards identification and risk assessment methods, and their use.
4. Improve the understanding of earthquakes and their effects.

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.

State Regulations. State regulations applicable to the proposed project include the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the California Building Code (CBC), as described below.

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act passed in 1972. Its main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active earthquake faults. The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to establish regulatory zones (known as Earthquake

Fault Zones) around the surface traces of known active faults and to issue appropriate maps. “Earthquake Fault Zones” were called “Special Studies Zones” prior to January 1, 1994. The maps are distributed to all affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones. As mentioned above, the project site is not within an area mapped as subject to surface rupture under the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults cross the project site.

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690-2699.6) directs the Department of Conservation, CGS to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the Seismic Hazards Mapping Act is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards. The Legislature passed the Seismic Hazards Mapping Act following the 1989 Loma Prieta earthquake. As a result, CGS geologists gather existing geological, geophysical, and geotechnical data from numerous sources to produce the Seismic Hazard Zone Maps. They integrate and interpret this data regionally to evaluate the severity of the seismic hazards and to designate areas prone to ground rupture, liquefaction, and earthquake-induced landslides as Zones of Required Investigation. Cities and counties are then required to use the Seismic Hazard Zone Maps in their land use planning and building permit processes.

The Seismic Hazards Mapping Act requires site-specific geotechnical investigations be conducted within Zones of Required Investigation to identify and evaluate seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, ground rupture, and landslides (primarily the Bay Area and the Los Angeles Basin). The project site is in an area where CGS has not mapped liquefaction hazards and seismically induced landslide hazards.¹¹⁵

California Building Code. The 2022 CBC, which refers to Part 2 of the California Building Standards Code in Title 24 of the California Code of Regulations, is based on the 2021 International Building Code, and is the most current State building code. The 2022 CBC covers grading and other geotechnical issues, building specifications, and non-building structures. The design of the proposed project would be required to conform to the current CBC at the time of plan review, which is currently the 2022 CBC (which went into effect on January 1, 2023).

The CBC requires that a site-specific geotechnical investigation report be prepared by a licensed professional for proposed developments of one or more buildings greater than 4,000 square feet to evaluate geologic and seismic hazards. Preparation of a geologic engineering report is also required for buildings less than or equal to 4,000 square feet except for one-story, wood-frame, and light-steel-frame buildings that are outside of Alquist-Priolo Earthquake Fault Zones or Seismic Hazard Zones mapped by CGS. The purpose of the geotechnical investigation is to identify seismic and geologic conditions that require project mitigation, such as ground shaking,

¹¹⁵ California Geological Survey. 2023. Earthquake Zones of Required Investigation. Website: <https://maps.conservacion.ca.gov/cgs/EQZApp/app/> (accessed March 8, 2023).

liquefaction, differential settlement, and expansive soils. Based on the conditions of the site, the CBC requires specific design parameters to ensure construction of buildings that will resist collapse during an earthquake and damage from adverse soil conditions. These design parameters do not protect buildings from all earthquake shaking hazards but are designed to reduce hazards to a manageable level. Requirements for the geotechnical investigation are presented in Chapter 16 “Structural Design” and Chapter 18 “Soils and Foundation” of the 2022 CBC.

Regional and Local Regulations. The Alameda County General Plan and Alameda County Code, East County Area Plan and the City of Fremont General Plan and Municipal Code requirements related to geology and soils are described below.

Alameda County General Plan. The following goals and policies from the Alameda County General Plan’s Safety Element sets forth the following goals, policies, and implementation measures related to geology, soils, and seismicity that are relevant to the proposed project.

- **Goal 1:** To minimize risks to lives and property due to seismic and geologic hazards.
 - **Policy P1.** To the extent possible, projects should be designed to accommodate seismic shaking and should be sited away from areas subject to hazards induced by seismic shaking (land sliding, liquefaction, lurking, etc.) where design measures to mitigate the hazards will be uneconomic or will not achieve a satisfactory degree of risk reduction.
 - **Policy P3.** Aspects of all development in hillside areas, including grading, vegetation removal and drainage, should be carefully controlled in order to minimize erosion, disruption to natural slope stability, and landslide hazards.
 - **Policy P4.** Within areas of demonstrated or potential slope instability, development should be undertaken with caution and only after existing geological and soil conditions are known and considered. In areas subject to possible widespread major land sliding, only very low density development should be permitted, consistent with site investigations; grading in these areas should be restricted to minimal amounts required to provide access.
 - **Policy P9.** Site specific geologic hazard assessments, conducted by a licensed geologist, shall be completed prior to development approval in areas with landslide and liquefaction hazards as indicated in Figures S-2 and S-4 and for development proposals submitted in Alquist Priolo Zones as indicated in Figure S-1, hazards to be mapped include:
 - Seismic features
 - Landslide potential
 - Liquefaction potential

Mitigation measures needed to reduce the risk to life and property from earthquake induced hazards should be included.

- *Policy P11.* All construction in unincorporated areas shall conform to the Alameda County Building Ordinance, which specifies requirements for the structural design of foundations and other building elements within seismic hazard areas.
- *Policy P14.* In order to minimize off-site impacts of hillside development, new construction on landslide-prone or potentially unstable slopes shall be required to implement drainage and erosion control provisions to avoid slope failure and mitigate potential hazards.
 - *Action A1.* Require all new construction to meet the most current, applicable, lateral force requirements.
 - *Action A3.* Require sites to be developed in accordance with recommendations contained in the soil and geologic investigations reports.
 - *Action A7.* Require soils and/or geologic reports for development proposed in areas of erodible soils and potential slope instability.
 - *Action A12.* Require geotechnical studies prior to development approval in geologic and/or seismic hazard areas as identified by future studies by federal, state, and regional agencies. Require or undertake comprehensive geologic and engineering studies for critical structures regardless of location.
 - *Action A17.* Aspects of all development in hillside areas, including grading, vegetation removal and drainage, should be carefully controlled in order to minimize erosion, disruption to natural slope stability, and landslide hazards. The County's development standards and guidelines, permit application review process, Section 15.08.240 of its Building Ordinance, the Grading Erosion and Sediment Control Ordinance (Chapter 15.36 of the Alameda County General Ordinance Code), the Stormwater Management and Discharge Control Ordinance (Chapter 13.08), and Subdivision Ordinance (Title 16) shall serve to implement this policy.

East County Area Plan. The following goals and policies from the East County Area Plan Environmental Health and Safety section sets forth the following goals, policies, and implementation measures related to geology, soils, and seismicity that are relevant to the proposed project.

- Seismic and Geologic Hazards Goal: To minimize the risks to lives and property due seismic and geologic hazards.
 - *Policy 309:* The County shall not approve new development in areas with potential for seismic and geologic hazards unless the County can determine that feasible measures will be implemented to reduce the potential risk to acceptable levels, based on site-specific analysis. The County shall review new development proposals in terms of the risk caused by seismic and geologic activity.

- *Policy 313*: The County shall require development in hilly areas to minimize potential erosion and disruption of natural slope stability which could result from grading, vegetation removal, irrigation, and drainage.

Alameda County Building Code. The County of Alameda Municipal Code, Chapter 15.08, adopts the 2022 CBC, with amendments, as the Alameda County Building Code. The Building Inspection Department is responsible for the administration and enforcement of the Alameda County Building Code.

City of Fremont General Plan. The following goals and policies from the City of Fremont General Plan's Safety Element sets forth the following goals, policies, and implementation measures related to geology, soils, and seismicity that are relevant to the proposed project.

- Goal 10-1: Geologic Hazards. Minimum feasible risk to life and property resulting from land instability and other geologic hazards.
 - *Policy 10-1.1: Location of Buildings and Structures.* Regulate new development and redevelopment in a manner that avoids geological hazards to life and property.
 - *Implementation 10-1.1.B: Limit Development in Areas of Land Instability.* Prohibit development in areas of potential land instability identified on State and/or local geologic hazard maps, or identified through other means, unless a geologic investigation demonstrates hazards can be mitigated to an acceptable level as defined by the State of California.
 - *Implementation 10-1.1.D: Mitigation Hazards to Acceptable Levels.* Ensure all development impacts associated with geologic hazards are mitigated to an acceptable level as defined by the State of California.
 - *Policy 10-1.2: Mitigation of Hazards:* Require proposed development in areas of potential land instability to evaluate and sufficiently mitigate such hazards through site planning, appropriate construction techniques, building design and engineering.
 - *Implementation 10-1.2.A: Site Specific Geologic Studies.* Require site-specific geologic and geotechnical studies for land development or construction in areas of potential land instability as shown on the State and/or local geologic hazard maps or identified through other means.
 - *Implementation 10-1.2.B: Peer Review of Site Specific Geologic Studies.* Require City initiated peer review of all geologic and geotechnical hazard studies provided by project applicants.
 - *Policy 10-1.3: Limits of Grading.* Prohibit excessive and unnecessary grading activity, especially in areas of potential landslide risk as identified on State and local geologic hazard area maps or as identified during site reconnaissance.

- *Implementation 10-1.3.A: Grading Ordinance Consistency.* Ensure all grading activity within the City is consistent with the Grading Ordinance.
- **Goal 10-2: Seismic Hazards.** Minimum feasible risk to life and property resulting from seismic hazards.
 - *Policy 10-2.1: Location of Buildings and Structures.* Regulate new development and redevelopment in a manner to minimize potential damage and hazards related to expected seismic activity.
 - *Implementation 10-2.1.A: Consistency with Seismic Safety Criteria.* Ensure all proposed development complies with the provisions of the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act and all other seismic safety criteria established by the City of Fremont.
 - *Implementation 10-2.1.B: Mitigate Seismic Impacts.* Ensure all development impacts associated with seismic hazards are mitigated to an acceptable level as defined by the State of California.

City of Fremont Municipal Code. The City of Fremont Municipal Code, Chapter 15.10, adopts the 2022 CBC, with amendments, as the Fremont Building Code. The Building and Safety Division is responsible for the administration and enforcement of the Fremont Building Code.

East Bay Regional Park District Master Plan. The East Bay Regional Park District Master Plan includes the following policy related to geology and soils.

- **Policy NRM13.** The District will identify existing and potential erosion problems and take corrective measures to repair damage and mitigate its causes. The District will manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. Where vegetative cover has been reduced or eliminated, the District will take steps to restore it using native or naturalized plants adapted to the site. The District will minimize soil disturbance associated with construction and maintenance operations, and will avoid disruptive activities in area with unstable soils whenever possible. The District will arrest the progress of active gully erosion where practical, and take action to restore these areas to stable conditions. The District will notify adjacent property owners of potential landslide situations and risks on District lands, and will conform with applicable law. The District will protect important geological and paleontological features from vandalism and misuse.

4.5.2 Impacts and Mitigation Measures

The following section identifies potential impacts related to geology and soils that could result from the implementation of the proposed project. This section first lists the criteria by which significance is determined, followed by a discussion of impacts and mitigation measures, as necessary.

4.5.2.1 Criteria of Significance

The following thresholds of significance are based on Appendix G of the *State CEQA Guidelines*. Based on these thresholds, implementation of the proposed project would have a significant impact related to geology and soils if it would:

- Threshold 4.5.1:** Directly or indirectly cause a 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; (2) strong seismic ground shaking; (3) seismic-related ground failure (including liquefaction); and/or (4) landslides;
- Threshold 4.5-2:** Result in substantial soil erosion or loss of topsoil;
- Threshold 4.5-3:** 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;
- Threshold 4.5-4:** Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property;
- Threshold 4.5-5:** Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewer is not available for the disposal of wastewater; or
- Threshold 4.5-6:** Directly or indirectly destroy a unique paleontological resources or site or unique geological feature.

4.5.2.2 Project Impacts

The following section discusses potential impacts related to geology and soils associated with development of the proposed project and follows the significance thresholds described above in Section 4.5.2.1. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ substantially by phase and therefore are not differentiated in this section.

Threshold 4.5.1(1): Surface Rupture. The site is not within a State of California Earthquake Fault Zone, no known active faults cross the site, and no portion of the site is located within an Alquist-Priolo Earthquake Fault Zone. Further, the project would not construct any habitable structures that could be impacted by fault rupture. Therefore, there would be **no impact** related to surface fault rupture.

Threshold 4.5.1(2): Ground Shaking. All structures and improvements in the Bay Area could be affected by ground shaking in the event of an earthquake. The amount of ground shaking that would occur depends on the magnitude of the earthquake, the distance from the epicenter, and the type of earth materials in between. Very strong ground shaking could occur at the project site during expected earthquakes on the Hayward fault or other regional faults.

The most significant adverse impact associated with strong seismic ground shaking is potential damage to structures and subsequent injury to people inside those structures. No habitable structures are proposed as part of this project. The proposed development includes a Class I multi-use trail and associated parking and staging areas, which would not be particularly susceptible to ground shaking damage, and users of the new staging area and associated facilities would not be at an elevated risk (especially when compared to users of residential or commercial structures that would be occupied by people for extended periods of time). Open space is one of the safer environments for people to be during an earthquake event.

Regardless, the design and construction of all improvements would be completed in accordance with the current seismic design codes included in the currently adopted version of the CBC and the Caltrans Seismic Design Criteria.¹¹⁶ In addition, the 2022 CBC, the Alameda County General Plan and the City of Fremont General Plan require preparation of a site-specific geotechnical investigation be performed for the proposed project to evaluate soil stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on soil-bearing capacity, compressibility, liquefaction, and expansiveness; and that a geotechnical report be prepared to provide recommendations on foundation type, seismic design considerations, and geotechnical design criteria for engineered embankments and retaining walls. With conformance with the CBC seismic design standards, the Caltrans Seismic Design Criteria, and completion of the required site-specific geotechnical investigation, potential impacts associated with strong seismic ground shaking would be reduced to a **less-than-significant** level.

Threshold 4.5.1(3): Seismic-Related Ground Failure or Collapse, including Liquefaction. As described previously, the Holocene alluvial deposits located along the current drainage course are mapped as highly susceptible to liquefaction and should be considered subject to permanent ground displacement during seismic ground shaking. As described above, the design and construction of all improvements would be completed in accordance with the current seismic design codes included in the currently adopted version of the CBC and the Caltrans Seismic Design Criteria. In addition, in compliance with the 2022 CBC, the Alameda County General Plan and the City of Fremont General Plan, a design-level Geotechnical Investigation would be prepared and implemented to ensure proposed improvements are designed to withstand seismic shaking, including specific measures to reduce the liquefaction potential of surface soils in areas where liquefaction would pose a risk to health and safety in accordance with Public Resources Code Section 2693 (c). All design measures, recommendations, design criteria, and specifications set forth in the design-level geotechnical review shall be implemented as a condition of project approval. With conformance with the CBC seismic design standards, the Caltrans Seismic Design Criteria, and completion of the required site-specific geotechnical investigation, potential impacts associated with strong seismic ground shaking would be reduced to a **less-than-significant** level.

Threshold 4.5.1(4): Slope Instability/Landslide. The proposed project would be on sloping hilly terrain. Seismically induced landslides and other slope failures are common during or soon after an earthquake in areas with significant ground slopes. This is a **potentially significant** impact.

¹¹⁶ California Department of Transportation (Caltrans). 2019. *Caltrans Seismic Design Criteria Version 2.0*. April. Website: <https://dot.ca.gov/programs/engineering-services/manuals/seismic-design-criteria> (accessed October 2023).

Impact GEO-1: Landslides and seismically-induced landslides could result in risks to humans and damage to property during operation of the proposed project.

As previously discussed, the proposed trail alignment traverses numerous mapped landslides. The presence of these landslides can result in unstable ground conditions and upslope rockfall and debris flow hazards at locations of planned cut-and-fill. Existing cut slopes along the proposed trail corridor in some locations display evidence of shallow slumps, earthflows, sloughing, and erosion. These conditions are most common in areas where the cut slopes were made in existing deep-seated landslide deposits, weak closely fractured to crushed rock, or alluvial deposits. In other locations, the proposed trail alignment is adjacent to steep, cut and natural slopes where more resistant, sandstone bedrock is exposed. These resistant beds are often jointed and fractured, and, in some cases, are subject to rockfall hazards. In between the more resistant bedrock units are colluvial deposits comprising sand- to cobble-sized angular rock fragments with silt and clay. Where these deposits occupy steep slopes, they form potential debris flow source areas. The proposed project includes slope-cuts and retaining walls that could potentially increase the instability of the existing hillsides on the project site.

The design and construction of all improvements would be completed in accordance with the current seismic design codes included in the currently adopted version of the CBC and the Caltrans Seismic Design Criteria. Additionally, the potential for landslides and seismically induced landslide would be evaluated in a design level geotechnical investigation, as required by the 2022 CBC, Alameda County General Plan and City of Fremont General Plan. Implementation of Mitigation Measures GEO-2a and GEO-2b would be required to address potentially significant impacts to related to landslides.

Mitigation Measure GEO-1a

The project-specific Geotechnical Investigation shall include investigation of trail segments located in areas susceptible to landslides. Specific geotechnical design recommendations shall be developed to mitigate the potential for landslides and seismically-induced landslide, including measures such as excavation of landslide areas and replacement with buttress fills, construction of retaining walls, removal of landslide materials, stabilization of shallow landslides using rock riprap replacement, and stabilization using biotechnical stabilization measures.

Mitigation Measure GEO-1b

Prior to issuance of a grading permit, detailed retaining wall design drawings and a site-specific grading plan for the project site shall be prepared by a licensed professional and submitted to Alameda County for review and approval. The retaining wall design drawings shall be reviewed by a qualified engineering geologist and show the heights of the walls, the backfill material type, drainage details, and the earth pressure used in design. All cut slopes shall be observed by a qualified engineering geologist at the time of grading to assess the applicability of the recommendations

and to make supplemental recommendations, if necessary. Supplemental recommendations may include slope flattening, installation of drainage, slope reconstruction in areas where weak rock, adverse bedding, or other local anomalies are encountered, or construction of retaining walls. Retaining wall installation and testing shall be observed by a qualified engineering geologist.

Implementation of Mitigation Measure GEO-1a and GEO-1b would reduce the level of the potential impact through the identification of specific recommendations related to landslide, review of retaining wall design drawings by a qualified engineering geologist, and implementation of supplemental recommendations, if needed. Therefore, with implementation of Mitigation Measure GEO-1a and GEO-1b, this impact would be **less than significant with mitigation**.

Threshold 4.5.2: Erosion and Sedimentation. Soil erosion, which is discussed in detail in Section 4.6, Hydrology and Water Quality, could occur during construction of the project. As described in Section 4.6, compliance with the State Water Resources Control Board Construction General Permit,¹¹⁷ including the preparation and implementation of a Stormwater Pollution Prevention Plan would ensure that the project would result in less than significant impacts related to erosion or sedimentation during construction. The proposed trail would consist of a 10-foot-wide, all-weather surface trail with 2-foot shoulders on either side composed of decomposed granite or aggregate. Stormwater runoff would be directed to the trail shoulders to drain. The trail shoulders, which would be pervious, would have a surface area that is greater than twice the size of the impervious surface area. As described in Section 4.6, compliance with the applicable requirements of Provision C.3 of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008 would be required, which includes preparation and implementation of a design-level stormwater control plan to minimize the discharge of pollutants in stormwater runoff and non-stormwater discharges and to prevent increases in runoff flows. Therefore, construction and operation of the project would result in **less than significant** impacts related to erosion and sedimentation.

Threshold 4.5.3: Unstable Soils. As discussed above, the soils underlying portions of the site are subject to the effects of liquefaction and could settle following strong seismic ground shaking. Lateral spreading could occur in areas with liquefiable soils located adjacent to a stream channel. Additionally, soils and bedrock in portions of the upland areas could become unstable and result in landslides during and following strong ground shaking.

Subsidence or collapse can result from the removal of groundwater, resulting in either catastrophic or gradual depression of the surface elevation of the project site. The only removal of groundwater that may take place as part of the project would be limited dewatering of excavations during construction. The localized and limited dewatering of excavations would not cause significant ground subsidence or collapse. Therefore, potential impacts related to subsidence or soil collapse would be **less than significant**.

¹¹⁷ NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ, NPDES No. CAS000002).

As described above, existing artificial fill runs along the railway and roadway corridors, and in the vicinity of the Mission Clay Products property within the project area. Without documentation regarding the manner of placement, type of material used, and degree of compaction, the existing fill should be considered non-engineered. Non-engineered fill can undergo consolidation that results in settlement under additional loads that is difficult to predict. In addition, non-engineered fill exposed in steep slopes can be subject to instability and downslope movement. The design and construction of all improvements would be completed in accordance with the current seismic design codes included in the currently adopted version of the CBC, the Caltrans Seismic Design Criteria and recommendations of a design-level geotechnical report as required by the 2022 CBC, Alameda County General Plan and the City of Fremont General Plan. These designs would include measures that would address, as necessary, the potential for settlement. Therefore, potential impacts associated with settlement would be **less than significant**.

Lateral spreading occurs when a continuous layer of soil liquefies at depth and the soil layers above move toward an unsupported face, such as a break in grade, slope, or creek embankment. As discussed above, liquefiable soil has been identified in the subsurface of the project site. Preparation of a design-level geotechnical report that includes an evaluation of the potential for lateral spreading and implementation of geotechnical recommendations for grading activities, ground improvement, and retaining walls, as required by the 2022 CBC, Alameda County General Plan and City of Fremont General Plan, would ensure that potential impacts related to lateral spreading would be **less than significant**.

Project specific measures would be required to be developed and implemented in accordance with requirements of the Public Resources Code. The impact of the project's location on a soil unit that is unstable or could become unstable and result in lateral spreading, liquefaction, or land sliding is considered **less than significant**.

Threshold 4.5.4: Expansive Soils. Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction. Soils along the proposed trail alignment range from minimally to highly expansive.¹¹⁸

Seasonal expansion and contraction of site soils could damage site improvements such as foundations, concrete slabs, pathways, and other pavement areas. Expansive soils can be mitigated by including design measures such as removal and replacement with non-expansive soils, segregating expansive soils from overlying improvements, lime-treating expansive soils to reduce the expansiveness, and increasing the thickness of non-expansive construction materials such as Class 2 Aggregate Base between the expansive soil and overlying concrete and hot mix asphalt improvements.

Preparation of a design-level geotechnical report which includes an evaluation of the potential for expansive soils to be present at the project site, and implementation of geotechnical

¹¹⁸ United States Department of Agriculture, Natural Resources Conservation Service. n.d. Web Soil Survey. Website: websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed August 3, 2023).

recommendations to address expansive soil, as required by the 2022 CBC, the Alameda County General Plan and the City of Fremont General Plan, would ensure that potential impacts related to expansive soil would be **less than significant**.

Threshold 4.5.5: Alternative Wastewater Disposal Systems. No septic systems or on-site wastewater treatment systems are included as part of the proposed project. Therefore, **no impact** would occur.

Threshold 4.5.6: Paleontological Resources. There are no unique geologic features at the project site, therefore the project would have no impacts related to unique geologic features. As discussed under Section 4.5.1 above, paleontological resources could be present in the native soil and bedrock of the project site. The proposed project would not require deep excavation or trenching that would likely encounter paleontological resources. However, in the event that fossil remains are encountered, impacts to paleontological resources could occur. The potential for damage or destruction of paleontological resources during construction of the project is therefore a **potentially significant** impact.

Impact GEO-2: Construction of the project could directly or indirectly destroy a unique paleontological resource or site.

In order to control the risk of damaging or destroying a unique paleontological resource or site, the project shall implement Mitigation Measure GEO-3.

Mitigation Measure GEO-2 Paleontological Resource Protection. Before the start of any excavation activities, the project sponsor shall retain a qualified paleontologist, as defined by the Society of Vertebrate Paleontology (SVP), who is experienced in training construction personnel regarding paleontological resources. The qualified paleontologist shall train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that could be seen during construction, and proper notification procedures should fossils be encountered. Should any paleontological resources be encountered during construction activities, all ground-disturbing activities within 50 feet of the find shall cease and Alameda County Department of Public Works (County) shall be notified immediately. The County shall immediately notify the qualified paleontologist and request that they assess the situation per SVP standards, consult with agencies as appropriate, and make recommendations for the treatment of the discovery if found to be significant. If construction activities cannot avoid the paleontological resources, adverse effects to paleontological resources shall be mitigated. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, preparation of a technical report, and providing the fossil material and technical report to a paleontological repository, such as the

University of California Museum of Paleontology. Public educational outreach may also be appropriate. Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the County for review.

Implementation of Mitigation Measure GEO-2 would reduce the level of the potential impact through the identification of paleontological resources during construction, the evaluation of unanticipated discoveries, and the recovery of significant paleontological data from those resources that warrant such investigation. This process would recover scientifically consequential information from at-risk resources to offset their potential loss. Therefore, with implementation of Mitigation Measure GEO-4, this impact would be **less than significant with mitigation**.

4.5.2.3 Cumulative Impacts

This section evaluates cumulative impacts on geology and soils. This cumulative analysis examines the effects of the project in the relevant geographic area in combination with other current projects and probable future projects. Cumulative impacts are addressed only for those thresholds that would result in a project-related impact, whether it be less than significant or less than significant with mitigation. If the project would result in no impact with respect to a particular threshold, by definition, it would not contribute to a cumulative impact.

Potential impacts related to geology, soils, and paleontological resources generally do not extend far beyond an individual development's boundaries because each development may have unique geologic and paleontological considerations. Therefore, the potential for cumulative impacts is generally limited to individual development sites and adjacent sites. For this reason, potential impacts are typically confined to discrete spatial locations and do not combine to create a significant cumulative impact. The exception to this generalization would be where larger-scale geologic events, such as a large landslide or regional subsidence/settlement, occur and might affect surrounding areas. As discussed in Section 4.5.1.2, *Landslides* above, the proposed trail alignment traverses numerous mapped landslides. The presence of these landslides can result in unstable ground conditions and upslope rockfall and debris flow hazards at locations of planned cut-and-fill.

Potential impacts related to seismic hazards, soil erosion, collapse of unstable soil, expansive soils, and paleontological resources would be specific to the project site and would not combine with other projects to create a cumulative impact. The geographic context for the analysis of potential cumulative impacts related to settlement and subsidence of unstable soil is the project site and adjacent properties. Potential cumulative impacts associated with landslides could occur if cumulative projects within Niles Canyon were constructed in these landslide areas, which, combined with the proposed project, could contribute to damaging existing or planned improvements.

The project would not make a cumulatively considerable contribution to landslide-related impacts, because compliance with the 2022 CBC, the Alameda County General Plan and City of Fremont General Plan and Mitigation Measures GEO-1a and GEO-1b would ensure that specific geotechnical design recommendations will be developed to mitigate the potential for landslides and seismically-induced landslide, including measures such as excavation of landslide areas and replacement with

buttress fills, construction of retaining walls, removal of landslide materials, stabilization of shallow landslides using rock riprap replacement, and stabilization using biotechnical stabilization measures. Therefore, cumulative impacts related to landslides would be **less than significant**.

Potential impacts related to seismic hazards, soil erosion, collapse of unstable soil, expansive soils, and paleontological resources would be specific to the project site and would not combine with other projects to create a cumulative impact. Even if there were cumulative geologic hazard impacts, given the mitigation measures described above and the design features and nature of the project (i.e., multi-use trail rather than a habitable structure), implementation of the project would not result in a cumulatively considerable contribution to geologic hazards, and the cumulative impact would be **less than significant**.

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4.6 HAZARDS AND HAZARDOUS MATERIALS

This section describes hazardous materials and other hazards to public health and safety that could result from implementation of the proposed project. The public safety concerns discussed below include potential exposure to hazardous materials in the soil, soil gas, and groundwater; wildland fire hazards; emergency response and evacuation plans; and aviation hazards. Information for this section has been summarized from the Phase I Environmental Site Assessment¹¹⁹ prepared for the proposed project (Appendix E).

The term “hazardous material” is defined in this section as 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 into the workplace or the environment.¹²⁰ The term “hazardous waste” generally refers to a hazardous material that has been used for its original purpose and is about to be discarded or recycled.

4.6.1 Setting

This section describes existing conditions in the project vicinity and summarizes pertinent federal, State, and local agency laws, regulations, and programs related to hazards and hazardous materials.

4.6.1.1 Historical and Current Land Uses

Based on a review of historical United States Geologic Survey topographic maps¹²¹ and aerial photographs¹²², Alameda Creek, the adjacent Niles Canyon Road, and Niles Canyon Railway have existed in their approximate current alignments at least since 1906. At that time, a few structures were situated along the creek and road. A 1939 photograph shows a parcel south of the project corridor near Sunol that is graded. By 1941, a railroad tunnel was built through the canyon mountains about 0.5 mile south of the western portion of the project corridor, and a cluster of buildings for a pottery plant appears close to the western end of the corridor. A 1946 photograph confirms that the pottery plant is developed and is next to a small agricultural plot. In 1953, a pipeline is mapped parallel to the entirety of the project corridor, which is later labeled in 1961 as the Sunol Aqueduct. In 1958, the graded parcel south of the Sunol terminus of the project corridor is divided into agricultural fields. By 1968, grading and development is visible at the Niles Canyon Railway Yard and the Pacific Railroad Association in the middle of the project corridor. Residential plots are visible to the east of the railyard. Aerial photographs from 2006 show that some of the agricultural plots in Sunol are converted to solar panel facilities.¹²³

¹¹⁹ Engeo. 2023. *Alameda County Public Works Niles Canyon Trail Project Fremont, California, Phase I Environmental Site Assessment*. July 20.

¹²⁰ Abbreviated from California Health and Safety Code Section 25501.

¹²¹ Environmental Data Resources, Inc. (EDR). 2023a. *EDR Historical Topo Map Report with QuadMatch, Niles Canyon Pedestrian Trail, Fremont, CA 94539, Inquiry Number 7378454.5*. June 30.

¹²² Environmental Data Resources, Inc. (EDR). 2023b. *The EDR Aerial Photo Decade Package, Niles Canyon Pedestrian Trail, Fremont, CA 94539, Inquiry Number 7378454.8*. July 5.

¹²³ Engeo. 2023. op. cit.

The majority of the project corridor is currently vacant, vegetated land that transverses Niles Canyon from Old Canyon Road in Fremont to Foothill Road in Sunol. is the corridor is bordered to the north and/or south by Alameda Creek and two sets of railroad tracks.

4.6.1.2 Hazardous Materials and Subsurface Contamination

Information regarding hazardous materials and subsurface contamination at the project site and surrounding properties was obtained from review of the Phase I Environmental Site Assessment (Phase I ESA) prepared for the project site.¹²⁴ Various businesses in the vicinity of the project site have been listed on regulatory databases for the storage, use, and disposal of hazardous materials. Many of these database listings are related to the routine storage, use, and disposal of relatively small quantities of hazardous materials, and are not considered to present an environmental concern for the project site.

A review of federal, tribal, State, and local databases regarding the project site and adjacent properties identified 29 facilities within the search distance of the project corridor, as shown in Table 4.6.A.

Table 4.6.A: Environmental Database Listing for Nearby Properties

Facility	Street	Databases
Ki-Lite Pit 7 Mill		MINES MRDS
Kit-Lite Mine And Mill		MINES MRDS
Niles Canyon Road Pit		MINES MRDS
Niles Quarry		MINES MRDS
Silva Bros.		MINES MRDS
Su Oro Co		US MINES
Quarry, Sunol Pit		MINES MRDS
Louthan Property	11930 Main Street	LUST, Cortese, HIST Cortese, CERS
Sunol Radiographic Inspection	11973 Foothill Road	FINDS, RCRA NonGen/NLR, ECHO, HAZNET, HWTS
Nunes Services	12181 Foothill Road	HWTS
1x Wells Fargo Bank, Tyler Ranch	12371 Foothill Road	HAZNET, HWTS, HIST UST, Non-Case Info, SWEEPS UST, HIST Cortese, RGA LUST
Tyler Ranch Staging Area	12574 Foothill Road	NPDES, CIWQS
Wilson Property Management	141 Kilcare Road	RCRA NonGen/NLR
Mission Clay Products – SCP	2225 Niles Canyon Road	CPS-SLIC
Fries, Daniel	1365 Old Canyon Road, Apt 5	HAZNET, HWTS
Modern Alloys Inc	2415 Od Canyon Road	HIST UST
Sunol Communication Center	3700 Palomares Road	HIST Cortese
Weed Property	37266-37268 Niles Boulevard	Envirostor
Niles Square	37482-37862 Niles Boulevard	VCP, Envirostor
L&M Auto Service	37810 Niles Boulevard	CA FID UST, LUST, Cortese, SWEEPS UST, HIST Cortese, CERS

¹²⁴ Engeo. 2023. *Alameda County Public Works Niles Canyon Trail Project Fremont, California, Phase I Environmental Site Assessment*. July 20.

Table 4.6.A: Environmental Database Listing for Nearby Properties

Facility	Street	Databases
Amchem Products, Inc. Henkel Surface Technologies	37899 Niles Boulevard	HIST Cal-Sites, CA BOND EXP. PLAN, CRRACTS, SEMS-Archive, RCRA-SQG, FINDS, RCRA-TSFH, ECHO, 2020 COR ACTION, CPS-SLIC, CA FID UST, HIST-UST, DEED, Cortese, SWEEPS UST, Envirostor, RESPONSE, HIST Cortese, HWP, ENF, CIWQS, CERS, PFAS, TSCA
Super 7 No. 18908	38010 Mission Boulevard	LUST, Cortese, HIST Cortese, NPDES, CIWQS, CERS
The Landing West (Former Shannon Townhomes)	38861 and 38873 Mission Boulevard	VCP, Envirostor
San Francisco Public Utilities Commission Sunol Yard And Pump Station/San Francisco Water Department Sunol Yard	505 Paloma	Alameda County CS, LUST, Cortese, CERS, LUST, HIST Cortese
SRDC Inc	5550 Niles Canyon Road	FINDS, EMI, Alameda County CS, WDS, Non-Case Info, CERS, CERTS Tanks, CERS Haz Waste
Niles Canyon Railway	5550 Niles Canyon Road	NPDES, CIWQS, CERS
Manjit Singh	5551 Niles Canyon Road	HAZNET, HWTS
Niles Canyon Mobil	711 Old Canyon Road	EDR Hist Auto
Mission Clay Products Quarry	P.O. Box 549	MINES

Source: Alameda County Public Works Niles Canyon Trail Project Fremont, California, Phase I Environmental Site Assessment (Engeo July 20, 2023).

- CA BOND EXP. PLAN = Bond Expenditure Plan
- CERS = California Environmental Reporting System
- CIWQS = California Integrated Water Quality System
- CORRACTS = Corrective Action Report
- Cortese = "Cortese" Hazardous Waste & Substances Sites List
- CPS-SLIC = Statewide Spills, Leaks, Investigations, and Cleanup Database (SLIC) Cases
- DEED = Deed Restriction Listing
- EDR Hist Auto = EDR Exclusive Historical Auto Stations
- ENVIROSTOR = EnviroStor Database
- HAZMAT = Hazardous Materials Facilities
- HAZNET = Facility and Manifest Data List
- HIST Cal-Sites = Historical Calsites Database
- HIST Cortese = Historic Hazardous Waste & Substances Sites List
- HIST UST = Hazardous Substance Storage Container Database
- HWP = Envirostor Permitted Facilities Listing
- HWTS = Hazardous Waste Tracking System
- LUST = Geotracker's Leaking Underground Fuel Tank Report
- MINES = Mines Site Location Listing
- MINES MRDS = Mineral Resources Data System
- NPDES = National Pollutant Discharge Elimination System Permits Listing
- Non-Case Info = Non-Case Info (Geotracker)
- RCRA NonGen/NLR = RCRA - Non Generators / No Longer Regulated
- RCRA-TSDF = Resource Conservation and Recovery Act (RCRA) - Treatment, Storage and Disposal
- RCRA-VSQG = RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)
- RESPONSE = State Response Sites
- RGRA LUST = Recovered Government Archive Leaking Underground Storage Tank
- SEMS-ARCHIVE = Superfund Enterprise Management System Archive
- SWEEPS UST = Statewide Environmental Evaluation and Planning System (SWEEPS) Underground Storage Tank (UST)
- TSCA = Toxic Substances Control Act
- US MINES = Mines Master Index File

Information from database listings and previous investigations which identified existing or potential hazardous building materials and hazardous materials contamination that could affect the project corridor is discussed below.

Niles Canyon Railway and Union Pacific Railway. Two railroad tracks, Niles Canyon and Union Pacific, extend through Niles Canyon parallel to the project corridor, such that at some locations, the project corridor may be within 20 feet of railroad tracks. Niles Canyon Railway has operated since 1869, and Union Pacific Railroad has operated since 1909. Niles Canyon Railway is generally to the north of the project corridor and the Union Pacific Railroad is generally south of the project corridor. Towards the eastern end of the project corridor, both railroads lie to the south. Railroads are commonly associated with the presence of lead, arsenic, total petroleum hydrocarbons (TPH), and polynuclear aromatic hydrocarbons (PNAs).

Mission Clay Products. A portion of the trail alignment would extend along Old Canyon Road into the Mission Clay Products property, which is privately owned. Mission Clay Products was a pottery clay mining facility. The facility was first developed in 1907. Two fuel oil vaults and two underground storage tanks were installed at the facility over time. These vaults and tanks were removed between 1987 and 2000, along with 15,593 tons of soil impacted with TPH. Additional excavations were conducted in 2019 in areas where soil and groundwater were still impacted. Small amounts of floating petroleum hydrocarbons (less than 2 inches in diameter) that resembled degraded crude oil were observed in a seasonal isolated channel near Alameda Creek. Soil was excavated and about 3.6 million gallons of TPH-impacted groundwater were pumped from the excavations and treated until no TPH remained, other than an area by the railroad tracks, so as to not disturb the railroad. The area near the railroad was treated with PersolfOx, a chemical oxidizer. The project corridor may overlap with this section of the Mission Clay site and with the groundwater plume that extends from the Mission Clay site to Alameda Creek.

To address the contamination left near the railroad, a trench was excavated between the railroad and Alameda Creek in a way to allow ongoing monitoring and treatment of groundwater passing through the trench.

Niles Canyon Railway/Sunol Depot. In 2014, a surface spill of oil from a locomotive occurred on the railroad tracks near the Niles Canyon Railway station and museum, located at 6 Killkare Road near the eastern end of the project corridor. In July 2016, remediation took place, which included removing four drums of soil and ballast and confirmation sampling. The remediation report concluded that no major impacts resulted from the spill. However, a Notice to Comply statement from the Alameda County Department of Environmental Health stated that oil was found in a nearby well and that it may be associated with the spill. Given that the surface contamination has been removed, deeper oil impacts are not likely to have an effect on the proposed project.

Based on the distances to the identified sites listed in databases, regional topographic gradient, and the findings from the information databases, it is unlikely that the above-stated database sites affect the underlying soils and groundwater within the project corridor. Many properties are on the

“Orphan Summary”¹²⁵ list. Many of these consist of vehicle incidents on Niles Canyon Road or on the railroad tracks that resulted in injury and/or a fuel leak or are associated with Alameda Creek. One orphan site at 12565 Foothill Road #B may overlap with the project corridor and is reported to have had 4 tons of asbestos-containing waste that was disposed of by landfill or surface impoundment.

4.6.1.3 Schools

A review of federal records for public and private schools with grades ranging from pre-Kindergarten to 12 indicates that four schools are within 0.25 mile of the proposed project, as shown in Table 4.6.B.^{126,127}

Table 4.6.B: Schools within 0.25 Mile of the Proposed Project

Type	Lowest Grade	Highest Grade	School Name
Public School	K	6	Niles Elementary School
Private School	K	4	Corpus Christi School
Public School	K	6	Vallejo Mill Elementary School
Public School	K	8	Sunol Glen Elementary School

Source: National Center for Education Statistics. n.d.

Note: K = kindergarten

4.6.1.4 Aviation Hazards

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Other airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the regulated surfaces surrounding an airport. The nearest airports to the project site are Livermore Municipal Airport 7.7 miles northeast of the project site, and the Hayward Executive Airport, 10 miles northwest of the project site. The project site is not within the land use plan area for either Livermore Municipal Airport¹²⁸ or Hayward Executive Airport.¹²⁹

4.6.1.5 Wildland Fire Hazards

The portion of the project corridor east of Dead Cow Curve (e.g., the easternmost segment of Phase 2 and most of Phase 3) is in a State Responsibility Area for fire hazards, as mapped by the California

¹²⁵ Orphans are sites contaminated by a release of hazardous substances that poses serious threats to human health or the environment, where the parties responsible for the contamination are unknown, unable, or unwilling to pay for needed remedial actions.

¹²⁶ National Center for Education Statistics. n.d. *Search for Public Schools*. Website: <https://nces.ed.gov/ccd/schoolsearch/> (accessed August 1, 2023).

¹²⁷ Ibid.

¹²⁸ Alameda County Community Development Agency. 2012a. Livermore Executive Airport, Airport Land Use Compatibility Plan. August.

¹²⁹ Alameda County Community Development Agency. 2012b. Hayward Executive Airport, Airport Land Use Compatibility Plan. August.

Department of Forestry and Fire Protection (CAL FIRE).¹³⁰ Most of this area is designated as a Very High Hazard Severity Zone. The western portion of the trail alignment (e.g., Niles District Extension, Phase 1 and the westernmost portion of Phase 2) is in a Local Responsibility Area for fire hazards but is not designated as a Very High Hazard Severity Zone.

4.6.1.6 Regulatory Context

The use, storage, and disposal of hazardous materials—including management of contaminated soils and groundwater—regulated by federal, State, regional, and local agencies' jurisdictions in the management of hazards and hazardous materials, as applicable to the proposed project, is described below.

Federal Regulations. At the federal level, the United States Environmental Protection Agency (EPA) administers hazardous materials and hazardous waste regulations, the Occupational Safety and Health Administration (OSHA) regulates worker safety related to hazardous materials handling, and the United States Department of Transportation (DOT) regulates hazardous waste transportation. The authority of these agencies and applicable regulations are described below.

United States Environmental Protection Agency. The EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily codified in Title 40 of the Code of Federal Regulations. The legislation includes the Resource Conservation and Recovery Act (RCRA) of 1976, the Superfund Amendments and Reauthorization Acts of 1986, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and the Toxic Substances Control Act of 1976. The EPA provides oversight for site investigation and remediation projects and has developed protocols for sampling, testing, and evaluation of solid wastes.

Resource Conservation and Recovery Act. The RCRA is a combination of the first federal solid waste statutes and all subsequent amendments Congress has mandated. The RCRA establishes the framework for a national system of solid waste control. Subtitle D of RCRA is dedicated to non-hazardous solid waste requirements, and Subtitle C focuses on hazardous solid waste. Solid waste includes solids, liquids, and gases and must be discarded to be considered waste. Under Subtitle C of RCRA, the EPA has developed a comprehensive program to ensure that hazardous waste is managed safely from the moment it is generated to its final disposal (cradle-to-grave) and may authorize states to implement key provisions of hazardous waste requirements in lieu of the federal government. If a state program does not exist, the EPA directly implements the hazardous waste requirements in that state. Subtitle C regulations set criteria for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. This includes permitting requirements, enforcement, and corrective action or cleanup.

Hazardous Materials Transportation Act. The federal Hazardous Materials Transportation Act (HMTA) of 1975 is the statutory basis for the extensive body of regulations aimed at ensuring

¹³⁰ California Board of Forestry and Fire Protection. 2020. State Responsibility Area Viewer. Website: bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer (accessed June 23, 2020).

the safe transport of hazardous materials on water, rail, and highways and through air or pipelines. It includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation.

United States Department of Transportation. In 1990 and 1994, the federal HMTA was amended to improve the protection of life, property, and the environment from the inherent risks of transporting hazardous material in all major modes of commerce. The DOT developed hazardous materials regulations that govern the classification, packaging, communication, transportation, and handling of hazardous materials as well as employee training and incident reporting. The transportation of hazardous materials is subject to both RCRA and DOT regulations. The California Highway Patrol, California Department of Transportation (Caltrans), and the Department of Toxic Substances Control (DTSC) are responsible for enforcing federal and state regulations pertaining to the transportation of hazardous materials.

Occupational Safety and Health Administration. OSHA regulates worker health and safety at the federal level. The federal Occupational Safety and Health Act of 1970 authorizes the states to establish their own safety and health programs with OSHA approval. California Occupational Safety and Health Administration (Cal/OSHA) regulates worker health and safety protections in California, as described below. California standards for workers dealing with hazardous materials are contained in 8 California Code of Regulations (CCR); they include practices for all industries (General Industrial Safety Orders) and specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

State Regulations. At the State level, California Environmental Protection Agency (CalEPA) implements and enforces environmental laws that regulate air, water, and soil quality; pesticide use; and waste recycling and reduction. CalEPA consists of the DTSC, the State Water Resources Control Board (which operates via nine Regional Water Quality Control Boards), the California Air Resources Board (CARB), the Department of Pesticide Regulation, the Department of Resources Recycling and Recovery (CalRecycle), and the Office of Environmental Health Hazard Assessment. The DTSC and the State Water Quality Control Board administer hazardous materials and hazardous waste regulations, CARB regulates air pollution control programs, and Cal/OSHA regulates worker safety related to hazardous material handling. The authority of these agencies and applicable regulations are described below.

Department of Toxic Substances Control. In California, the EPA authorizes the DTSC to enforce and implement federal hazardous material laws and regulations. California regulations pertaining to hazardous materials are equal to or exceed the federal regulation requirements. Most State hazardous material regulations are contained in Title 22 of the CCR. The DTSC generally acts as the lead agency for soil and groundwater cleanup projects that affect public health and establishes cleanup levels for subsurface contamination that are equal to or more

restrictive than federal levels. The DTSC has also developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

California Health and Safety Code. Health and Safety Code Division 20, Chapter 6.5, Hazardous Waste Control, is the primary hazardous waste statute in California and implements RCRA as a “cradle-to-grave” waste management system in California. It specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. It also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. It exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates types of wastes and waste management activities that are not covered by federal law under RCRA.

Chapter 6.95 of the Health and Safety Code also establishes minimum Statewide standards for Hazardous Materials Business Plans (HMBPs), including basic information on the location, type, quantity, and health risks of hazardous materials and/or waste. Each business must prepare a HMBP if that business uses, handles, or stores a hazardous material and/or waste or an extremely hazardous material in quantities greater than or equal to:

- 55 gallons for a liquid
- 500 pounds of a solid
- 200 cubic feet for any compressed gas
- Threshold planning quantities of an extremely hazardous substance

State Water Resources Control Board. The State Water Quality Control Board enforces regulations on implementation of underground storage tank (UST) programs. It also allocates funding to eligible parties that request reimbursement of costs to clean up soil and groundwater pollution from UST leaks. The State Water Board also enforces the Porter-Cologne Water Quality Act through its nine Regional Water Quality Control Boards, including the Regional Water Quality Control Board, described below.

California Air Resources Board. This agency is responsible for coordination and oversight of State and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed State air quality standards and is responsible for monitoring air quality in conjunction with the local air districts.

California Code of Regulations Title 22. Most state and federal regulations and requirements that apply to generators of hazardous waste are spelled out in CCR Title 22, Division 4.5. Title 22 contains the detailed compliance requirements for hazardous waste generators, transporters, and treatment, storage, and disposal facilities. Because California is a fully authorized state according to RCRA, most RCRA regulations (those contained in 40 Code of Federal Regulations [CFR] 260 et seq.) have been duplicated and integrated into Title 22. However, because DTSC regulates hazardous waste more stringently than the EPA does, the integration of California and federal hazardous waste regulations that make up Title 22 does not contain as many exemptions or exclusions as does 40 CFR 260. As with the California Health and Safety Code, Title 22 also regulates a wider range of waste types and waste management activities than the RCRA

regulations in 40 CFR 260 do. To aid the regulated community, the State of California compiled the hazardous materials, waste, and toxics-related regulations contained in CCR Titles 3, 8, 13, 17, 19, 22, 23, 24, and 27 into one consolidated CCR Title 26, "Toxics." However, the California hazardous waste regulations are still commonly referred to as Title 22.

California Occupational Safety and Health Administration. Cal/OSHA regulates worker health and safety protections in California. California's standards for workers dealing with hazardous materials are contained in CCR Title 8; they include practices for all industries (General Industrial Safety Orders), as well as specific practices for construction. Workers at hazardous waste sites (or workers who may be exposed to hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to OSHA Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

California Fire Code. The California Fire Code is Part 9 of Title 24, CCR, also referred to as the California Building Standards Code. The California Fire Code incorporates the latest International Fire Code of the International Code Council with necessary California amendments. The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises; and to provide safety and assistance to firefighters and emergency responders during emergency operations.

California Fire Code Chapter 33 contains requirements for construction activities, including the development and implementation of a site safety plan establishing a fire prevention program. In addition, California Fire Code Chapter 35 contains specific requirements for welding and other hot work under Chapter 35. The requirements are intended to maintain the required levels of fire protection, limit fire ignition and spread, establish the appropriate operation of equipment, and promote prompt response to fire emergencies. Regulated features include fire protection systems, firefighter access, water supply, means of egress, hazardous materials storage and use, and temporary heating equipment and other ignition sources.

Government Code Section 65962.5. The provisions of Government Code Section 65962.5 require the DTSC, the State Water Quality Control Board, the California Department of Health Services, and the California Department of Resources Recycling and Recovery (formerly the California Integrated Waste Management Board) to submit information pertaining to sites associated with solid waste disposal, hazardous waste disposal, leaking underground storage tank (LUST) sites, and/or hazardous materials releases to the Secretary of CalEPA.

Regional Regulations. The following regional agencies have regulatory authority over the proposed project's management of hazardous materials and hazards.

San Francisco Bay Regional Water Quality Control Board. The Porter-Cologne Water Quality Act established the State Water Quality Control Board and divided the state into nine regional

basins, each under the jurisdiction of a Regional Water Quality Control Board. The Regional Water Quality Control Board (Region 2) regulates water quality in the Bay Area, including the project site. The Regional Water Quality Control Board has the authority to require groundwater investigations when the quality of groundwater or surface waters of the state is threatened, and to require remediation actions, if necessary. The Regional Water Board has developed Environmental Screening Levels to help expedite the preparation of environmental risk assessments at sites where contaminated soil and groundwater have been identified. The Regional Water Board issued the Municipal Regional Stormwater NPDES Permit, Order R2-2015-0049, NPDES Permit No CAS612008, which addresses the potential discharge of hazardous materials in municipal stormwater from municipalities in the Bay Area (described in detail under Section 4.9, Hydrology and Water Quality, of this EIR).

Bay Area Air Quality Management District. The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which are the responsibility of the EPA and the CARB). BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary air pollutant sources, and the issuance of permits for activities including asbestos demolition and renovation activities.

BAAQMD Regulation 11-2 requires that prior to commencement of any demolition or renovation, the owner or operator must thoroughly survey the affected structure or portion thereof for the presence of asbestos-containing materials (ACM). The survey must be performed by a person who is certified by the Division of Occupational Safety and Health, and who has taken and passed an EPA-approved Building Inspector course and who conforms to the procedures outlined in the course. The survey must include sampling and the reporting of results of laboratory analysis of the asbestos content of all suspected ACMs. This survey must be made available, upon request by the Air Pollution Control Officer, prior to the commencement of any regulated ACMs removal or any demolition. If ACMs are identified, the disturbance/removal and management of ACMs must be performed in accordance with BAAQMD Regulations under Rule 11-2 to ensure that asbestos would not be released into the environment.

Alameda County Department of Environmental Health, Certified Unified Program Agency. The Alameda County Department of Environmental Health is the Certified Unified Program Agency (CUPA) for the project site. The CUPA is the primary agency responsible for local enforcement of state and federal laws pertaining to hazardous materials and hazardous waste management and is responsible for coordination of the following CUPA Programs: HMBP Program, Hazardous Waste Generator/Tiered Permitting Program, UST Program, California Accidental Release Program, and the Aboveground Petroleum Storage Tank Program. The role of a CUPA is to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities associated with the regulation of hazardous materials and hazardous wastes.

Alameda County Emergency Operations Plans. The following emergency operations and local hazard mitigation plans are applicable to the project area.

- **Alameda County Emergency Operations Plan.** The Alameda County Emergency Operations Plan (EOP)¹³¹ establishes policies and procedures, in addition to assigning responsibilities to ensure the effective management of emergency operations within the Alameda County Operational Area. Cities and towns within the county participate in the Alameda County Operational Area coordination of emergency management activities. Emergency operations are split into five phases: Prevention Phase, Preparedness Phase, Response Phase, Recovery Phase, and Mitigation Phase.
- **Alameda County Local Hazard Mitigation Plan.** The Alameda County Local Hazard Mitigation Plan (LHMP)¹³² assesses risks posed by natural hazards and to develop a mitigation strategy for reducing the County of Alameda's risks. Three separate entities prepared the LHMP including the County of Alameda, the Alameda County Fire Department and the Alameda County Flood Control and Water Conservation District. The risks and mitigations in the LHMP are broad and encompass the unincorporated area of Alameda County.

Alameda County General Plan. The Alameda County General Plan Safety Element includes the following goals and objectives related to hazards and hazardous materials.

- **Goal 2.** To reduce the risk of urban and wildland fire hazards.
 - **Policy P1:** Urban and rural development and intensive recreational facilities should be discouraged in hill open space areas lacking an adequate water supply or nearby available fire protection facilities.
 - **Policy P2:** Hill area development, and particularly that adjoining heavily vegetated open space area, should incorporate careful site design, use of fire-retardant building materials and landscaping, development and maintenance of fuel breaks and vegetation management programs, and provisions to limit public access to open space areas in order to minimize wildland fire hazards.
 - **Policy P7:** The County shall adhere to the provisions of the Alameda County Fire Protection Master Plan and Fire Hazard Mitigation Plan.
 - **Policy P15:** The County shall protect the community from the unreasonable risk of wildfires.
 - **Policy P17:** The County shall avoid or minimize the wildfire hazards associated with new uses of land.
 - **Action 1:** Limit or prohibit development and activities in areas lacking adequate water and firefighting facilities.

¹³¹ Alameda County Sheriff's Office of Homeland Security and Emergency Services. 2012. Alameda County Emergency Operations Plan. December.

¹³² County of Alameda. 2022. Final 2021 Alameda County Local Hazard Mitigation Plan (LHMP). March.

- *Action 2:* Enforce design standards and guidelines through the site development, planned development, and subdivision review process.
- *Action 3:* Require environmental impact assessment for development proposals in areas of severe fire hazard.
- **Goal 4.** Minimize residents' exposure to the harmful effects of hazardous materials and waste.
 - *Policy P3:* The County shall minimize risks of exposure to or contamination by hazardous materials by educating the public, establishing performance standards for uses that involve hazardous materials, and evaluating soil and groundwater contamination as part of development project review.
 - *Policy P6:* Adequate separation shall be provided between areas where hazardous materials are present and sensitive uses such as schools, residences and public facilities.
 - *Policy P8:* Developers shall be required to conduct the necessary level of environmental investigation to ensure that soil, groundwater and buildings affected by hazardous material releases from prior land uses and lead or asbestos in building materials will not have a negative impact on the natural environment or health and safety of future property owners or users. This shall occur as a pre-condition for receiving building permits or planning approvals for development on historically commercial or industrial parcels.
 - *Action 7:* Require applicants of projects in areas of known hazardous materials occurrences such as petroleum hydrocarbon contamination, USTs, location of asbestos rocks and other such contamination to perform comprehensive soil and groundwater contamination assessments in accordance with regulatory agency testing standards, and if contamination exceeds regulatory action levels, require the project applicant to undertake remediation procedures prior to grading and development under the supervision of appropriate agencies such as Alameda County Department of Environmental Health, Department of Toxic Substances Control, or Regional Water Quality Control Board.

East County Area Plan. The East County Area Plan includes the following policies and goals related to hazards and hazardous materials.

- **Hazard Zones Goal.** To minimize the risks to lives and property due to environmental hazards.
 - *Policy 134:* The County shall not approve new development in areas with potential natural hazards (flooding, geologic, wildland fire, or other environmental hazards) unless the County can determine that feasible measures will be implemented to reduce the potential risk to acceptable levels, based on site-specific analysis.

Policy 135: The County, prior to approving new development, shall evaluate the degree to which the development could result in loss of lives or property, both within the development and beyond its boundaries, in the event of a natural disaster.

- Solid Waste and Hazardous Waste Facilities Goal. To provide sufficient long-term landfill capacity for County residents, without impeding achievement of the recycling goals in the County Charter, and to ensure the compatibility of solid waste facilities and adjacent uses.
 - *Policy 154:* The County shall abide by the policies and Siting Criteria in the Alameda County Hazardous Waste Management Plan to ensure the responsible handling of hazardous waste in the County.

Local Plans and Regulations. The City of Fremont General Plan policies and programs and Municipal Code requirements related to hazards and hazardous materials that would be applicable to the project are described below.

City of Fremont Emergency Operations Plans. The following emergency operations and local hazard mitigation plans are applicable to the project area.

- **City of Fremont Hazardous Material Area Plan for Emergency Response.** In compliance with the California Health and Safety Code, the City of Fremont (City) adopted a Hazardous Material Area Plan for Emergency Response in January 1987 (subsequently amended in 1991, 2001, and updated in 2005 and 2009) that has been approved by the California Emergency Management Agency. This plan outlines the procedures for emergency preparedness in the event of a disaster related to hazardous material use, storage or movement. The plan sets forth responsibilities within City government for responding to a hazardous material emergency, a detailed checklist for actions, training programs, procedures for requesting State and federal funding assistance and incident reporting procedures. The plan also includes lists and maps showing where significant quantities of hazardous materials are stored, and in some instances, evacuation routes and the locations of sensitive receptors such as schools, hospitals, and nursing homes.¹³³
- **City of Fremont Local Hazard Mitigation Plan.** The City of Fremont's 2016 Local Hazard Mitigation Plan¹³⁴ identifies local natural hazards, assesses community risk, and outlines the City's hazard mitigation goals and objectives. In 2021, the Fremont Fire Department's Office of Emergency Services partnered with the emergency management offices of the City of Newark, City of Union City, Alameda County Water District, and Union Sanitary District to apply for FEMA funding to prepare a new Tri-City Multi-jurisdictional Local Hazard Mitigation Plan. This plan will serve as an update to the City of Fremont's existing plan and

¹³³ City of Fremont. 2011. *City of Fremont General Plan 2030*. Safety Element. December.

¹³⁴ City of Fremont. n.d.-c. *City of Fremont 2016-2021 Local Hazard Mitigation Plan*.

the 2017 Union City/Newark Multi-Jurisdiction Local Hazard Mitigation Plan. Project construction will begin in 2025.¹³⁵

City of Fremont General Plan. The City of Fremont General Plan Safety Element includes the following goals and policies related to hydrology and water quality.

- **Goal 10-4: Fire Hazards.** Minimum risk to life and property resulting from fire hazards.
 - **Policy 10-4.2: Development Standards.** Maintain development standards that limit potential health and safety risks, and the risks of structure damage and severe economic loss due to fire hazards.
 - **Implementation 10-4.2.A: Fire Code Compliance.** Require all new development and renovations to comply with the California Building Code, Fire Code, and all local ordinances for construction and adequacy of water flow and pressure, ingress/egress and other measures for fire protections.
 - **Policy 10-4.3: Access and Clearance.** Require adequate access and clearance for fire equipment, fire suppression personnel, and evacuation for new development.
 - **Implementation 10-4.3.A: Development Review.** Review new projects for necessary fire access, street widths and clearances.
 - **Implementation 10-4.3.B: Development Criteria.** Require all development to provide adequate access and clearance and other fire safety measures as appropriate, and require additional vehicular access or clearance areas as determined by the Fire Department and local amendments to the Fire Code.
 - **Implementation 10-4.3.D: Balance Amenities with Fire Safety.** Use creative design solutions to create human-scale pedestrian environments while also ensuring fire safety in new development.
 - **Policy 10-4.4: Supplemental Fire Mitigation.** Require supplemental fire mitigation measures in new development proposed above the Toe of the Hill or other locations which are outside a 6 minute 40 second response time area. Limit development in those areas where, despite fire mitigation measures, an acceptable level of protection is considered unattainable.
 - **Implementation 10-4.4.A: Supplemental Mitigation.** Require supplemental mitigation measures such as wetbands, fire resistant landscaping, defensible space, fire resistant construction, sprinkler systems vegetation management and early warning fire detection systems for properties in the Very High Fire Hazard Severity Zone or as determined necessary by the Fire Department.

¹³⁵ City of Fremont. n.d.-d. Emergency Preparedness. Website: <https://www.fremont.gov/residents/emergency-preparedness> (accessed August 2, 2023).

- **Goal 10-6: Hazardous Materials and Waste.** Minimum feasible risks to life, property and the environment resulting from the use, storage, transportation and disposal of hazardous materials.
 - *Policy 10-6.1: Hazardous Material Regulation.* Maintain sufficient regulation of land use and construction to minimize potential health and safety risks associated with future, current or past use of hazardous materials in Fremont.
 - **Implementation 10-6.1.A: Fire Code Compliance.** Periodically evaluate and update existing land use designations and regulations to minimize risks associated with hazardous material.
 - *Policy 10-6.3: Remediation.* Encourage site investigation and cleanup on properties where contamination is likely.
 - **Implementation 10-6.3.A: Environmental Site Assessments.** Require environmental site assessments for past use of hazardous materials on potential development sites where contamination could reasonably have occurred and a change in use is proposed. Require appropriate clean-up of contaminated sites prior to development.

4.6.2 Impacts and Mitigation Measures

The following describes the potential impacts of the proposed project related to hazards and hazardous materials. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies mitigation measures, as necessary.

4.6.2.1 Criteria of Significance

The following thresholds of significance are based on Appendix G of the *State CEQA Guidelines*. Based on these thresholds, implementation of the proposed project would have a significant impact related to hazards and hazardous materials if it would:

Threshold 4.6.1: Create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials;

Threshold 4.6.2: 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;

Threshold 4.6.3: Create a public health hazard due to hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within $\frac{1}{4}$ mile of an existing or proposed school;

Threshold 4.6.4: Create a significant hazard to the public or the environment as the result of locating the proposed project or related infrastructure on a site which is

included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5;

Threshold 4.6.5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area;

Threshold 4.6.6: Impair or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

Threshold 4.6.7: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

4.6.2.2 Project Impacts

The following section provides an evaluation and analysis of the potential impacts of the proposed project for each of the criteria of significance listed above and potential cumulative impacts. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ by phase and therefore are not differentiated in this section.

Threshold 4.6.1: Routine Transport, Use, Disposal, and Management of Hazardous Materials.

Hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site during construction activities. Because the proposed project would result in soil disturbance greater than 1 acre, management of soil and hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit (described in detail under Section 4.6, Hydrology and Water Quality of this EIR), which requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes hazardous material storage requirements. For example, construction site operators must store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

Construction of the proposed project would result in the generation of various waste materials that would require recycling and/or disposal, including some waste materials that could be classified as hazardous waste. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials as required by DOT, RCRA, and State regulations.

The transportation, use, and disposal of hazardous materials during construction may pose health and safety hazards to workers if the hazardous materials are improperly handled, or to the nearby public and the environment if the hazardous materials are accidentally released into the environment. Potential impacts associated with accidental releases of hazardous materials into the environment are discussed under Threshold 4.8.2, below.

Operation of the proposed project, which includes development of recreational uses, would not require the routine transport, use, or disposal of significant quantities of hazardous materials.

Compliance with the regulations described in Section 4.6.1.6 above, including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code Division 20, Chapter 6.5, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, are mandatory and they would ensure that the proposed project would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials by ensuring that these materials would be properly handled during construction of the proposed project. Therefore, this impact would be **less than significant**.

Threshold 4.6.2: Accidental Release of Hazardous Materials. The public and/or the environment could be affected by the release of hazardous materials from the project site into the environment if: 1) leakage, spills, or improper disposal of hazardous materials would occur during construction of the project; or 2) the project would expose construction workers, the public, future users of the project site, or the environment to potentially contaminated soil or groundwater during construction or operation of the proposed project.

Spills, Leaks, or Improper Disposal of Hazardous Materials. An accidental release of hazardous materials (e.g., oils, fuels, solvents, paints, or contaminated soil) during project construction could result in exposure of construction workers, the public, and/or the environment to hazardous materials. As discussed above, the proposed project would be subject to the requirements of the Construction General Permit, which requires preparation and implementation of a SWPPP to reduce the risk of spills or leaks from reaching the environment, including procedures to address minor spills of hazardous materials. Measures to control spills, leakage, and dumping must be addressed through structural as well as nonstructural best management practices (BMPs), as required by the Construction General Permit. For example, equipment and materials for cleanup of spills must be available on site, and spills and leaks must be cleaned up immediately and disposed of properly. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

As discussed above, the transportation of hazardous materials is subject to both RCRA and DOT regulations. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill), and is responsible for the discharge cleanup.

Compliance with existing regulations regarding the management of hazardous materials, as discussed above and under Threshold 4.8.1 would ensure that potential impacts related to spills, leaks, or improper disposal of hazardous materials that would be routinely handled during construction of the project would be **less than significant**.

Soil and Groundwater Contamination. As discussed under Section 4.6.1 above, the Phase I ESA identified two features of potential environmental concern: the Niles Canyon Railway and Union Pacific Railroad and the Mission Clay Products Site. These two features are described further below.

- **Niles Canyon Railway and Union Pacific Railway.** Two railroad tracks, Niles Canyon and Union Pacific, extend through Niles Canyon parallel to the project corridor, such that at some locations, the project corridor may be within 20 feet of railroad tracks. Niles Canyon Railway has operated since 1869, and the Union Pacific Railroad has operated since 1909. Railroads are commonly associated with the presence of lead, arsenic, TPH, and PNAs.
- **Mission Clay Products.** Mission Clay Products, a pottery clay mining facility, was first developed in 1907. Two fuel oil vaults and two underground storage tanks were installed at the facility over time. These vaults and tanks were removed in 1987 to 2000, along with 15,593 tons of soil impacted with TPH. Additional excavations were conducted in 2019 in areas where soil and groundwater were still impacted. Small amounts of floating petroleum hydrocarbons (less than 2 inches in diameter) that resembled degraded crude oil were observed in a seasonal isolated channel near the Alameda Creek. Soil was excavated and about 3.6 million gallons of TPH-impacted groundwater were pumped from the excavations and treated until no TPH remained. The area near the railroad track was treated with PersolOx, a chemical oxidizer. The project corridor may traverse this section of the Mission Clay site and with the groundwater plume that extends from the Mission Clay site to Alameda Creek.

The disturbance of contaminated soil or groundwater during construction activities could result in impacts to construction workers, the public, and the environment as dust or vapors containing hazardous materials can be released into the environment, movement of contaminated soil can spread contamination to new areas, and construction of landscaping (and in particular stormwater treatment/infiltration features) over areas of contaminated soil or groundwater could increase the leaching of contaminants from soil into groundwater or the migration of contaminated groundwater. Therefore, the potential release of subsurface hazardous materials into the environment during construction and operation of the project would be a **potentially significant** impact.

Impact HAZ-1: Subsurface hazardous materials may be released into the environment during construction of the project.

As described above, soils and groundwater along the project corridor could contain contaminants associated with historic railroad construction and operations and TPH-impacts soil and groundwater associated with the historic uses of the Mission Clay property. Implementation of Mitigation Measures HAZ-1a and HAZ-1b, described below, would reduce the potential health hazard impacts from the exposure of construction workers to contaminated material present in soil and groundwater.

Mitigation Measure HAZ-1a Prior to construction, a Phase II Environmental Site Assessment (Phase II ESA) shall be performed to address potential contamination associated with the adjacent railroads. The Phase II ESA shall be conducted by a California Professional Geologist and/or a California Professional Civil Engineer with experience in contaminated site investigation. Soil samples shall be collected from proposed construction areas in proximity to the railroad tracks.

Representative samples of shallow soils shall be collected from locations within the project corridor nearest the railroad tracks and analyzed for Title 22 metals, lead, TPH, PNAs, and chlorinated herbicides. It is anticipated that 4 to 8 discrete samples, from the locations nearest the railroad tracks (Phases 2 and 3), would be sufficient to determine if contaminants from the railroad tracks have migrated and affected shallow soils within the project corridor.

Soil analytical results should be screened against the Regional Water Quality Control Board's Environmental Screening Levels (ESLs) to determine appropriate actions to ensure the protection of construction workers and shall also be screened against hazardous waste thresholds to determine soil management options.

Based on the findings of the Phase II ESA, site-specific soil and groundwater management and disposal procedures for hazardous materials may need to be implemented, as well as construction worker health and safety measures during construction. Recommendations for any site-specific management and disposal procedures should be included in the Phase II ESA.

Mitigation Measure HAZ-1b

Prior to construction, a project-specific Soil Management Plan (SMP) shall be prepared by a qualified hazardous materials consultant to address contaminants known to occur on within the project site. The SMP must establish remedial measures and/or soil and groundwater management practices to protect construction workers, the general public, and the environment from subsurface hazardous materials during construction. The SMP shall characterize the soil, delineate areas of known soil contamination, and identify soil (and groundwater, if encountered) management options for excavated soil and dewatered groundwater (if applicable), in compliance with local, state, and federal statutes and regulations. The SMP shall: 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during project excavation activities; 2) require the preparation of a project-specific Health and Safety Plan that identifies hazardous materials present, if any, describes required health and safety provisions and training for all workers potentially exposed to hazardous materials in accordance with state and federal worker safety regulations, and designates the personnel responsible for Health and Safety Plan implementation. The SMP shall be submitted to Alameda County for review and approval prior to construction activities. Once approved the SMP shall be implemented during construction of the proposed project.

Implementation of Mitigation Measures HAZ-1a and HAZ-1b would ensure that subsurface contamination on the project site would be properly investigated and remediated, and the risk of subsurface hazardous materials being released into the environment during construction of the project would be **less than significant with mitigation**.

Threshold 4.6.3: Hazardous Emissions within 0.25-Mile of Schools. As discussed under Section 4.6.1.6 above, four schools are within 0.25 mile of the project corridor. As described above, the proposed project would not require the routine use, transport or disposal of hazardous materials. Construction activities associated with trail construction could release hazardous materials contained in soils or groundwater along the project alignment. However, compliance with the existing hazardous materials regulation described under Section 4.6.1.6 above (e.g., Alameda County’s CUPA Programs, OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, BAAQMD, and other federal, State, regional, and local regulations) and implementation of Mitigation Measure HAZ-1a and HAZ-1b would ensure that potential impacts related to hazardous emissions within 0.25 mile of schools as a result of the project would be **less than significant with mitigation**.

Threshold 4.6.4: Government Code Section 65962.5. The project site is not included on the lists of hazardous material release sites compiled pursuant to Government Code Section 65962.5, also known as the “Cortese List”.¹³⁶ Therefore, the proposed project would not result in impacts related to inclusion on a list of hazardous materials release sites compiled pursuant to Government Code Section 65962.5. However, portions of the project corridor are adjacent to existing railways and may traverse an area of identified groundwater contamination. As described above, disturbance of contaminated soils and groundwater associated with project grading/ construction could expose construction workers and the public to these hazardous materials. Implementation of Mitigation Measures HAZ-1a and HAZ-1b would reduce impacts to **less than significant with mitigation**.

Threshold 4.6.5: Aviation Hazards. As discussed under Section 4.6.1.4 above, the nearest airports to the project site are Livermore Municipal Airport, 7.7 miles northeast of the project site, and the Hayward Executive Airport, approximately 10 miles northwest of the project site. The project site is not within the land use plan area for either Livermore Municipal Airport¹³⁷ or Hayward Executive Airport¹³⁸ and is not within 2 miles of a public airport or public use airport. Given the distances from the project site to the nearest public or public use airports and because the proposed project would consist of a multi-use trail and associated improvements for recreational uses and not include any tall structures, the project would not be subject to any airport safety hazards and would not have an adverse effect on aviation safety or flight patterns. Therefore, the proposed project would have **no impact** related to aviation hazards.

¹³⁶ Engeo. 2023. Alameda County Public Works Niles Canyon Trail Project Fremont, California, Phase I Environmental Site Assessment. July 20.

¹³⁷ Alameda County Community Development Agency. 2012a. Livermore Executive Airport, Airport Land Use Compatibility Plan. August.

¹³⁸ Alameda County Community Development Agency. 2012b. Hayward Executive Airport, Airport Land Use Compatibility Plan. August.

Threshold 4.6.6: Emergency Response and Evacuation Plans. The County of Alameda adopted the Countywide EOP in December 2012.¹³⁹ The EOP does not designate specific roadways as evacuation routes and instead empowers law enforcement resources to designate evacuation scheduling and routes in the event of an emergency. The proposed trail would intersect with various roadways that could serve emergency response and evacuation routes including Niles Boulevard, Mission Boulevard, Niles Canyon Road, Old Canyon Road, Palomares Road, and Foothill Road. The proposed project would not impact these roadways with the exception that it may require temporary closures of Niles Boulevard for construction activities within the Niles Boulevard right-of-way. Traffic control requirements imposed by the County of Alameda for the permitting of temporary closure of street areas, such as detour signs directing vehicular traffic to use alternate routes in the event of an emergency, would ensure that appropriate emergency access is maintained to the project site and surrounding areas at all times during construction activities.

Access to the proposed trail would be provided via the existing Niles Staging Area, the Niles Plaza parking area, the proposed Palomares Road staging area, Tyler Ranch staging area and the Vallejo Mill Park parking area. All of these facilities are served by public streets that could be accessed by emergency vehicles and personnel. Implementation of the proposed project would result in the addition of a multi-use trail along the Niles Canyon corridor. However, the trail would be separated from Niles Canyon Boulevard, and vehicular traffic would not be permitted on the trail, with the exception of maintenance vehicles and emergency response vehicles, as needed. Therefore, the project would have a **less-than-significant impact** related to interfering with emergency response and evacuation.

Threshold 4.6.7: Wildland Fire. The portion of the project corridor east of Dead Cow Curve (e.g., the easternmost segment of Phase 2 and most of Phase 3) is in an SRA for fire hazards, as mapped by CAL FIRE.¹⁴⁰ Most of this area is designated as a Very High Hazard Severity Zone. The western portion of the trail alignment (e.g., Niles District Extension, Phase 1 and the westernmost portion of Phase 2) is in a Local Responsibility Area for fire hazards but is not designated as a Very High Hazard Severity Zone. Additionally, the Safety Element of the City of Fremont General Plan identifies the project area as a Fire Hazard Severity Zone, indicating this area is prone to a higher exposure to wildfires and has limited Fire Department access.¹⁴¹

The proposed project does not involve construction of residential or commercial structures or any other structures for human occupation. Although the proposed trail would provide additional access to undeveloped hillsides and woodlands, which would increase the risk of human-caused wildland fire, people would use the trail for a limited duration of time and would not expose a substantial number of people for an extended period of time to wildland fire hazards, compared to a residence or office. The increased risk of human-caused wildland fire associated with trail users would not be significant and would not change the existing identified wildfire hazard levels. The proposed project would provide improved access for pedestrian and bicycle movement through the project corridor

¹³⁹ Alameda County Sheriff's Office of Homeland Security and Emergency Services. 2012. *Alameda County Emergency Operations Plan*. December.

¹⁴⁰ California Board of Forestry and Fire Protection. 2020. State Responsibility Area Viewer. Website: bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer (accessed June 23, 2020).

¹⁴¹ City of Fremont. 2011. City of Fremont General Plan 2030. Safety Element. December.

and trail use would be consistent with County of Alameda regulations, which prohibit fires along public trails. Therefore, operation of the proposed trail would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. This impact would be **less than significant**.

However, construction of the project would use construction equipment that could generate sparks and storage and use of flammable/combustible materials (e.g., fuel) that would temporarily increase fire risks. This is a **potentially significant** impact.

Impact HAZ-2: Construction of the proposed project could temporarily increase fire risks, thereby exposing people or structures to a significant risk of loss, injury, or death involving wildland fires.

During construction, the most likely source of ignition would be by mechanical activities such as operation of backhoes, mini excavators, or rolled compactors. 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 arrestors 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 onsite for various types of work in fire-prone areas. Due to the abundance of dry vegetation in and surrounding the project area, there is a risk of a wildland fire occurrence at the site, if regulatory requirements are not properly implemented during construction. Implementation of Mitigation Measure HAZ-2 would reduce the potential for construction activities to cause a wildland fire to a less-than-significant level.

Mitigation Measure HAZ-2

Alameda County shall ensure that appropriate measures be taken to minimize the risk of fire during construction activities. Specifically, Alameda County shall require that all fire safety regulations cited in the California Public Resources Code be incorporated into construction bid documents and contracts for the project, including regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors 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 onsite for various types of work in fire-prone areas. BMPs shall be implemented during construction to reduce the potential for accidental spills or fires involving the use of hazardous materials.

Implementation of Mitigation Measure HAZ-2 would ensure that the potential for wildland fires to occur either during project construction or operation would be reduced to the extent feasible; therefore, this impact would be **less than significant with mitigation**.

4.6.2.3 Cumulative Impacts

This section evaluates cumulative impacts related to hazards and hazardous materials. This cumulative analysis examines the effects of the project in the relevant geographic area in combination with buildout of the General Plan. Cumulative impacts are addressed only for those thresholds that would result in a project-related impact, whether it be less than significant or less than significant with mitigation. If the project would result in no impact with respect to a particular threshold, (e.g., aviation) it would not contribute to a cumulative impact and, therefore, no further discussion of cumulative effects related to these topics is required.

Occurrence of a cumulative effect related to hazardous materials would require that multiple projects release hazardous materials at the same time near each other; therefore, the geographic area of concern for cumulative hazardous materials related impacts is the project site and nearby areas. The project and cumulative projects would involve the routine use of hazardous materials during construction. Required compliance with existing hazardous materials regulations including OSHA and Cal/OSHA regulations, the California Fire Code, the California Health and Safety Code, CCR, DOT, RCRA, and other federal, State, regional, and local regulations, would ensure that the project and cumulative projects would not create a significant hazard to the public or the environment associated with the routine transport, use, or disposal of hazardous materials or accidental spills, leaks, or improper disposal of hazardous material by ensuring that these materials are properly handled during construction.

The project site has known and potential unidentified subsurface contamination from hazardous materials, and cumulative projects taking place under General Plan buildout may also have subsurface contamination from hazardous materials. Implementation of Mitigation Measures HAZ-1a and HAZ-1b would ensure that subsurface contamination on the project site would be properly investigated and remediated. Therefore, the project would not result in cumulatively considerable impacts related to the routine transport, use, or disposal of hazardous materials or accidental release of hazardous materials into the environment, including hazardous emissions near schools, and this cumulative impact would be **less than significant**.

Occurrence of a cumulative effect related to wildland fire risk would require that multiple projects expose people or structures to significant risks. Compliance with Mitigation Measure HAZ-2 would ensure that potential construction period impacts associated with wildland fire would be less than significant. Therefore, the potential for impacts associated with hazardous materials releases or wildland fire from the proposed project to combine with impacts associated with hazardous materials releases or wildland fire from other sites is not cumulatively considerable. This cumulative impact would be **less than significant**.

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4.7 HYDROLOGY AND WATER QUALITY

This section describes the hydrologic conditions on and adjacent to the project site and evaluates potential impacts to surface and groundwater resources associated with the project. The proposed project's impacts to hydrology and water quality are evaluated based on the proposed project's adherence to local, regional, State, and federal standards; the proposed land uses and project design; changes in pre- and post-project stormwater flows; and proposed best management practices (BMPs) for control of surface runoff and reduction of pollutants in storm water runoff.

4.7.1 Setting

This subsection describes the existing hydrological setting within the project area. For the purposes of this analysis, the study area for hydrology and water quality includes the groundwater basins and watersheds that the project corridor traverses.

4.7.1.1 Climate

The climate of the San Francisco Bay Area is characterized as Mediterranean, with cool, wet winters and warm, dry summers. The mean annual rainfall in the vicinity of the project area, for the period between 1900 and 1960, was approximately 18 inches in the western project area and 22.5 inches in the central and eastern project area¹⁴² with rainfall occurring primarily from November through March. Analysis of long-term precipitation records indicates that wetter and drier cycles lasting several years are common in the region.

4.7.1.2 Surface Waters and Drainage

The project corridor is primarily within the Lower Alameda Creek subwatershed, which is part of the larger Alameda Creek Watershed, and a small portion of the eastern tip of the project corridor is within the Arroyo de la Laguna subwatershed, which is part of the larger Arroyo de la Laguna Watershed). The Alameda Creek watershed is 660 square miles, including 41 square miles within Alameda County, and is the largest watershed in the San Francisco Bay Area. Alameda Creek runs parallel to the project site and is a major creek within the watershed. The creek's tributaries originate at Mount Hamilton to the south, the Diablo Range to the north, and Altamont Pass in the east. Alameda Creek enters Niles Canyon in Sunol and runs along State Route (SR) 84 for approximately 5 miles then drains into the engineered Alameda County Flood Control (ACFC) Channel. The ACFC Channel is 12 miles long and originates near the Niles Staging Area where a small concrete weir marks the line between the flood control channel and natural creek. The engineered flood control channel was constructed in stages over the 1960s and early 1970s by the United States Army Corps of Engineers (USACE) to reduce flooding in Fremont and Newark. Upon entering the City of Fremont some of the water from the ACFC Channel is diverted to the Alameda County Water District's Quarry Lakes facility to recharge the groundwater basin. The remainder of the water

¹⁴² CAL FIRE. n.d. *Forest Practice Watershed Mapper v2*. Website: https://egis.fire.ca.gov/Watershed_Mapper/ (accessed May 31, 2023).

empties into San Francisco Bay near the Fremont/Union City boundary, approximately 9 miles west of the project site.^{143,144}

For planning purposes, the San Francisco Bay Regional Water Quality Control Board (RWQCB) uses a watershed classification that divides surface waters into hydrologic units, areas, and subareas. As designated by the San Francisco RWQCB, the project site is located in the South Bay hydrologic unit and the Alameda Creek and East Bay Cities hydrologic areas.

4.7.1.3 Surface Water Quality

As previously discussed, receiving waters include Alameda Creek and Lower San Francisco Bay. Pursuant to Section 303(d) of the Clean Water Act, the San Francisco Bay RWQCB has listed Alameda Creek as an impaired waterbody on the 2020-2022 Integrated Report (Clean Water Act Section 303(d) List 305(b) Report) for diazinon. Lower San Francisco Bay is listed as impaired for chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, dioxin compounds (including 2,3,7,8-TCDD), furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), PCBs (dioxin-like), and trash.¹⁴⁵

4.7.1.4 Groundwater Basin and Groundwater Quality

Portions of the western end of the project corridor are underlain by the Niles Cone Groundwater Subbasin of the larger Santa Clara Valley Groundwater Basin and portions of the eastern end of the trail alignment are underlain by the Sunol Valley Groundwater Basin.

The Niles Cone Groundwater Subbasin has a surface area of 65,800 acres (103 square miles) and is bounded on the south by the Alameda-Santa Clara County boundary, to the east by the Diablo Range, and on the west by San Francisco Bay. Alameda Creek, the principal stream in the Niles Cone Groundwater Subbasin, flows near the eastern and northern margins of the Niles Cone Groundwater Subbasin and Coyote Creek flows along the southern margin of the basin. Average precipitation within the basin is about 18 inches annually. The Niles Cone Groundwater Subbasin is composed chiefly of the alluvial fan Alameda Creek forms as it exits the Diablo Range and flows towards the San Francisco Bay. The Hayward fault cuts across the apex of the Niles Cone Alluvial fan, which impedes the westward flow of groundwater and separates the basin into two zones, one above the fault, where the project site is located, and one below it. There are large differences in water levels on either side of the fault, demonstrating the fault is relatively impermeable. The area on the east side of the Hayward fault is composed of highly permeable sediments referred to as the Above

¹⁴³ Alameda County Flood Control and Water Conservation District, 2017. Alameda Creek Watershed. Website: www.acfloodcontrol.org/resources/explore-watersheds/alameda-creek-watershed (accessed May 31, 2023).

¹⁴⁴ City of Fremont, 2011. *2030 General Plan Conservation Element*. Website: <https://www.fremont.gov/government/departments/community-development/planning-building-permit-services/plans-maps-guidelines/general-plan> (accessed May 31, 2023).

¹⁴⁵ State Water Resources Control Board. 2023. *California 2020-2022 Integrated Report (303(d) List/305 (b) Report, Appendix A: Proposed Final 2020-2022 303(d) List*. Website: https://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/impaired_waters_list/ (accessed May 31, 2023).

Hayward Fault (AHF) Aquifer. The AHF Aquifer is both unconfined and confined due to the presence of local low permeability layers.¹⁴⁶

The Alameda County Water District (ACWD) has managed the Niles Cone Groundwater Subbasin for more than 100 years and the basin has historically supplied between 30 and 62 percent of ACWD's water supply, depending upon seasonal and annual demand requirements. Sources of recharge for the basin include runoff from the Alameda Creek Watershed, deep percolation of precipitation, and applied water from the State Water Project. Recharge capability has been improved by developing recharge ponds and increasing percolation capacity in abandoned gravel quarries. Data from ACWD's primary AHF Aquifer indicator well quantified a decrease in water elevation from 37.58 feet in fall 2020 to 30.55 feet in fall 2021. The AHF Aquifer water quality is considered acceptable for potable use; however, groundwater in certain areas of the aquifers below the Hayward fault, referred to as the Below Hayward Fault (BHF) Aquifer has been degraded by saltwater intrusion due to over-pumping in the 1920s. To combat saltwater intrusion within the BHF aquifers, ACWD has implemented artificial recharge by constructing inflatable dams in Alameda Creek and increasing percolation capacity in abandoned gravel quarries, and an Aquifer Reclamation Program consisting of pumping out entrapped saltwater to the Newark Desalination Facility of San Francisco Bay.¹⁴⁷

The Niles Cone Groundwater Subbasin is subject to the Sustainable Groundwater Management Act (SGMA) and has been prioritized as medium priority, thereby requiring the development of a Groundwater Sustainability Plan for the subbasin. ACWD is identified within SGMA as an agency created by statute to manage groundwater and deemed to be the exclusive local agency within its statutory boundaries to comply with SGMA. ACWD has developed an Alternative to a Groundwater Sustainability Plan for the management of the subbasin that preserves and continues the successful sustainable groundwater management already being performed by ACWD. The California Department of Water Resources approved ACWD's Alternative for the Niles Cone Groundwater Subbasin on July 17, 2019.¹⁴⁸

The Sunol Valley Groundwater Basin (Number 2-11) has a surface area of 16,623 acres (30 square miles), is surrounded by the hills of the Diablo Range, and is cut by several faults including the Calaveras, Verona, Las Positas and Williams. Mean annual precipitation in the basin ranges from 17 to 20 inches. The floor of the Sunol Valley is made up of water-bearing formations that consist of deposits ranging in age from Late Pliocene to Recent that yield adequate to large quantities of groundwater to wells. Data from 18 monitoring wells in the Sunol Valley indicate that shallow groundwater typically occurs 20 to 30 feet below the ground surface. Recharge occurs by infiltration of surface water along Arroyo de la Laguna and Alameda, San Antonio, and Vallecitos creeks. The quality of water produced ranges from poor to excellent, with most water in the good to excellent range. The quality of water is generally suitable for irrigation but high nitrate levels in some shallow

¹⁴⁶ California Department of Water Resources. 2006. *Santa Clara Valley Groundwater Basin, Niles Cone Subbasin, California's Groundwater Bulletin 118*. January 20.

¹⁴⁷ Alameda County Water District. 2022. *2021 Groundwater Monitoring Report*. February 4.

¹⁴⁸ ACWD. *Sustainable Groundwater Management Act*. <https://www.acwd.org/566/Sustainable-Groundwater-Management-Act> (accessed May 31, 2023).

wells indicate possible degradation from surface sources.¹⁴⁹ The Sunol Valley groundwater basin is designated as very low priority and is not currently a part of active Sustainable Groundwater Management Act (SGMA) planning. The basin is managed by Zone 7 Water Agency and the agency is gathering information for the eventual groundwater sustainability plan for this basin.¹⁵⁰

4.7.1.5 Flooding

The majority of the project corridor runs along Alameda Creek, and portions of the project corridor are located within the 100-year flood hazard area as mapped by the Federal Emergency Management Agency (FEMA). Small sections of the project corridor would be in the 1 percent annual chance flood hazard zone and eastern portions of the project corridor would be within a regulatory floodway.¹⁵¹

Much of Alameda County lies within a floodplain and experienced destructive flooding through the 1950s and 1960s. The Alameda County Flood Control and Water Conservation District (ACFCD) was created in 1949 to provide flood protection and protect water resources. ACFCD now maintains and operates a variety of flood control infrastructure across Alameda County, including pump stations, erosion control structures, pipeline, channels, levees, and creeks to protect water resources and prevent flooding. The ACFC Channel discussed in Section 4.7.1.2 is part of ACFCD infrastructure and has greatly reduced flooding occurrence and risk in Fremont and within the proposed project area.

California Department of Water Resources has developed inundation maps that show flooding that could result from a hypothetical failure of a dam or its critical appurtenant structure. The project site is within the mapped dam failure inundation zone for the James H. Turner dam, the Del Valle dam, and the New Calaveras, No. 10-27 dam.¹⁵² The James H. Turner dam is approximately 2.5 miles southeast of Sunol and creates San Antonio Lake, which has a storage capacity of 53,266 (plus or minus 140) acre-feet¹⁵³. The Del Valle dam is approximately 8 miles east of Sunol and has a storage capacity of 77,100 acre-feet. The New Calaveras, No. 10-27 dam is approximately 7.5 miles southeast of Sunol and creates the Calaveras Reservoir, which has a storage capacity of approximately 97,000 acre-feet. The James H. Turner and New Calaveras dams are owned by the City and County of San Francisco, are maintained/operated by the San Francisco Public Utilities Commission and are under the regulatory jurisdiction of the California Department of Water

¹⁴⁹ California Department of Water Resources. 2014. *Sunol Valley Groundwater Basin, California's Groundwater Bulletin 118*. June 30. Website: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/2_011_SunolValley.pdf (accessed May 31, 2023).

¹⁵⁰ Zone 7 Water Agency. n.d. *Groundwater Management*. Website: <https://www.zone7water.com/groundwater-management> (accessed May 31, 2023).

¹⁵¹ Federal Emergency Management Agency. 2009. *Flood Insurance Rate Map (FIRM), Alameda County and City of Fremont, California, Map Numbers 06001C0455G and 06001C0460G*. August 3.

¹⁵² California Department of Water Resources Division of Safety and Dams. n.d. *California Dam Breach Inundation Maps*. Website: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2 (accessed May 31, 2023).

¹⁵³ United States Geological Survey. 2018. *Storage Capacity and Sedimentation Characteristics of the San Antonio Reservoir, California, 2018*. Website: <https://pubs.er.usgs.gov/publication/sir20195151> (accessed May 31, 2023).

Resources, Division of Safety of Dams. The Del Valle dam is owned by California Department of Water Resources, operated by East Bay Regional Park District as part of Del Valle Regional Park, and is under the regulatory jurisdiction of the California Department of Water Resources, Division of Safety of Dams.

4.7.1.6 Coastal Hazards

The elevation of the project area, which ranges from approximately 70 to 250 feet above mean sea level and its distance from the San Francisco Bay (approximately 8 miles) provides protection from coastal hazards, such as sea level rise, seiche, tsunami, or extreme high tides, all of which tend to present hazards for sites at lower elevations. Each of these coastal hazards is described in greater detail below.

Sea Level Rise. The Earth has gone through several cycles of cooling and warming over recent geologic time, resulting in periods of glaciation with an associated sea level lowering, and climate warming with sea level rise. The most recent cycle of global climate change is a warming trend of the Earth's atmosphere (an increase of approximately 1.5 degrees Fahrenheit between 1880 to 2012), which has resulted in sea level rise.¹⁵⁴ Rates of sea level rise may vary at specific locations as local subsidence or uplift affects the relative change in sea level between land masses and the ocean. In the San Francisco Bay Area, the background rate of sea level rise has been estimated to be 0.077 inch per year from 1897 to 2017.¹⁵⁵ Although the rate of increase cannot be known with certainty, several projections predict a rise in sea level between about 20 inches and 80 inches by 2100.¹⁵⁶ Under medium-high climate-warming scenarios, the mean sea level along the California coast is projected to rise about 55 inches by 2100. A shoreline vulnerability assessment performed by the San Francisco Bay Conservation and Development Commission identifies shoreline areas that could be exposed to sea level rise projections of 16 inches by 2050 and 55 inches by 2100.¹⁵⁷ The project site ranges from 70 to 250 feet above mean sea level and would not be directly affected by a 16-inch sea level rise or a 55-inch sea level rise.¹⁵⁸

Seiche. A seiche is the oscillation of a body of water. Seiches occur most frequently in enclosed or semi-enclosed basins such as lakes, bays, or harbors. They can be triggered in an otherwise still body of water by strong winds, changes in atmospheric pressure, earthquakes, tsunamis, or tides. Triggering forces that set off a seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin. Coastal measurements of sea level often show seiches with amplitudes of a few centimeters and periods of a few minutes due to oscillations of the local harbor,

¹⁵⁴ Intergovernmental Panel on Climate Change (IPCC), 2014. *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. Geneva: IPCC.

¹⁵⁵ National Oceanic & Atmospheric Administration, 2018. *Mean Sea Level Trend (station) 9414290 San Francisco, California*. Website: https://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?id=9414290 (accessed May 31, 2023).

¹⁵⁶ Knowles, Noah, 2010. *Potential Inundation Due to Rising Sea Levels in the San Francisco Bay Region*. *San Francisco Estuary and Watershed Science* 8(1). U.S. Geological Survey.

¹⁵⁷ San Francisco Bay Conservation and Development Commission, 2011. *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline*, October 6.

¹⁵⁸ Ibid.

estuary, or bay, superimposed on the normal tidal changes. Seiches are not considered a hazard in San Francisco Bay because of the bay's long periods and overtones.¹⁵⁹

Tsunami. Tsunamis are long-period water waves caused by underwater seismic events, volcanic eruptions, or undersea landslides. Tsunamis affecting the San Francisco Bay Area would originate west of the Bay in the Pacific Ocean. Areas that are highly susceptible to tsunami inundation tend to be low-lying coastal areas, such as tidal flats, marshlands, and former Bay margins that have been artificially filled. Inundation or damage caused by a tsunami may disrupt highway traffic in those low-lying areas. Tsunamis entering San Francisco Bay through the relatively narrow Golden Gate would tend to dissipate as the energy of the wave spreads out as the Bay becomes wider and shallower.¹⁶⁰

The California Department of Conservation has developed California Tsunami Hazard Area Maps based primarily on inundation limits corresponding to a 975-year average return period tsunami event model. According to California Department of Conservation's California Tsunami Maps and Data, the entirety of the project site is outside of a tsunami hazard area.¹⁶¹

Extreme High Tides. Extreme high tides in San Francisco Bay result from the combined effects of astronomical high tides (related to the lunar cycle) and other factors, including winds, barometric pressure, ocean temperatures, and freshwater runoff. In California, the highest astronomical tides occur in the summer and winter, and therefore extreme high tides are most likely to occur during these times. Based on the 54-year record of annual high tide for the South Bay, FEMA estimated a 100-year high tide elevation for various tide stations around the South Bay (an extreme high tide with a probability of occurrence every 100 years). The elevation of the estimated 100-year tide at the Coyote Creek tide station, the nearest station to the project site, is 11.32 feet National Geodetic Vertical Datum, which is below the ground surface elevation of the project site.¹⁶²

4.7.1.7 Regulatory Context

Federal, State, and local laws, regulations, orders, programs, and plans relevant to hydrology and water resources that may be affected by the proposed project are presented below.

Federal Regulations. Federal regulations governing hydrology and water quality include the Clean Water Act, National Pollutant Discharge Elimination System (NPDES) Permit Program, and Insurance Program.

Federal Clean Water Act of 1972. In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States from any point source unlawful unless the discharge is in compliance with a NPDES permit. Known today as the

¹⁵⁹ Borrero, J., L. et al., 2006. *Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay*. Prepared for the Marine Facilities Division of the California State Lands Commission. June 8.

¹⁶⁰ Borrero, J., L. et al., 2006. *Numerical Modeling of Tsunami Effects at Marine Oil Terminals in San Francisco Bay*. Prepared for the Marine Facilities Division of the California State Lands Commission. June 8.

¹⁶¹ California Department of Conservation. 2021. *California Tsunami Maps and Data*. <https://www.conservation.ca.gov/cgs/tsunami/maps> (accessed May 31, 2023).

¹⁶² AECOM. 2016. *San Francisco Bay Tidal Datums and Extreme Tides Study*. February.

Clean Water Act (CWA), Congress has amended it several times. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the United States, to obtain certification from the state that the discharge will comply with other provisions of the act. (Most frequently required in tandem with a Section 404 permit request.)
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. RWQCBs administer this permitting program in California.
- Section 402(p) requires permits for discharges of storm water from industrial/construction and Municipal Separate Storm Sewer Systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the USACE.

EPA regulations require NPDES permits for discharges of stormwater from industrial/construction and MS4s. To comply with the permits, stormwater pollution controls must be implemented for construction and industrial activity that discharges either directly to surface waters or indirectly through separate municipal storm drains. Pollution control is achieved by establishing engineering measures that have been designed, tested, and successfully implemented throughout the past decades, such as detention basins and sediment traps, during both the construction period and the operational phases of a project. In California, the RWQCBs administer the NPDES permitting program.

The CWA requires states to adopt water quality standards for waterbodies and have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular waterbody (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses. Water quality criteria are set concentrations or levels of constituents (e.g., lead, suspended sediment, and fecal coliform bacteria) or narrative statements that represent the quality of water that support a particular use. Because California had not established a complete list of acceptable water quality criteria for toxic pollutants, the EPA Region IX established numeric water quality criteria for toxic constituents in the form of the California Toxics Rule.

When designated beneficial uses of a particular waterbody are compromised by water quality, Section 303(d) of the CWA requires identifying and listing that waterbody as impaired. Once a waterbody has been deemed impaired, a total maximum daily load (TMDL) must be developed

for each impairing water quality constituent. A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a waterbody may receive without exceeding applicable water quality standards (often with a “factor of safety” included, which limits the total load of pollutants to a level well below that which could cause the standard to be exceeded). Once established, the TMDL is allocated among current and future dischargers into the waterbody.

Direct discharges of pollutants into waters of the United States are not allowed except in accordance with the NPDES program established in Section 402 of the CWA.

Clean Water Act, Section 303, List of Impaired Water Bodies. The State Water Resources Board (SWRCB), in compliance with Section 303(d) of the CWA, prepared 2020/2022 proposed list of impaired waterbodies in California. The SWRCB approved the 2020/2022 California Integrated Report (CWA Section 303(d) List/305(b) Report) on May 11, 2022. The 303(d) list includes a priority schedule for the development of TMDL implementation for each contaminant impacting the waterbody.

Alameda Creek is listed on the 303(d) list as impaired for diazinon. Lower San Francisco Bay is listed as impaired for chlordane, DDT, dieldrin, dioxin compounds (including 2,3,7,8-TCDD), furan compounds, invasive species, mercury, PCBs, PCBs (dioxin-like), and trash.¹⁶³

Pursuant to Section 404 of the CWA, the USACE regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the waterbody in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditionally navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in the USACE regulations). The USACE typically regulates as non-wetland waters of the United States any body of water displaying an ordinary high water mark. To be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied for that particular wetland characteristic to be met. A project-specific discussion regarding Section 404 issues is provided in Section 4.3, *Biological Resources*.

National Flood Insurance Program. Beginning with the Flood Control Act of 1936, Congress assigned the USACE the responsibility for flood control engineering works and later for floodplain information services. Flood control was provided through the construction of dams and reservoirs. Despite these programs and rapidly rising federal expenditures for flood control, flood losses continued to rise. In 1968, Congress passed the National Flood Insurance Act, which created the National Flood Insurance Program. The Flood Disaster Protection Act of 1973, which

¹⁶³ State Water Resources Control Board. *California 2020-2022 Integrated Report (303(d) List/305 (b) Report, Appendix A: Proposed Final 2020-2022 303(d) List*). Website: https://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/impaired_waters_list/ (accessed May 31, 2023).

amended the 1968 Act, required the purchase of flood insurance by property owners who were located in special flood hazard areas and were being assisted by federal programs, or by federally supervised, regulated, or insured agencies or institutions.

National Flood Insurance Program Reform Act of 1994. In 1994, the National Flood Insurance Program Reform Act went through its first major revision since its inception. This revision included provisions that if a lender were to escrow an account and if the structure were in the floodplain, then the lender *must* escrow for flood insurance. The revised legislation also included increased flood insurance limits and the elimination of the 1962 buy-out program. However, the legislation did initiate the Hazard Mitigation Fund as part of the flood insurance policy. This legislation also included the increase from a 5-day to a 30-day waiting period for a new policy to become effective. It also prohibits the waiver of flood insurance purchase requirements as a condition of receiving federal disaster assistance. If the flood insurance policy were not maintained, in the event of another disaster, no disaster assistance would be made available for that structure.

State Regulations. State regulations applicable to the proposed project include the Porter-Cologne Action and State Implementation of Clean Water Act Requirements, the NPDES Construction General Permit, the Sustainable Groundwater Management Act, and the NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit).

Porter-Cologne Water Quality Control Act. California's Porter-Cologne Water Quality Control Act,¹⁶⁴ enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. It prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant."

Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the CWA. The SWRCB and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and for regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan.

RWQCBs designate beneficial uses for all waterbody segments in their jurisdictions and then set criteria necessary to protect these uses. The water quality standards developed for particular water segments vary depending on uses. Additionally, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of TMDLs. TMDLs

¹⁶⁴ Water Code §§13000 et seq.

specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

The NPDES General Permit¹⁶⁵ issued by the SWRCB applies to all construction activities that result in the disturbance of at least 1 acre of total land area, or activity that is part of a larger common plan of development of one acre or greater. The RWQCB regulates hydromodification¹⁶⁶ as well as surface and groundwater quality through adoption of water quality plans and standards, and issuance of water quality permits and waivers. The NPDES permit deals with both the construction phase and operational phase of development projects. For the construction phase of a project, the NPDES permit identifies the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

The implementation of NPDES permits ensures the State's mandatory standards for the maintenance of clean water and the federal minimum standards are met. Coverage under an NPDES permit regulates sedimentation and soil erosion through implementation of an SWPPP and periodic inspections by RWQCB staff. An SWPPP is a written document that describes the construction operator's activities to comply with the requirements in the NPDES permit. The SWPPP establishes a process whereby the operator evaluates potential pollutant sources at the site and implements BMPs designed to prevent or control the discharge of pollutants in storm water runoff.

Stormwater control measures during construction and grading will be outlined in the construction NPDES permit and SWPPP prepared for the project. Examples of such BMP control measures include but are not limited to:

- Temporary detention basins for runoff and silt containment
- Regular street sweeping and truck washing prior to exiting construction areas
- Covering of soil hauling trucks to minimize dust generation (and silt buildup on project roads)
- Dirt rockers at project exits to reduce soil transported out of construction areas
- Monitoring of runoff and protection devices during storm events
- Use of silt fencing, gravel bags, and/or straw bales to channel runoff to temporary basins
- Identification of emergency procedures in case of hazardous material spills

For all projects subject to the Construction General Permit (CGP), applicants are required to develop and implement an effective Water Quality Management Plan (WQMP); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the CGP. The purpose of a WQMP is to:

1. Identify all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with daily use/activity (storm water discharges) from the property site.

¹⁶⁵ NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ, NPDES No. CAS000002).

¹⁶⁶ Hydromodification is the alteration of the hydrologic characteristics of coastal and non-coastal waters, which, in turn, could cause degradation of water resources.

2. Identify non-storm water discharges.
3. Identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the property site.
4. Develop a maintenance schedule for BMPs designed to reduce or eliminate pollutants.

The project applicant will be required to obtain a construction NPDES permit prior to any site grading. In addition, the NPDES permit will require the identification of post-construction BMPs to be incorporated into the project-specific WQMP to control the post-construction entry of contaminants into storm flows.

California Fish and Game Code. The California Fish and Game Code has provisions to prevent unauthorized diversions of any surface water and discharge of any substance that may be deleterious to fish, plant, animal, or bird life. The California Department of Fish and Wildlife (CDFW), through provisions of the California Fish and Game Code¹⁶⁷ is empowered to regulate any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. The presence of a channel bed and banks, and at least an intermittent flow of water define streams (and rivers), is one of the most important factors in establishing CDFW jurisdiction. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW. Discussion of jurisdictional waters and riparian/wetland resources is provided in Section 4.3, *Biological Resources*.

Groundwater Management Act. The Groundwater Management Act¹⁶⁸ (Assembly Bill [AB] 3030) provides a systematic procedure for an existing local agency to develop a groundwater management plan. AB 3030 allows a local agency whose service includes a groundwater basin that is not already subject to groundwater management pursuant to law or court order to adopt and implement a groundwater management plan and includes plans to mitigate overdraft conditions, control brackish water, and to monitor and replenish groundwater.

Sustainable Groundwater Management Act of 2014 (Senate Bills 1168 and 1319, Assembly Bill 1739). In March 2014, the Governor's Office released a draft framework soliciting input on actions that can be taken to ensure local groundwater managers have the tools and authority to manage groundwater sustainably. In response, Senate Bill (SB) 1168 and AB 1739 were introduced. These bills moved through the legislation process in nearly identical form while the authors and administration convened multiple stakeholder meetings and further developed the provisions of the bills. On August 22, 2014, both bills were amended to divide the provisions between the two bills. In tandem, SB 1168 and AB 1739 provide a comprehensive groundwater sustainability management program.¹⁶⁹ In September 2014, SBs 1168 and 1319 and AB 1739 were enacted, amending and adding to the State's Government and Water codes relative to the

¹⁶⁷ California Fish and Game Code §§1601 through §1603.

¹⁶⁸ California Water Code, §§ Sections 10750–10756

¹⁶⁹ California Department of Water Resources. n.d. *Sustainable Groundwater Management Act of 2014*. Website: <https://water.ca.gov/programs/groundwater-management/sgma-groundwater-management> (accessed August 23, 2023.)

management of groundwater resources. The three bills comprise the Sustainable Groundwater Management Act of 2014 (SGMA). The SGMA provides for the formation of local groundwater sustainability agencies (GSAs), which are responsible for monitoring and sustainably managing groundwater basins.

California Toxics Rule. On May 18, 2000, the State Environmental Protection Agency (CalEPA) promulgated numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards to be applied to waters in the State of California. CalEPA promulgated this rule based on the Administrator's determination that the numeric criteria are necessary in California to protect human health and the environment. The rule fills a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. Thus, the State of California has been without numeric water quality criteria for many priority toxic pollutants as required by the CWA, necessitating this action by CalEPA. These federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA.

Regional and Local Agencies and Regulations. Regional and local agency regulations applicable to the proposed project are described below.

Water Quality Control Plan. The San Francisco Bay RWQCB has adopted a Water Quality Control Plan (Basin Plan)¹⁷⁰ for its region of responsibility, which is a master policy document for managing water quality issues in the San Francisco Bay region. The Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan (a) designates beneficial uses for surface and ground waters, (b) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and (c) describes implementation programs to protect all waters in the region. In addition, the Basin Plan incorporates (by reference) all applicable State and RWQCB plans and policies and other pertinent water quality policies and regulations.

For planning purposes, the San Francisco Bay RWQCB uses a watershed classification that divides surface waters into hydrologic units, areas, and subareas. As designated by the San Francisco Bay RWQCB, the project site is in the South Bay Hydrologic Unit and the Alameda Creek and East Bay Cities Hydrologic Areas.

Table 4.7.A, Descriptions of Beneficial Uses defines the beneficial uses included in the Basin Plan and provides a description of each use. Table 4.8.B, Beneficial Uses of Surface Receiving Waters shows the beneficial uses of surface receiving waters for the project site: Agricultural Supply (AGR); Groundwater Recharge (GWR); Industrial Service Supply (IND); Commercial and Sport Fishing (COMM); Shellfish Harvesting (SHELL); Cold Freshwater Habitat (COLD); Estuarine Habitat (EST); Fish Migration (MIGR); Preservation of Rare and Endangered Species (RARE); Fish

¹⁷⁰ Regional Water Quality Control Board. 2023. *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin*. Website: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html (accessed May 31, 2023).

Spawning (SPWN); Warm Freshwater Habitat (WARM); Wildlife Habitat (WILD); Water Contact Recreation (REC-1); Noncontact Water Recreation (REC-2); and Navigation (NAV).

Basin Plans also establish implementation programs to achieve water quality objectives to protect beneficial uses and require monitoring to evaluate the effectiveness of the programs. These objectives must comply with the State antidegradation policy (State Board Resolution No. 68-16), which is designed to maintain high-quality waters while allowing some flexibility if beneficial uses are not unreasonably affected.

Basin Plans have established narrative and numeric water quality objectives for inland surface streams and groundwater. If water quality objectives are exceeded, the RWQCBs can use their regulatory authority to require municipalities to reduce pollutant loads to the affected receiving waters. Relevant surface water quality objectives for all inland surface waters and groundwater under the jurisdiction of the San Francisco RWQCB that are applicable to the receiving waters for the project site are shown in Table 4.7.C: Surface Water Quality Objectives for Inland Surface Waters and Table 4.7.D: Groundwater Quality Objectives for Groundwaters, respectively.

Table 4.7.A: Descriptions of Beneficial Uses

Designated Beneficial Use	Description of Beneficial Use
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Groundwater Recharge (GWR)	Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting saltwater intrusion into freshwater aquifers.
Industrial Service Supply (IND)	Uses of water for industrial activities that do not depend primarily on water quality, including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
Commercial and Sport Fishing (COMM)	Uses of water for commercial or recreational collection of fish, shellfish, or other organisms, including, but not limited to, uses involving organisms intended for human consumption or bait purposes.
Shellfish Harvesting (SHELL)	Uses of water that support habitats suitable for the collection of crustaceans and filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sport purposes.
Cold Freshwater Habitat (COLD)	Uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Estuarine Habitat (EST)	Uses of water that support estuarine ecosystems, including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds), and the propagation, sustenance, and migration of estuarine organisms.
Fish Migration (MIGR)	Uses of water that support habitats necessary for migration, acclimatization between fresh water and salt water, and protection of aquatic organisms that are temporary inhabitants of waters within the region.
Preservation of Rare and Endangered Species (RARE)	Uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered.
Fish Spawning (SPWN)	Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Table 4.7.A: Descriptions of Beneficial Uses

Designated Beneficial Use	Description of Beneficial Use
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Wildlife Habitat (WILD)	Uses of waters that support wildlife habitats, including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.
Water Contact Recreation (REC-1)	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
Noncontact Water Recreation (REC-2)	Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where water ingestion is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Navigation (NAV)	Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

Source: Chapter 2: Beneficial Uses, Water Quality Control Plan for the San Francisco Bay Basin. March 7, 2023.

Table 4.7.B: Beneficial Uses of Surface Receiving Waters

Designated Beneficial Use	Alameda Creek	Lower San Francisco Bay
Agricultural Supply (AGR)	E	
Groundwater Recharge (GWR)	E	
Industrial Service Supply (IND)		E
Commercial and Sport Fishing (COMM)	E	E
Shellfish Harvesting (SHELL)		E
Cold Freshwater Habitat (COLD)	E	
Estuarine Habitat (EST)		E
Fish Migration (MIGR)	E	E
Preservation of Rare and Endangered Species (RARE)	E	E
Fish Spawning (SPWN)	E	E
Warm Freshwater Habitat (WARM)	E	
Wildlife Habitat (WILD)	E	E
Water Contact Recreation (REC-1)	E	E
Noncontact Water Recreation (REC-2)	E	E
Navigation (NAV)		E

Source: Chapter 2: Beneficial Uses, Water Quality Control Plan for the San Francisco Bay Basin. March 7, 2023

E: Existing beneficial use

**Table 4.7.C: Surface Water Quality Objectives for Inland Surface Waters:
 San Francisco RWQCB**

Constituent Name	Narrative Objective				
	Beneficial Use	Fecal Coliform ^a (MPN/100mL)	Total Coliform ^a (MPN/100mL)	Enterococcus (CFU/100mL) ^g	E. coli (CFU/100mL) ^g
Bacteria	Water Contact Recreation			geometric mean < 30 STV < 110	geometric mean < 100 STV < 320
	Shellfish Harvesting ^b	median < 14 90th percentile < 43	median < 70 90th percentile < 230 ^c		
	Non-contact Water Recreation ^d	mean < 2000 90th percentile < 4000			
	Municipal Supply: Surface Water ^e	geometric mean < 20	geometric mean < 100		
	Municipal Supply: Groundwater		< 1.1 ^f		
<p>Notes:</p> <p>a. Based on a minimum of five consecutive samples equally spaced over a 30-day period.</p> <p>b. Source: National Shellfish Sanitation Program.</p> <p>c. Based on a five-tube decimal dilution test or 300 MPN/100 ml when a three-tube decimal dilution test is used.</p> <p>d. Source: Report of the Committee on Water Quality Criteria, National Technical Advisory Committee, 1968.</p> <p>e. Source: California Department of Public Health recommendation.</p> <p>f. Based on multiple tube fermentation technique; equivalent test results based on other analytical techniques, as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21(f), revised June 10, 1992, are acceptable.</p> <p>g. Numeric values are from Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California based on Section 7958 of Title 17 of the California Code of Regulations, 69FR 67217 et seq., and 40 CFR Part 131.41 (effective date December 16, 2004). The Enterococcus objective applies to marine and estuarine waters where the salinity is greater than 1 part per thousand more than 5 percent of the time. The E. coli objective applies to freshwaters where the salinity is equal to or less than 1 part per thousand 95 percent or more of the time. The geometric mean for enterococcus and E. coli is computed weekly for all samples in a 6-week interval.</p> <p>There is no fecal coliform objective to protect water contact recreation for inland surface waters, enclosed bays, or estuaries, but a fecal coliform objective protecting this use remains in the California Ocean Plan.</p> <p>The STV is the statistical threshold value and shall not be exceeded by more than 10 percent of the samples collected in a calendar month.</p>					
Bioaccumulation	Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.				
Biostimulatory Substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Changes in chlorophyll a and associated phytoplankton communities follow complex dynamics that are sometimes associated with a discharge of biostimulatory substances. Irregular and extreme levels of chlorophyll a or phytoplankton blooms may indicate exceedance of this objective and require investigation.				
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.				

**Table 4.7.C: Surface Water Quality Objectives for Inland Surface Waters:
San Francisco RWQCB**

Constituent Name	Narrative Objective																			
Dissolved Oxygen	<p>For all tidal waters, the following objectives shall apply:</p> <p>In the Bay:</p> <table border="1" data-bbox="625 527 1105 611"> <tr> <td>Downstream of Carquinez Bridge</td> <td>5.0 mg/L minimum</td> </tr> <tr> <td>Upstream of Carquinez Bridge</td> <td>7.0 mg/L minimum</td> </tr> </table> <p>For nontidal waters, the following objectives shall apply:</p> <p>Waters designated as:</p> <table border="1" data-bbox="625 709 1105 793"> <tr> <td>Cold water habitat</td> <td>7.0 mg/L minimum</td> </tr> <tr> <td>Warm water habitat</td> <td>5.0 mg/L minimum</td> </tr> </table> <p>The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.</p> <p>Dissolved oxygen is a general index of the state of the health of receiving waters. Although minimum concentrations of 5 mg/L and 7 mg/ are frequently used as objectives to protect fish life, higher concentrations are generally desirable to protect sensitive aquatic forms. In areas unaffected by waste discharges, a level of about 85 percent of oxygen saturation exists. A three-month median objective of 80 percent of oxygen saturation allows for some degradation from this level, but still requires a consistently high oxygen content in the receiving water.</p> <p>For Suisun Marsh, the following objectives shall apply:</p> <table border="1" data-bbox="625 1052 1365 1245"> <thead> <tr> <th>DO Objectives</th> <th>DO Concentrations</th> <th>Applicability</th> </tr> </thead> <tbody> <tr> <td>Acute objective</td> <td>3.8 mg/L minimum (daily average)</td> <td>Year-round in all sloughs and channels</td> </tr> <tr> <td rowspan="2">Chronic objectives</td> <td>5.0 mg/L minimum (30-day running average)</td> <td>Year-round in all sloughs and channels</td> </tr> <tr> <td>6.4 mg/L minimum (30-day running average)</td> <td>January 1 through April 30 in Montezuma, Nurse, and Denverton sloughs only</td> </tr> </tbody> </table>	Downstream of Carquinez Bridge	5.0 mg/L minimum	Upstream of Carquinez Bridge	7.0 mg/L minimum	Cold water habitat	7.0 mg/L minimum	Warm water habitat	5.0 mg/L minimum	DO Objectives	DO Concentrations	Applicability	Acute objective	3.8 mg/L minimum (daily average)	Year-round in all sloughs and channels	Chronic objectives	5.0 mg/L minimum (30-day running average)	Year-round in all sloughs and channels	6.4 mg/L minimum (30-day running average)	January 1 through April 30 in Montezuma, Nurse, and Denverton sloughs only
Downstream of Carquinez Bridge	5.0 mg/L minimum																			
Upstream of Carquinez Bridge	7.0 mg/L minimum																			
Cold water habitat	7.0 mg/L minimum																			
Warm water habitat	5.0 mg/L minimum																			
DO Objectives	DO Concentrations	Applicability																		
Acute objective	3.8 mg/L minimum (daily average)	Year-round in all sloughs and channels																		
Chronic objectives	5.0 mg/L minimum (30-day running average)	Year-round in all sloughs and channels																		
	6.4 mg/L minimum (30-day running average)	January 1 through April 30 in Montezuma, Nurse, and Denverton sloughs only																		
Floating Material	Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.																			
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.																			
Population and Community Ecology	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.																			
pH	The pH shall not be depressed below 6.5 nor raised above 8.5. This encompasses the pH range usually found in waters within the basin. Controllable water quality factors shall not cause changes greater than 0.5 units in normal ambient pH levels.																			
Radioactivity	Radionuclides shall not be present in concentrations that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. Waters designated for use as domestic or municipal supply shall not contain concentrations of radionuclides in excess of the limits specified in Table 4 of Section 64443																			

**Table 4.7.C: Surface Water Quality Objectives for Inland Surface Waters:
 San Francisco RWQCB**

Constituent Name	Narrative Objective
	(Radioactivity) of Title 22 of the California Code of Regulations (CCR), which is incorporated by reference into this Plan. This incorporation is prospective, including future changes to the incorporated provisions as the changes take effect
Salinity	Controllable water quality factors shall not increase the total dissolved solids or salinity of waters of the state so as to adversely affect beneficial uses, particularly fish migration and estuarine habitat.
Sediment	<p>The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.</p> <p>Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life.</p>
Settleable Material	Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Sulfide	<p>All water shall be free from dissolved sulfide concentrations above natural background levels. Sulfide occurs in Bay muds as a result of bacterial action on organic matter in an anaerobic environment.</p> <p>Concentrations of only a few hundredths of a milligram per liter can cause a noticeable odor or be toxic to aquatic life. Violation of the sulfide objective will reflect violation of dissolved oxygen objectives as sulfides cannot exist to a significant degree in an oxygenated environment.</p>
Tastes and Odors	Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
Temperature	<p>Temperature objectives for enclosed bays and estuaries are as specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California," including any revisions to the plan. In addition, the following temperature objectives apply to surface waters:</p> <ul style="list-style-type: none"> • The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. • The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. Acute toxicity is defined as a median of less than 90 percent survival, or less than 70 percent survival, 10 percent of the time, of test organisms in a 96-hour static or continuous flow test.

**Table 4.7.C: Surface Water Quality Objectives for Inland Surface Waters:
San Francisco RWQCB**

Constituent Name	Narrative Objective						
	<p>There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.</p> <p>Attainment of this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, or toxicity tests (including those described in Chapter 4), or other methods selected by the Water Board. The Water Board will also consider other relevant information and numeric criteria and guidelines for toxic substances developed by other agencies as appropriate.</p> <p>The health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.</p>						
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.						
Un-ionized Ammonia	<p>The discharge of wastes shall not cause receiving waters to contain concentrations of un-ionized ammonia in excess of the following limits (in mg/L as N):</p> <table border="1" data-bbox="613 1161 1377 1312"> <thead> <tr> <th data-bbox="613 1161 995 1192">Annual Median</th> <th data-bbox="995 1161 1377 1192">0.025</th> </tr> </thead> <tbody> <tr> <td data-bbox="613 1192 995 1251">Maximum, Central Bay (as depicted in Figure 2-5) and upstream</td> <td data-bbox="995 1192 1377 1251">0.16</td> </tr> <tr> <td data-bbox="613 1251 995 1312">Maximum, Lower Bay (as depicted in Figures 2-6 and 2-7):</td> <td data-bbox="995 1251 1377 1312">0.4</td> </tr> </tbody> </table> <p>The intent of this objective is to protect against the chronic toxic effects of ammonia in the receiving waters. An ammonia objective is needed for the following reasons:</p> <ul style="list-style-type: none"> • Ammonia (specifically un-ionized ammonia) is a demonstrated toxicant. Ammonia is generally accepted as one of the principle toxicants in municipal waste discharges. Some industries also discharge significant quantities of ammonia. • Exceptions to the effluent toxicity limitations in Chapter 4 of the Plan allow for the discharge of ammonia in toxic amounts. In most instances, ammonia will be diluted or degraded to a nontoxic state fairly rapidly. However, this does not occur in all cases, the South Bay being a notable example. The ammonia limit is recommended in order to preclude any build up of ammonia in the receiving water. • A more stringent maximum objective is desirable for the northern reach of the Bay for the protection of the migratory corridor running through Central Bay, San Pablo Bay, and upstream reaches. 	Annual Median	0.025	Maximum, Central Bay (as depicted in Figure 2-5) and upstream	0.16	Maximum, Lower Bay (as depicted in Figures 2-6 and 2-7):	0.4
Annual Median	0.025						
Maximum, Central Bay (as depicted in Figure 2-5) and upstream	0.16						
Maximum, Lower Bay (as depicted in Figures 2-6 and 2-7):	0.4						
Objectives for Specific Chemical Constituents	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use. Water quality objectives for selected toxic pollutants for surface waters are given in Tables						

**Table 4.7.C: Surface Water Quality Objectives for Inland Surface Waters:
 San Francisco RWQCB**

Constituent Name	Narrative Objective
	<p>3-3, 3-3A, 3-3B, 3-3C, 3-4 and 3-4A.</p> <p>The Water Board intends to work towards the derivation of site-specific objectives for the Bay-Delta estuarine system. Site-specific objectives to be considered by the Water Board shall be developed in accordance with the provisions of the federal Clean Water Act, the State Water Code, State Board water quality control plans, and this Plan. These site-specific objectives will take into consideration factors such as all available scientific information and monitoring data and the latest U.S. EPA guidance, and local environmental conditions and impacts caused by bioaccumulation. The objectives in Tables 3-3 and 3-4 apply throughout the region except as otherwise indicated in the tables or when site-specific objectives for the pollutant parameter have been adopted. Site-specific objectives have been adopted for copper in segments of San Francisco Bay (see Figure 7.2-1-01), for nickel in South San Francisco Bay (Table 3-3A), and for cyanide in all San Francisco Bay segments (Table 3-3C). Objectives for mercury that apply to San Francisco Bay are listed in Table 3-3B. Objectives for mercury that apply to Walker Creek, Soulajule Reservoir, and their tributaries, and to waters of the Guadalupe River watershed are listed in Table 3-4A.</p> <p>South San Francisco Bay south of the Dumbarton Bridge is a unique, water-quality-limited, hydrodynamic and biological environment that merits continued special attention by the Water Board. Controlling urban and upland runoff sources is critical to the success of maintaining water quality in this portion of the Bay. Site-specific water quality objectives have been adopted for dissolved copper and nickel in this Bay segment. Site-specific objectives may be appropriate for other pollutants of concern, but this determination will be made on a case-by-case basis, and after it has been demonstrated that all other reasonable treatment, source control and pollution prevention measures have been exhausted. The Water Board will determine whether revised water quality objectives and/or effluent limitations are appropriate based on sound technical information and scientific studies, stakeholder input, and the need for flexibility to address priority problems in the watershed.</p>
<p>Constituents of Concern for Municipal and Agricultural Water Supplies</p>	<p>At a minimum, surface waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of constituents in excess of the maximum (MCLs) or secondary maximum contaminant levels (SMCLs) specified in the following provisions of Title 22, which are incorporated by reference into this plan: Table 64431-A (Inorganic Chemicals) of Section 64431, and Table 64433.2-A (Fluoride) of Section 64433.2, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (SMCLs-Consumer Acceptance Limits) and 64449-B (SMCLs-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. Table 3-5 contains water quality objectives for municipal supply, including the MCLs contained in various sections of Title 22 as of the adoption of this plan. At a minimum, surface waters designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6.</p>

**Table 4.7.C: Surface Water Quality Objectives for Inland Surface Waters:
San Francisco RWQCB**

Constituent Name	Narrative Objective		
	Table 3-6: Water Quality Objectives for Agricultural Supply^a (in mg/l)		
	Parameter	Threshold	Limit
			Limit for Livestock Watering
	<i>Physical:</i>		
pH	5.5-8.3	4.5-9.0	
TDS			10,000.0
EC (mmhos / cm)		0.2-3.0	
	<i>Inorganic Parameters:</i>		
Aluminum	5.0	20.0	5.0
Arsenic	0.1	2.0	0.2
Beryllium	0.1	0.5	
Boron	0.5	2.0	5.0
Chloride	142.0	355.0	
Cadmium	0.01	0.5	0.05
Chromium	0.1	1.0	1.0
Cobalt	0.05	5.0	1.0
Copper	0.2	5.0	0.5
Flouride	1.0	15.0	2.0
Iron	5.0	20.0	
Lead	5.0	10.0	0.1
Lithium		2.5 ^b	
Manganese	0.2	10.0	
Molybdenum	0.01	0.05	0.5
Nickel	0.2	2.0	
NO ₃ + NO ₂ (as N)	5.0	30 ^c	100.0
Selenium		0.02	0.05
Sodium adsorption ratio (adjusted) ^d	3.0	9.0	
Vanadium	0.1	1.0	0.1
Zinc	2.0	10.0	25

Source: Chapter 3: Water Quality Objectives, Water Quality Control Plan for the San Francisco Bay Basin. March 7, 2023.

^aC = degrees Celsius

NTU = nephelometric turbidity units

^bF = degrees Fahrenheit

RWQCB = Regional Water Quality Control Board

Table 4.7.D: Groundwater Quality Objectives for Groundwater Basins

Constituent	Basin Plan Objectives
--	<p>The maintenance of existing high quality of groundwater (i.e., "background") is the primary groundwater objective. In addition, at a minimum, groundwater shall not contain concentrations of bacteria, chemical constituents, radioactivity, or substances producing taste and odor in excess of the objectives described below unless naturally occurring background concentrations are greater. Under existing law, the Water Board regulates waste discharges to land that could affect water quality, including both groundwater and surface water quality. Waste discharges that reach groundwater are regulated to protect both groundwater and any surface water in continuity with groundwater. Waste discharges that affect groundwater that is in continuity with surface water cannot cause violations of any applicable surface water standards.</p>
Bacteria	<p>In groundwater with a beneficial use of municipal and domestic supply, the median of the most probable number of coliform organisms over any seven-day period shall be less than 1.1 most probable number per 100 milliliters (MPN/100 mL) (based on multiple tube fermentation technique; equivalent test results based on other analytical techniques as specified in the National Primary Drinking Water Regulation, 40 CFR, Part 141.21 (f), revised June 10, 1992, are acceptable).</p>
Organic and Inorganic Chemical Constituents	<p>All groundwater shall be maintained free of organic and inorganic chemical constituents in concentrations that adversely affect beneficial uses. To evaluate compliance with water quality objectives, the Water Board will consider all relevant and scientifically valid evidence, including relevant and scientifically valid numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., U.S. Environmental Protection Agency (U.S. EPA), the State Water Board, California Department of Health Services (DHS), U.S. Food and Drug Administration, National Academy of Sciences, California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA), U.S. Agency for Toxic Substances and Disease Registry, Cal/EPA Department of Toxic Substances Control (DTSC), and other appropriate organizations.)</p> <p>At a minimum, groundwater designated for use as domestic or municipal supply (MUN) shall not contain concentrations of constituents in excess of the maximum (MCLs) or secondary maximum contaminant levels (SMCLs) specified in the following provisions of Title 22, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) of Section 64431, Table 64433.2-A (Fluoride) of Section 64433.2, and Table 64444-A (Organic Chemicals) of Section 64444. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. (See Table 3-5.)</p> <p>Groundwater with a beneficial use of agricultural supply shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. In determining compliance with this objective, the Water Board will consider as evidence relevant and scientifically valid water quality goals from sources such as the Food and Agricultural Organizations of the United Nations; University of California Cooperative Extension, Committee of Experts; and McKee and Wolf's "Water Quality Criteria," as well as other relevant and scientifically valid evidence. At a minimum, groundwater designated for use as agricultural supply (AGR) shall not contain concentrations of constituents in excess of the levels specified in Table 3-6.</p> <p>Groundwater with a beneficial use of freshwater replenishment shall not contain concentrations of chemicals in amounts that will adversely affect the beneficial use of the receiving surface water.</p> <p>Groundwater with a beneficial use of industrial service supply or industrial process supply shall not contain pollutant levels that impair current or potential industrial uses.</p>

Table 4.7.D: Groundwater Quality Objectives for Groundwater Basins

Constituent	Basin Plan Objectives
Radioactivity	At a minimum, groundwater designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the MCLs specified in Table 4 (Radioactivity) of Section 64443 of Title 22, which is incorporated by reference into this plan. This incorporation- by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.
Taste and Odor	Groundwater designated for use as domestic or municipal supply (MUN) shall not contain taste- or odor-producing substances in concentrations that cause a nuisance or adversely affect beneficial uses. At a minimum, groundwater designated for use as domestic or municipal supply shall not contain concentrations in excess of the SMCLs specified in Tables 64449-A (Secondary MCLs Consumer Acceptance Limits) and 64449-B (Secondary MCLs-Ranges) of Section 64449 of Title 22, which is incorporated by reference into this plan. This incorporation- by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.

Source: Chapter 3: Water Quality Objectives, Water Quality Control Plan for the San Francisco Bay Basin. March 7, 2023.
CFR = Code of Federal Regulations

In addition to the water quality objectives applicable to all surface waters, bays and estuaries, and groundwater, the San Francisco Bay RWQCB has designated site-specific water quality objectives for surface waters. The site-specific surface water quality objectives (SSO) for the Alameda Creek Watershed Above Niles are:

- **TDS:** 250 milligram per liter mg/L (90 day-arithmetic mean); 360 mg/L (90 day-90th percentile); 500 mg/L (daily maximum)
- **Chlorides:** 60 mg/L (90 day-arithmetic mean); 100 mg/L (90 day-90th percentile); 250 mg/L (daily maximum)

In addition to the water quality objectives applicable to all groundwater basins, the San Francisco Bay RWQCB has designated site-specific water quality objectives for groundwaters. The SSOs for the Alameda Creek Watershed Above Niles are:

- Ambient water quality conditions at a proposed project area will be determined by Zone 7 of the Alameda County Flood Control and Water Conservation District at the time the project is proposed, with the cost borne by the project proponents. Ambient conditions apply to the water-bearing zone with the highest quality water.
- Waters designated for use as domestic or municipal water supply shall not contain concentrations of chemicals in excess of natural concentrations or the limits specified in California Code of Regulations, Title 22, Chapter 15, particularly Tables 64431-A and 64431-B of Section 64431, Table 64444-A of Section 64444, and Table 4 of Section 64443.

NPDES Municipal Permit. Pursuant to Section 402 of the CWA and the Porter-Cologne Water Quality Control Act, municipal stormwater discharges in the City of Fremont and County of Alameda are regulated under the San Francisco Bay Region Municipal Regional Stormwater

NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008, adopted July 1, 2022 (MRP). The MRP is enforced by the Regional Water Quality Control Board. The City of Fremont is a member agency of the Alameda Countywide Clean Water Program, which assists municipalities and other agencies in Alameda County with implementation of the MRP. MRP Provision C.3 addresses post-construction stormwater management requirements for new development and redevelopment projects that add and/or replace 5,000 square feet or more of impervious area. Provision C.3 requires the incorporation of site design, source control, and stormwater treatment measures into development projects in order to minimize the discharge of pollutants in stormwater runoff and non-stormwater discharges and to prevent increases in runoff flows. Low Impact Development (LID) methods are required to be the primary mechanism for implementing such controls.

MRP Provision C.3.g pertains to hydromodification management. This MRP provision requires that stormwater discharges not cause an increase in the erosion potential of the receiving stream over the existing condition. Increases in runoff flow and volume must be managed so that the post-project runoff not exceed estimated pre-project rates and durations where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force.

Alameda County General Plan. The Alameda County General Plan Conservation Element includes the following goals and objectives related to hydrology and water quality.

- **Water Resources Goal.** To insure and maintain a continuing supply of high water quality for the citizens of Alameda County.
 - Objective 1: To insure sufficient water supplies of high quality for all beneficial uses.
 - Objective 2: To conserve ground water resources and prevent overdraft of existing ground water supplies.
 - Objective 4: To reduce man-caused stream and ground water pollution and general resource degeneration through cumulative impacts on surface and ground water systems.
 - Objective 7: Through the sound design of drainage systems throughout the County and by regulation of land use, erosion of soil caused by water could be controlled.

The Alameda County General Plan Open Space Element includes the following goals and policies related to hydrology and water quality:

- Natural Resources Within Open Space Areas Should be Permanently Protected. Within open space areas, either publicly or privately owned, removal of mature trees should not be permitted without the permission of the local authority. Alteration of streambeds or bodies of water and adjacent vegetation should be permitted only as a means of erosion or flood

control, as permitted by the adopted plans of regional or local jurisdictions, and in such a manner to enhance water courses, scenic shoreline and marshlands within the county.

The Alameda County General Plan Safety Element includes the following goals and policies related to hydrology and water quality.

- **Goal 3:** To reduce hazards related to flooding and inundation.
 - *Policy P2:* Surface runoff from new development shall be controlled by on-site measures including, but not limited to structural controls and restrictions regarding changes in topography, removal of vegetation, creation of impervious surfaces, and periods of construction such that the need for off-site flood and drainage control improvements is minimized and such that runoff from the development will not result in downstream flood hazards.
 - *Policy P4:* Development shall only be allowed on lands within the 100-year flood zone if it will not: create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use; impede access of emergency vehicles during a flood; create a safety hazard due to the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters at the site; exacerbate costs of providing governmental services during and after flooding, including increased maintenance and repair of public utilities and facilities; interfere with the existing water flow capacity of the floodway; substantially increase erosion and/or sedimentation; contribute to the deterioration of any watercourse or the quality of water in any body of water.
 - *Policy P9:* Development shall comply with applicable NPDES requirements.
 - *Policy P15:* All development proposals shall comply with all County ordinances and State Codes that include flood-related design requirements.
 - *Action A5:* Ensure that all construction and development activities obtain all applicable federal, state, regional, and County permits and approvals related to grading and erosion control, stormwater management and discharge control, and watercourse protection.
 - *Action A6:* Require new development to comply with the requirements and criteria for stormwater quantity controls established in the Alameda County Hydrology and Hydraulics Criteria Summary to control surface runoff from new development.
 - *Action A10:* Establish design standards, guidelines, and setback requirements for development on properties that abut creeks and waterways and require the replanting and restoration of riparian vegetation as part of any discretionary permit. Implement and enforce creek setback requirements for development for properties that abut creeks in coordination with the ACFCWCD and Zone 7 Water Agency.

East County Area Plan. The East County Area Plan includes the following policies and goals related to hydrology and water quality.

- **Storm Drainage and Flood Control Goal.** To provide efficient, cost effective, and environmentally sound storm drainage and flood control facilities.
 - *Policy 279:* The County shall require new development to pay its fair share of the costs of East County storm drainage and flood control improvements.
 - *Policy 280:* The County shall regulate new development on a case-by-case basis to ensure that, when appropriate, project storm drainage facilities shall be designed so that peak rate flow of storm water from new development will not exceed the rate of runoff from the site in its undeveloped state.
 - *Policy 282:* The County shall encourage use of natural or nonstructural storm water drainage systems to preserve and enhance the natural features of a site.
 - *Policy 283:* The County shall ensure that development proposals within designated dam inundation areas are referred to the Office of Emergency Services and to appropriate local police departments for evaluation and updating of emergency response and evacuation plans.
 - *Program 98:* The County shall require new development to set aside sufficient right-of-way and setback areas to accommodate multi-use objectives for storm drainage and flood control features. Required rights-of-way and setback areas may exceed the 20 foot setback required under the County's Watercourse Protection Ordinance.
- **Water Quality Goal.** To protect and enhance surface and groundwater quality.
 - *Policy 306:* The County shall protect groundwater resources by:
 - Preserving areas with prime percolation capabilities and minimizing placement of potential sources of pollution in such areas;
 - Minimizing sedimentation and erosion through control of grading, quarrying, cutting of trees, removal of vegetation, placement of roads and bridges, use of off-road vehicles, and animal-related disturbance of the soil
 - Not allowing the development of septic systems, automobile dismantlers, waste disposal facilities, industries utilizing toxic chemicals, and other potentially polluting substances in Creekside, reservoir, or high groundwater table areas when polluting substances could come in contact with flood waters, permanently or seasonally high groundwaters, flowing stream or creek waters, or reservoir waters; and,
 - Avoiding establishment of excessive concentrations of septic systems over large land areas.

- *Program 108*: The County shall implement all federal, state and locally imposed statutes, regulations, and orders that apply to storm water quality.
- *Program 109*: The County shall endeavor to minimize herbicide use by public agencies by reviewing existing use and applying integrated pest management principles, such as mowing and mulching, in addition to eliminating or scaling back the need for vegetation control in the design phase of a project.
- **Flood Hazards Goal**: To minimize the risks to lives and property due to flood hazards.
 - *Policy 316*: The county shall require new residential, public, commercial, and industrial development to have protection from a 100-year flood.

Alameda County Flood Control and Water Conservation District. The ACFC is responsible for protecting county citizens from flooding by maintaining flood channels and natural creeks within Alameda County. As a condition of receiving a drainage permit, drainage plans for development projects must be reviewed by the ACFC to ensure that they are consistent with its policies and regulations pertaining to runoff, stormwater management and detention, flooding, and erosion. In addition, development projects that involve work within the ACFC right-of-way or that involve construction, modification, or connection to ACFC facilities are required to obtain a Flood Encroachment Permit and must comply with ACFC standards and specifications.

Alameda County Water District. The Alameda County Groundwater Protection Act authorizes the Alameda County Water District (ACWD) to take action to protect the quality of the local groundwater supply within the ACWD service area by adopting, updating, and revising regulations and standards. Under the Replenishment Assessment Act, the ACWD also has authority to collect fees for water extracted from water supply wells, dewatering wells, and water quality monitoring/treatment wells. The ACWD uses the fees to manage and replenish the Niles Cone Groundwater Subbasin. ACWD Ordinance No. 2010-01 requires a permit to be obtained for the construction, repair, inactivation or destruction of any well or exploratory hole, or any excavation that has the potential to impact a groundwater aquifer.

Alameda County Municipal Code. Various portions of the County of Alameda Municipal Code address hydrology and water quality, as follows. The proposed project would comply with these regulations as further discussed below in the impact discussion.

- Chapter 13.08 – Stormwater Management and Discharge Control. The purpose and intent of this chapter is to reduce or eliminate the pollution of receiving waters, including creeks and the San Francisco Bay, and to protect and enhance the water quality in county water bodies, including watercourses, wetlands, creeks, and flood control facilities, in a manner pursuant to and consistent with the Federal Clean Water Act, the State Porter/Cologne Act, and the county NPDES permit.
- Chapter 13.12 – Watercourse Protection. This chapter is enacted to safeguard and preserve watercourses, protect lives and property, prevent damage due to flooding, protect drainage

facilities, control erosion and sedimentation, restrict discharge of polluted materials and enhance recreational and beneficial uses of watercourses.

- Section 15.36.620 – Erosion and Sediment Control Plans. This section requires the preparation and approval of erosion and sediment control plans that shall be designed to prevent increased discharge of sediment at all stages of grading and development from initial disturbance of the ground to project completion.

City of Fremont General Plan. The City of Fremont General Plan Conservation Element includes the following goals and policies related to hydrology and water quality.

- **Goal 7-2 Water Resources.** A protected water resource system that offers natural habitat and enhances the biological value of the City.
 - *Policy 7-2.1: Preservation of Water Resources.* Water resources such as the Niles Cone Groundwater Basin, wetlands, flood plains, recharge zones, riparian areas, open space and native habitats should be identified, preserved and restored as valued assets for flood protection, water quality improvement, groundwater recharge, habitat, and overall long term water resource sustainability.
 - **Implementation 7-2.1.A: Development Near Riparian Areas.** Require proposed projects near riparian areas to protect the aesthetic, recreational and biological benefits consistent with flood control and recharge objectives.
 - *Policy 7-2.3: Niles Cone Groundwater Basin Maintenance.* Maintain the Niles Cone Groundwater Basin as a reliable water source.
- **Goal 7-3: Water Quality.** High quality water protected from pollutants and managed to improve the quality of the San Francisco Bay and groundwater resources.
 - *Policy 7-3.1: Protect and Improve Water Quality.* Protect and improve water quality in all Fremont’s creeks, streams, water courses and water bodies.
 - *Policy 7-3.2: Groundwater Resources.* Protect groundwater from contamination, specifically, the Niles Cone Groundwater Basin.
 - *Policy 7-3.3: Enforce Water Quality Requirements.* Enforce Federal, State and locally issued mandates regarding water quality such as the National Pollutant Discharge Elimination System (NPDES) permit requirements.
- **Goal 7-4: Water Conservation.** A water conservation program with measurable results consistent with Alameda County Water District’s Urban Water Management Plan and with the City’s greenhouse gas reduction goals.
 - *Policy 7-4.1: Water Conservation.* Maximize community water conservation.

- *Policy 7-4.2: Reclaimed Water.* Encourage the use of reclaimed water for irrigation, industrial purposes and in City operations.
- *Policy 7-4.3: Water Conservation in City Operations.* Maximize water conservation in City Operations.
- **Goal 7-6: Soil Resources.** Urban development consistent with soil conditions to minimize erosion and protect health and property.
 - *Policy 7-6.2: Minimize Soil Erosion.* Eliminate soil erosion from development to the maximum extent possible.

The City of Fremont General Plan Parks and Recreation Element includes the following goals and policies related to hydrology and water quality.

- **Goal 8-5: Sustainability.** Sustainability in park development and operations.
 - *Policy 8-5.1: Resource Consumption in Park Operations.* Reduce consumption of water, electricity, and fossil fuels in the construction, operations and maintenance of parks and recreation facilities.
 - Implementation 8-5.1.A: Water Conservation. Reduce water consumption where possible through use of artificial turf, drought tolerant landscaping, water conservation technology, and use of recycled water in parks and recreation facilities.
 - *Policy 8-5.2: Stormwater Runoff.* Reduce runoff of stormwater and pollutants from City parks.
 - Implementation 8-5.2.A: Impervious Surfaces. Encourage the use of permeable pavement and reduction in amount of impervious surfaces in park construction.
 - Implementation 8-5.2.B: Integrated Pest Management. Utilize Integrated Pest Management (IPM) and other methods to reduce pollutant runoff from park operations.

The City of Fremont General Plan Safety Element includes the following goals and policies related to hydrology and water quality.

- **Goal 10-3: Flood Hazards.** Minimum feasible risks to life and property resulting from flooding and flood induced hazards.
 - *Policy 10-3.2: Design to minimize flooding.* Design new development and redevelopment projects to minimize hazards associated with flooding and limit the amount of runoff that contributes to flooding.

- **Implementation 10-3.2.A: Infrastructure to Accommodate Development.** Require new development to demonstrate that existing and/or planned (on- or off-site) drainage facilities are sized to accommodate project storm runoff and to prevent off-site increase in peak runoff rates and flood elevations.

City of Fremont Municipal Code. Various portions of the City of Fremont Municipal Code address hydrology and water quality, as follows. The proposed project would comply with these regulations as further discussed below in the impact discussion.

- **Chapter 18.205 Grading, Erosion, and Sediment Control.** The purpose of this chapter is to ensure that future development is performed in a manner that does not strip or remove soil from lands, protects water quality from nutrients and sediments, and retains existing vegetation to the extent practical. The chapter also establishes grading permit requirements.
- **Chapter 18.210 Stormwater Management and Discharge Control.** The purpose of this chapter is to reduce non-stormwater discharges to the City stormwater drainage system to the maximum extent practicable and to reduce pollutants in stormwater discharge to the maximum extent practicable. The chapter establishes stormwater discharge regulations and requirements, as well as inspection and enforcement actions.

East Bay Regional Park District Master Plan. The District’s Master Plan includes the following policies related to hydrology and water quality: *Policy NRM 11*. Park water resources will be used for beneficial purposes. Water quality will be monitored to comply with established standards. The District will participate in cooperative effort to plan comprehensive watershed management and will adopt “best management practice” guidelines for District land use activities to minimize potential storm water pollution. The District will monitor land use planning and development activities by other agencies and cities to avoid potential adverse impacts to parkland from pollutants generated by off-site or upstream sources.

- **Policy NRM 11b.** The District will pursue conservation and control technologies for the use of potable and irrigation water. The District will seek to reduce the use of imported water for uses other than human consumption through conservation and by developing other sources of water for irrigation and non-potable needs.
- **Policy NRM 13.** The District will identify existing and potential erosion problems and take corrective measures to repair damage and mitigate its causes. The District will manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. Where vegetative cover has been reduced or eliminated, the District will take steps to restore it using native or naturalized plants adapted to the site. The District will minimize soil disturbance associated with construction and maintenance operations and will avoid disruptive activities in areas with unstable soils whenever possible. The District will arrest the progress of active gully erosion where practical and take action to restore these areas to stable conditions. The District will notify adjacent property owners of potential landslide situations and risks on District lands and will conform with applicable law. The

District will protect important geological and paleontological features from vandalism and misuse.

4.7.2 Impacts and Mitigation Measures

The following describes the potential impacts of the proposed project related to hydrology and water quality. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies mitigation measures, as necessary.

4.7.2.1 Criteria of Significance

The project would have a significant impact on surface hydrology, water quality, and/or groundwater if it would:

- Threshold 4.7.1:** Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Threshold 4.7.2:** Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Threshold 4.7.3:** 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 that would result in flooding on or off site; (iii) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or (iv) Impede or redirect flood flows;
- Threshold 4.7.4:** In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Threshold 4.7.5:** Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.7.2.2 Project Impacts

The following section analyzes the environmental impacts of all three phases of the proposed project, with Phase 1 evaluated at the project level and Phases 2 and 3 evaluated at a programmatic level. The analysis prescribes mitigation measures that would reduce identified impacts to a less-than-significant level, if necessary.

Threshold 4.7.1: Violate Water Quality Standards. The potential for the proposed project to result in a violation of water quality standards or waste discharge requirements exists during both the construction and operation periods, as discussed below.

Construction. Project construction would involve vegetation clearing, excavation, grading, and paving. The proposed project would also include the construction of retaining walls and would include the construction of pedestrian bridges and bridge abutments. These activities and improvements would result in the disturbance and exposure of soils to runoff, potentially causing erosion and sediment discharge, which could adversely affect the quality of receiving waters if not properly managed. During a storm event, soil erosion could occur at an accelerated rate. The potential for chemical releases is also present at most construction sites due to the use of paints, solvents, fuels, lubricants, and other hazardous materials associated with heavy construction equipment. Once released, these hazardous materials could be transported to nearby surface waterways in stormwater runoff, wash water, and dust control water, which can affect water quality and impair beneficial uses. This is a **potentially significant** impact.

Impact HYD-1: Project construction could result in release of sediment and hazardous materials into nearby surface waters.

Because construction of the proposed project would disturb greater than 1 acre of soil, the proposed project is subject to the requirements of the CGP. A SWPPP would be prepared and construction BMPs detailed in the SWPPP would be implemented during construction, in compliance with the requirements of the CGP. Construction BMPs would include, but are not limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters.

In accordance with the CGP, a Qualified SWPPP Developer would prepare and implement a SWPPP designed to reduce potential adverse impacts to surface water quality during the project construction period. SWPPPs have three major objectives: 1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges, 2) to describe and ensure the implementation of site-specific BMPs to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharge, and 3) to convey a plan to restore erosion protection and site hydrology post-construction. The SWPPP must include site-specific BMPs that address source control, pollutant control, and treatment control.

The SWPPP would be prepared by a Qualified SWPPP Developer and would include the minimum BMPs required for and applicable to the proposed project (based on final determination of the project's risk level status, to be determined as part of the Notice of Intent for coverage under the CGP); these include BMPs for erosion and sediment control, site management and housekeeping, waste management, management of non-stormwater discharges, run-on and runoff controls, and BMP inspection/maintenance/repair activities.

Examples of the types of BMPs that are required under the CGP include:

- A moratorium on grading during a rain event.
- A requirement that erosion and sediment control measures be installed prior to unseasonable rainstorms.

- Prohibiting erosion or sediment control measures within vegetated areas.
- Limiting the extent of disturbed soil to the minimum area that can be protected prior to a forecasted rain event and the minimum area needed to complete the proposed action.
- Delineating and protecting environmentally sensitive areas to prevent construction impacts.
- Installing natural fiber rolls as appropriate to control sediment and erosion (use of erosion control fabric containing plastic monofilament is prohibited).
- Implementing spill and litter controls.
- Proper management of fuels and other hazardous materials.
- Management of temporary sewage facilities to prevent water quality impacts.
- Liquid waste management.
- Preserving existing vegetation wherever possible.

The SWPPP would include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations, and as appropriate (depending on the project Risk Level), sampling of the site effluent and receiving waters. Under the SWPPP, inspections would be conducted to ensure the BMPs are adequate, maintained, and in place at the end of the construction day. A Qualified SWPPP Practitioner (QSP) would be responsible for implementing the BMPs at the site. The QSP would also be responsible for performing all required monitoring and BMP inspection, maintenance, and repair activities.

Prior to the start of construction, Alameda County would obtain coverage under the CGP. This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent for coverage under the permit to the State Water Resources Control Board (SWRCB) via the Stormwater Multiple Application and Report Tracking System (SMARTs). Project construction would not be initiated until a WDID is received from the SWRCB. Upon completion of construction and stabilization of the site, a Notice of Termination shall be submitted via SMARTs.

According to the Geotechnical Investigation Report¹⁷¹ completed for the proposed project, it is anticipated that groundwater at the project site is deeper than 20 feet below ground surface. However, groundwater levels can fluctuate several feet depending on factors such as seasonal rainfall, groundwater withdrawal, and construction activities on the project site or at adjacent properties. Construction of the proposed project would require excavation for utility lines, storm drains, fence footings, shade structures, playground equipment footings, and stormwater swales. Therefore, dewatering of groundwater may be required during construction activities involving excavation. Release of dewatered groundwater to surface waters can introduce total

¹⁷¹ BSK Associates, 2020. op. cit.

dissolved solids and other constituents to surface waters and could cause degradation of the receiving water quality. In the event that groundwater is encountered during construction and groundwater dewatering is necessary, any groundwater dewatering during excavation would be conducted in accordance with the requirements of the CGP, which allows the discharge of dewatering effluent if the source of the water is uncontaminated groundwater and is properly filtered or treated, using appropriate technology.

The depth to groundwater along the project alignment varies from approximately 5 feet to 15 feet below ground surface. Project construction would require excavation to a depth of approximately 2 feet for the proposed trail and up to 20 feet for the proposed bridge foundations. The proposed project would not require utility improvements or trenching. Groundwater levels can fluctuate several feet depending on factors such as seasonal rainfall, groundwater withdrawal, and construction activities on the project site or at adjacent properties. Release of dewatered groundwater to surface waters can introduce total dissolved solids and other constituents to surface waters and could cause degradation of the receiving water quality. In the event that groundwater is encountered during construction and groundwater dewatering is necessary, any groundwater dewatering during excavation would be conducted in accordance with the requirements of the CGP.

Prior to the start of construction, Alameda County would obtain coverage under the CGP for dewatering activities if the following conditions are met:

- The discharge does not cause or contribute to a violation of any water quality standard;
- The discharge does not violate any other provision of the Construction General Permit;
- The discharge is not prohibited by the applicable Basin Plan;
- The discharger has included and implemented specific BMPs required by the Construction General Permit to prevent or reduce the contact of the non-stormwater discharge with construction materials or equipment;
- The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;
- The discharge is monitored and meets the applicable numeric action levels; and
- The discharger reports the sampling information in the annual report.

If any of the above conditions are not satisfied, the discharge of dewatering effluent is not authorized by the CGP, the County must notify the San Francisco RWQCB to determine whether a separate NPDES permit is necessary.

In addition to compliance with existing regulatory requirements, Mitigation Measure HYD-1 would be implemented to ensure that equipment and materials storage and maintenance operations occur outside of riparian areas and floodplains.

Mitigation Measure HYD-1**Equipment and Materials Storage and Maintenance Operations.**

During construction, all refueling and/or storage and maintenance of heavy equipment shall take place at a minimum of 50 feet away from the top of bank of creeks and all identified jurisdictional wetlands and waters of the United States drainage courses. The refueling/maintenance and construction materials and chemical storage staging area shall be bermed, graveled, or covered with straw and incorporate measures for capture of any accidental spills. If construction with pollutant material storage requirements occurs during the rainy season, no storage or construction staging areas shall be within identified 100-year flood plain or reservoir flow easement areas. All temporary construction lay-down and staging areas shall be restored upon completion of work with silt fences, straw rolls, and ground bags, etc. removed and the area re-seeded and stabilized.

Adherence with the CGP, including implementation of the required SWPPP, Construction BMPs, and dewatering requirements and implementation of Mitigation Measure HYD-1, which requires equipment and materials storage and maintenance operations outside of riparian areas and floodplains, would ensure construction impacts related to surface and groundwater quality standards, waste discharge requirements, and surface and groundwater quality would be **less than significant with mitigation**.

Operation. The proposed trail would consist of a 10-foot wide, all-weather surface trail with 2-foot shoulders on either side composed of decomposed granite or aggregate. The trail surface would likely consist of 4 inches of asphalt concrete atop 6 inches of class II aggregate base. The trail would meet accessibility guidelines, meaning that the grade in the direction of travel would be less than 5 percent and the cross slope would be no more than 2 percent. Stormwater runoff would be directed to the trail shoulders to drain. The trail shoulders, which would be pervious, would have a surface area that is greater than twice the size of the impervious surface area. In addition, the proposed project would include retaining walls in some locations to accommodate slope cuts. Phase 1 of the proposed project would also include the addition of parking stalls at the existing Alameda Creek Staging Area and at the Palomares Road connection.

Phase 1 of the proposed project would increase the impervious area in the project by 3.7 acres compared to the existing condition, which is unpaved and vegetated. Future development of Phases 2 and 3 would also result in an increase in impervious surfaces within the project area. Pollutants of concern from long-term operations include sediment; metals; organic compounds such as pesticides, polynuclear aromatic hydrocarbons, and oil and grease; pathogens; nutrients; and trash and debris. If not properly controlled, these pollutants could accumulate on impervious surfaces, come into contact with stormwater runoff, and be discharged into Alameda Creek, thereby increasing the pollutant loading compared to the existing condition. In addition, runoff from the project could alter the rate, volume, or duration of discharges into Alameda Creek, which could cause erosion and siltation and contribute to stream channel hydromodification impacts.

The project site would be under the jurisdiction of the San Francisco RWQCB and the Alameda Countywide Clean Water Program, of which the City of Fremont and County of Alameda are participants. Both the City of Fremont and Alameda County are under the purview of the MRP and the proposed project would be subject to the requirements of Provision C.3 of the MRP because the project would develop more than 5,000 square feet of impervious surfaces. Therefore, the proposed project would include a design-level Stormwater Control Plan (SCP) that complies with existing NPDES regulations, which requires compliance with the applicable requirements of Provision C.3 of the MRP. The SCP would act as the overall program document designed to provide measures to mitigate potential water quality impacts associated with the operation of the proposed project. The SCP would be prepared in accordance with the requirements and guidelines set forth in the Alameda Clean Water Program C3 Technical Guidance Manual.

MRP Provision C.3 addresses post-construction stormwater management requirements for new development and redevelopment projects that add and/or replace 5,000 square feet or more of impervious area. Provision C.3 requires the incorporation of site design, source control, and stormwater treatment measures into development projects to minimize the discharge of pollutants in stormwater runoff and non-stormwater discharges and to prevent increases in runoff flows. LID methods are required to be the primary mechanism for implementing such controls. Specific LID design may include but is not limited to using pervious pavements and green roofs, dispersing runoff to landscaped areas, and/or routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout the site.

MRP Provision C.3.g pertains to hydromodification management. This MRP provision requires that stormwater discharges not cause an increase in the erosion potential of the receiving stream over the existing condition. Increases in runoff flow and volume must be managed so that the post-project runoff does not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force.

Additionally, the County would be required to comply with Article IV, Section 13.08.250 of the Alameda County Municipal Code, which requires the implementation of the required stormwater quality controls in accordance with the regulations of the NPDES permit and as determined by the Director of Public Works.

Overall, because the proposed project would be required to comply with existing regulations including the CGP, the MRP, and Alameda County Municipal Code requirements and because Mitigation Measure HYD-1 would be implemented, which requires equipment and materials storage and maintenance operations outside of riparian areas and floodplains, the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be **less than significant**.

Threshold 4.7.2: Groundwater Supplies. The potential for the proposed project to result in adverse effects to groundwater during construction period dewatering, alteration of existing pervious surfaces, or through use of groundwater supply sources is discussed below.

Construction. The proposed project may use local groundwater supplies during construction for dust control and other construction activities. However, this amount of water would be negligible and water use would be temporary in nature, limited only to the construction period. As previously discussed, dewatering may be required during construction; however, any dewatering would be temporary and affect only the uppermost water-bearing zone. Therefore, the potential for the proposed project to substantially deplete groundwater supplies or interfere with groundwater recharge during construction would be **less than significant**.

Operation. Operation of the proposed project would not require the use of local groundwater supplies for potable water or any other uses as no landscaping is proposed. However, the proposed project would add impervious surface, thereby potentially reducing the total amount of groundwater recharge. However, the majority of the surrounding areas would remain undeveloped and stormwater runoff would be directed to the trail shoulders which would be composed of decomposed granite or aggregate and would assist with the infiltration of runoff. Additionally, the proposed project would be required to implement LID design techniques that would emphasize the use of infiltration to mimic the site's pre-development hydrology, and the proposed trail would drain to pervious area, which would have a surface area that is greater than twice the size of the impervious surface area. Consequently, infiltration would be maintained at levels similar to pre-project conditions. Therefore, the potential of the proposed project to substantially deplete groundwater supplies or interfere with groundwater recharge during operation would be **less than significant**.

Threshold 4.7.3(i): Substantial Erosion or Siltation. Construction activities would involve excavation and grading, which would temporarily expose soil to potential erosion and increase the risk of siltation in storm drainage systems and receiving waters.

As previously discussed, construction activities have the potential to increase erosion and siltation. Additionally, the proposed project includes the construction of two new Class I trail bridges that would cross Alameda Creek. Construction of creek crossings would require excavation, grading, and construction of foundations near the creek banks. If not properly managed, the near-creek earthwork could result in exposure of creek banks and erosion on-site and sedimentation off-site. However, adherence with the CGP, including implementation of the required SWPPP and Construction BMPs would reduce erosion/siltation impacts associated with construction activities to less than significant levels.

The proposed project would not change the course of a stream or change the general direction of flow of stormwater. However, the proposed increase in impervious surfaces could increase the velocity and volume of stormwater runoff, which could contribute to erosion along Alameda Creek. Although the proposed project would result in an increase in impervious surfaces, the impervious area would be narrow and gently sloped; therefore, the velocity and volume of stormwater discharge would not significantly increase because stormwater would not accumulate in sufficient quantities to significantly increase stormwater volumes and velocity. Additionally, the proposed

project would include LID design techniques that would emphasize the use of infiltration to mimic the site's pre-development hydrology. Stormwater would be directed to the trail shoulders consisting of decomposed granite or aggregate, which would act as an energy dissipator and decrease the velocity of stormwater discharge and increase runoff infiltration after it flows off the developed trail area. These design measures would reduce the potential increase in stormwater volume and velocity that could result from increased impervious surfaces. Therefore, the proposed trail improvements would not substantially change drainage patterns, resulting in significant additional erosion or siltation on-site or downslope of the project area.

Due to the implementation of LID techniques as required by the MRP and Alameda County Municipal Code, project impacts on drainage patterns and erosion or siltation would be **less than significant**.

Threshold 4.7.3(ii): Flooding On or Off Site. The proposed project would not change the course of a stream or change the general direction of flow of stormwater. As previously discussed, the increase in impervious surfaces would not substantially increase runoff rates or volumes due to the gentle slope and narrow width of the proposed trail. Additionally, the proposed project would be required to implement LID design techniques that would emphasize the use of infiltration to mimic the site's pre-development hydrology. The proposed drainage facilities and BMPs needed to accommodate stormwater runoff would be appropriately sized so that on-site flooding would not occur. Therefore, implementation of the proposed project would not alter drainage patterns or result in flooding on- or off-site and impacts would be **less than significant**.

Threshold 4.7.3(iii): Stormwater. The proposed project would not change the course of a stream or change the general direction of flow of stormwater. As previously discussed, the increase in impervious surfaces would not substantially increase runoff rates or volumes due to the gentle slope and narrow width of the proposed trail. Additionally, the proposed project would be required to implement LID design techniques that would emphasize the use of infiltration to mimic the site's pre-development hydrology, which includes directing stormwater runoff to the pervious areas on either side of the proposed trail. The proposed drainage facilities and BMPs needed to accommodate stormwater runoff would be appropriately sized such that drainage facility capacity would not be exceeded during a design storm. Therefore, this impact would be **less than significant**.

As previously discussed, pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals, and each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. Drainage patterns would be temporarily altered during grading and other construction activities, and construction-related pollutants could be spilled, leaked, or transported via storm runoff into adjacent drainages and downstream receiving waters. However, the proposed project would be required to comply with the requirements set forth by the CGP and SWPPP, which would specify BMPs to be implemented to control the discharge of pollutants in stormwater runoff as a result of construction activities. Compliance with the requirements in the CGP and implementation of construction BMPs, would ensure that construction of the proposed project would not discharge substantial sources of polluted runoff from the project-site and impacts would be **less than significant**.

Expected pollutants of concern from long-term operation of the proposed project include pathogens (bacteria/viruses), metals, nutrients, pesticides/herbicides, sediments/total suspended solids, trash and debris, and oil and grease. Additional pollutants of concern from long-term operations of the proposed parking areas associated with the proposed project include motor vehicle lubricants, coolants, disc brake dust, and toxic organic compounds. As previously discussed, compliance with the MRP and the implementation of LID techniques would ensure that the proposed project would not discharge substantial sources of polluted runoff from the project site. Operation-related impacts would be **less than significant**.

Threshold 4.7.3(iv): Flood Flows. The proposed project would not change the course of a stream or change the general direction of flow of stormwater. The majority of the project area is not within a 100-year regulatory floodplain identified or recognized by FEMA, but some sections of the proposed trail alignment are within the 1 percent annual chance flood hazard zone.¹⁷² However, the proposed trail would be at grade such that it would not present an obstacle that would impede flood flows or raise the flood elevation.

The proposed retaining walls would not be within the 100-year floodplain or the regulatory floodway; however, it is possible that the proposed Class I trail pedestrian bridges would be placed at an elevation that may block channel flow during intense runoff events. If high-velocity flows were blocked by the bridge spans, flood waters could back up around the bridge, causing localized flooding. This is a **potentially significant** impact.

Impact HYD-2: The proposed project could impede or redirect flood flows due to the alteration of the existing drainage pattern in the project area.

Implementation of **Mitigation Measure HYD-2** would ensure the bridge would be designed to conform with 50-year and 100-year flood elevation freeboard requirements and that the proposed project would not impact Alameda Creek flood elevations. With implementation of this mitigation measure, the proposed project would not substantially increase the rate or amount of surface runoff or create an obstruction in a manner that would result in flooding.

Mitigation Measure HYD-2 Prior to approval of the final project plans, detailed bridge designs shall be reviewed and approved by the County of Alameda. The design shall be prepared by a qualified professional engineer. The bridge plans shall include structural engineering, geotechnical engineering, and hydraulic engineering information. The responsible bridge designer shall be a State of California licensed Civil Engineer and shall be experienced in hydraulic analysis, bridge design, and flood channel and bank protection design. The engineering plans shall demonstrate conformity to Alameda County, and any applicable Federal Emergency Management Agency, floodplain management regulations and include design elevations of the bridge, conformity with 50-year and 100-year flood elevation

¹⁷² Federal Emergency Management Agency, 2009. *Flood Insurance Rate Map (FIRM), Alameda County and City of Fremont, California, Map Numbers 06001C0455G and 06001C0460G*. August 3.

freeboard requirements, the locations and structural design of the bridge abutments with respect to flood flows, bridge loading, and channel bank protection requirements. The technical studies shall confirm that there is no impact of trail bridges or trail structures on Alameda Creek flood elevations and trail embankment stability, or on County-operated and maintained bridges.

With implementation of Mitigation Measure HYD-2, project impacts on drainage patterns and flood flows would be less than significant. Therefore, implementation of the proposed project would not alter drainage patterns or redirect flood flows and impacts would be **less than significant with mitigation**.

Threshold 4.7.4: Inundation. The majority of the project area is not within a 100-year regulatory floodplain identified or recognized by FEMA; however, small sections of the project site are within the 1 percent annual chance flood hazard zone.¹⁷³

During construction of the proposed project, there could be a release of pollutants due to project inundation caused by flooding due to the use of paints, solvents, fuels, lubricants, and other hazardous materials associated with heavy construction equipment. However, implementation of Mitigation Measure HYD-1 would require a variety of good housekeeping practices during the construction period, including storing chemicals away from riparian areas and completing construction activities in the dry season when there would be little chance of flooding. These actions would prevent discharge of pollutants into receiving waters during the construction period and impacts would be **less than significant with mitigation**.

Although portions of the proposed trail are within a flood hazard area, no structures are proposed for these areas that would store pollutants that could be released during periods of flooding. Therefore, the proposed project would not risk release of pollutants due to inundation by flood during the operational period and impacts would be **less than significant**.

The project site is within the mapped dam failure inundation zone for the James H. Turner dam, the Del Valle dam, and the New Calaveras, No. 10-27 dam.¹⁷⁴ The DSOD performs inspection and maintenance of the James H. Turner dam, the Del Valle dam, and the New Calaveras, No. 10-27 dams. The proposed project would not increase or exacerbate the risk of inundation by dam failure. Based on the rulings of the California Second District Court of Appeals (*Ballona Wetlands Land Trust v. City of Los Angeles*, 201 Cal. App. 4th 455) and the California Supreme Court (*California Building Industry Association vs. Bay Area Air Quality Management District*), an analysis of the effects of inundation associated with dam failure on the project site is not required if the project does not exacerbate the existing condition. Additionally, as previously discussed, implementation of Mitigation Measure HYD-1 would require a variety of good housekeeping practices during the construction period, including storing chemicals away from riparian areas, which would prevent

¹⁷³ Ibid.

¹⁷⁴ California Department of Water Resources Division of Safety and Dams. n.d. *California Dam Breach Inundation Maps*. Website: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2 (accessed March 30, 2022).

discharge of pollutants into receiving waters. Additionally, no structures are proposed as part of the project that would store chemical pollutants that could be released during operation of the proposed project if inundation due to dam failure were to occur. Therefore, impacts would be **less than significant**.

As previously discussed, seiches are not considered a hazard in the San Francisco Bay. However, the City of Fremont General Plan states that seiche could affect the City by causing the Del Valle and Turner Reservoir to spill over their dams and inundate areas such as Niles Canyon. As previously discussed, implementation of Mitigation Measure HYD-1 would require a variety of good housekeeping practices during the construction period, including storing chemicals away from riparian areas, which would prevent discharge of pollutants into receiving waters. Additionally, no structures are proposed as part of the project that would store chemical pollutants that could be released during operation of the proposed project if inundation due spill over from the Del Valle or Turner Reservoirs were to occur. Therefore, impacts would be **less than significant with mitigation**.

The elevation of the project site, which ranges from 70 to 250 feet above mean sea level and its distance from the San Francisco Bay (approximately 8 miles), provide protection from coastal hazards, such as sea level rise, tsunami, or extreme high tides, all of which tend to present hazards for sites at lower elevations. Additionally, according to California Department of Conservation's California Tsunami Maps and Data, the entirety of the project site is outside of a tsunami hazard area.¹⁷⁵ Therefore, there would be no impact related to the release of pollutants in the event of inundation due to tsunamis.

Overall, compliance with existing regulatory requirements and implementation of Mitigation Measure HYD-1 would prevent the discharge of pollutants into receiving waters due to project inundation during construction due to flooding, dam failure, seiche, or tsunami. Additionally, no structures are proposed as part of the project that would store chemical pollutants that could be released during operation of the proposed project if inundation were to occur. Therefore, impacts would be **less than significant**.

Threshold 4.7.4: Conflict with Water Quality Control Plan or Sustainable Groundwater Management Plan. In the Bay Area, including the project site, the San Francisco RWQCB is responsible for implementation of the Basin Plan, which establishes beneficial water uses for waterways and waterbodies within the region. As previously discussed, Phases 1, 2, and 3 would comply with existing NPDES permit requirements, including the CGP and the MRP, and would implement construction and operational BMPs to reduce pollutants of concern in stormwater runoff. Compliance with these regulatory requirements and implementation of Mitigation Measure HYD-1 would ensure that Phases 1, 2, and 3 would not degrade or alter water quality, causing the receiving waters to exceed the water quality objectives, or impair the beneficial use of receiving waters. As such, the proposed project would not result in water quality impacts that would conflict with the Basin Plan. Construction and operational impacts related to a conflict with the Basin Plan would be **less than significant with mitigation**.

¹⁷⁵ California Department of Conservation. 2021. *California Tsunami Maps and Data*. Website: <https://www.conservation.ca.gov/cgs/tsunami/maps> (accessed March 30, 2022).

SGMA, which was enacted in September 2014, requires governments and water agencies of high- and medium-priority basins to halt overdraft of groundwater basins. The SGMA requires the formation of local Groundwater Sustainability Agencies, which are required to adopt Groundwater Sustainability Plans to manage the sustainability of the groundwater basins. As previously discussed, the California Department of Water Resources (DWR) designates the Niles Cone Groundwater Subbasin as medium priority and the Sunol Valley Groundwater Basin as very low priority. Therefore, a Groundwater Sustainability Plan is required for the Niles Cone Groundwater Subbasin but not the Sunol Valley Groundwater Basin. ACWD developed an Alternative to a Groundwater Sustainability Plan, which the DWR approved in 2019, for the management of the subbasin that preserves and continues the successful sustainable groundwater management already being performed by ACWD. ACWD subsequently submitted an Alternative Update to the DWR on December 29, 2021, which provides an update on ACWD's groundwater management efforts, an explanation of how the Alternative Update is functionally equivalent to elements of a Groundwater Sustainability Plan, incorporates the seven actions recommended by DWR during review of the first Alternative, and includes information on proposed projects, management actions, and/or next steps to ensure the continued sustainable management of the Niles Cone Groundwater Subbasin.¹⁷⁶

As previously discussed, dewatering may be performed during construction activities involving excavation for the proposed project (all phases). Construction-related dewatering would be temporary and limited to the area of excavations on the project site and would not substantially contribute to the depletion of groundwater supplies. Operation of the proposed project would not require use of local groundwater supplies for potable water or any other uses. However, the proposed project would result in an increase in impervious surfaces, thereby potentially reducing the total amount of groundwater recharge. However, in compliance with the MRP, the proposed project would be required to implement LID design techniques that would emphasize the use of infiltration to mimic the site's pre-development hydrology. Consequently, infiltration would be maintained at levels similar to pre-project conditions. For these reasons, the proposed project would not conflict with or obstruct the implementation of a sustainable groundwater management plan. Construction and operational impacts related to conflict with or obstruction of water quality control plans or sustainable groundwater management plans would be **less than significant**.

4.7.2.3 Cumulative Impacts

The cumulative study area for hydrology and water quality is the Alameda Creek Watershed. Stormwater within the Alameda Creek Watershed, including the project site, ultimately discharges to San Francisco Bay. New development and redevelopment within the Alameda Creek Watershed can result in increased stormwater runoff and an increase in urban pollutants discharging to receiving waters within the Alameda Creek Watershed and, ultimately, San Francisco Bay. The major source of pollution in urban storm water runoff typically includes petroleum hydrocarbons, sediments, nutrients, metals, and trash. Stormwater discharges associated with new development and redevelopment with the Alameda Creek Watershed would contribute to impairment of the water quality of San Francisco Bay. San Francisco Bay is listed as water-quality impaired for chlordane, DDT, dieldrin, dioxin compounds (including 2,3,7,8-TCDD), furan compounds, invasive

¹⁷⁶ Alameda County Water District. n.d. *Sustainable Groundwater Management Act*. Website: <https://www.acwd.org/566/Sustainable-Groundwater-Management-Act> (accessed December 29, 2022).

species, mercury, PCBs, PCBs (dioxin-like), and trash indicating that, relative to these compounds and constituents, the carrying capacity of the Bay has already been exceeded and a cumulative impact is occurring.

Regional programs and BMPs, such as TMDL programs and the MRP Permit Program, have been designed under an assumption that development will continue within the Alameda Creek Watershed. The regional programs and associated requirements are designed to address the cumulative effects of proposed development. All projects within the Alameda Creek Watershed must include BMPs to reduce impacts to water quality and hydrology in compliance with requirements of the various NPDES permits as well as in compliance local plans and ordinances. Specifically, all projects that disturb 1 acre or more of soil would be required to comply with the requirements of the CGP, which requires the preparation, approval and implementation of a SWPPP and construction BMP plan to reduce pollutants in stormwater runoff and protect water quality during construction. Similarly, projects would be designed and implemented to target and reduce pollutants of concern from stormwater runoff in compliance with the MRP during project operations. Compliance with these regional programs and permits constitutes compliance with programs intended to address cumulative water quality impacts. Because the proposed project and other projects within the Alameda Creek Watershed would comply with applicable NPDES and City of Fremont and County of Alameda requirements and would include BMPs to reduce the volume of stormwater runoff and pollutants of concern in stormwater runoff, the cumulative hydrology and water quality impacts of the proposed project when considered along with other projects in the Alameda Creek Watershed would be less than significant.

Future projects in the affected drainage area may contribute discharges that could result in exceedance of drainage system capacity and increase flooding within the 100-year floodplain. However, new projects that could increase runoff rates and volumes are subject to existing regulations and requirements that would require these modifications to the floodplain to be designed in a manner that minimizes increases in runoff and adverse modifications to floodplain flow and storage. As previously discussed, the proposed project would not result in any adverse impacts to the floodplain, as no retaining walls are proposed within the floodplain or regulatory floodway and Mitigation Measure HYD-2 would ensure the proposed bridges would be designed to conform with 50-year and 100-year flood elevation freeboard requirements. Furthermore, the project would not result in a significant increase in the discharge of stormwater runoff that could exceed the capacity of the storm drainage system downstream or increase the flood depth or velocity on- or off-site, because design measures would be implemented that comply with the MRP. Therefore, the project's contribution to the cumulative flooding impact would not be considerable. The cumulative impact would be **less than significant**.

4.8 LAND USE AND PLANNING

This section describes existing land uses on the project site as well as the surrounding area, defines the existing regulatory context, identifies potential land use and policy impacts, and recommends mitigation measures, where appropriate.

This section also contains a discussion of relevant land use policies. However, policy conflicts do not, in and of themselves, constitute a significant environmental impact. Potential conflicts are considered to be environmental impacts only when they would result in direct physical impacts. Therefore, land use policies are discussed in this section for informational purposes only. All other associated physical impacts are discussed in this EIR in the appropriate technical sections that address specific topical areas such as noise, air quality, and transportation.

4.8.1 Setting

The following section describes the existing land uses and regulatory context of the project site and vicinity.

4.8.1.1 Project Site and Surrounding Area

As described in Chapter 3.0, Project Description, the project area consists of a 14-foot-wide, 6-mile-long corridor through Niles Canyon between the Niles District of the city of Fremont and the unincorporated community of Sunol.

The project corridor begins at Niles Plaza, west of Mission Boulevard in the Niles District within Fremont and extends along Niles Boulevard, across Alameda Creek on Mission Boulevard and then along the existing Alameda Creek Trail. This portion of the project corridor is within a developed, urban area. Land uses along the project corridor include primarily commercial and civic uses, with some residential development.

A portion of the project corridor extends along Old Canyon Road into the Mission Clay property, which is privately owned. Land uses along Old Canyon Road are primarily single-family residential. Mission Clay is a former clay pipe manufacturer located at the end of Old Canyon Road. The property is currently owned by BBG KRG Inc. Although the San Francisco Public Utilities Commission (SFPUC) owns most of the driveway up to the parcel, BBG KRG maintains an access easement. The Mission Clay site is contaminated with hydrocarbons and the Regional Water Quality Control Board is overseeing soil treatment and remediation under Case 01S0795.

From the Mission Clay property, the project corridor traverses primarily undeveloped, open space land, owned by public agencies including the East Bay Regional Park District (EBRPD) and SFPUC, within California Department of Transportation (Caltrans) right-of-way, and Union Pacific Railroad (UPRR) right-of-way.

The eastern end of the project corridor, on the north side of SR-84, runs upslope of the Niles Canyon Railway and on the north side of the Brightside Railroad Yard. The Pacific Locomotive Association (PLA) is a nonprofit entity that operates the Niles Canyon Railway as a museum illustrating railroad operations specifically during the period of 1910 to 1960. Trains travel between Niles and Sunol

from February to December. PLA operates both historic diesel and steam locomotives along the corridor, typically with four passenger cars, at a maximum allowable speed of 30 mph. However, the trains typically operate at about 20 miles per hour (mph). The Brightside Railroad Yard provides area for storage and repair of train equipment and facilities.

From the Brightside Railroad Yard, the project corridor continues east along the north side of SR-84 through lands owned by the County of Alameda (County) and private landowners. The project corridor then runs along Foothill Road to the Tyler Ranch Staging Area, which is owned and operated by the EBRPD. From the Tyler Ranch Staging Area, the proposed trail would continue along Foothill Road to downtown Sunol.

4.8.1.2 Regulatory Context

The following discussion includes a description of the regulatory context for land use as they relate to development within the project area.

Federal and State Regulations. There are no federal or State laws or regulations regarding land use that are applicable to the proposed project.

Regional and Local Regulations. The main guiding documents regulating land use within and around the project site are the Alameda County General Plan,¹⁷⁷ the Alameda County Zoning Ordinance,¹⁷⁸ the East County Area Plan,¹⁷⁹ the Alameda County Active Transportation Plan,¹⁸⁰ the Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas,¹⁸¹ the City of Fremont General Plan,¹⁸² the City of Fremont Zoning Ordinance,¹⁸³ the City of Fremont Bicycle Master Plan,¹⁸⁴ and the City of Fremont Pedestrian Master Plan.¹⁸⁵

Alameda County General Plan. Alameda County has designated three Plan Areas within the county including the Castro Valley Area, the Eden Area, and the East County Area. For each Plan Area, a Specific Area Plan has been prepared that covers a variety of topics. In addition, the County has developed eight countywide elements that apply to the entire county. The Countywide Elements of the General Plan include Community Climate Action Plan Element, Conservation Element, Housing Element, Noise Element, Open Space Element, Recreation Plan, Safety Element, and Scenic Route Element.

¹⁷⁷ County of Alameda. n.d.-a. "General Plan, Specific Plans and Ordinances" Website: <https://www.acgov.org/cda/planning/generalplans/index.htm> (accessed June 1, 2022).

¹⁷⁸ County of Alameda. n.d.-b. Alameda County Code of Ordinances, Title 17 – Zoning. Website: https://library.municode.com/ca/alameda_county/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.02 INPR (accessed June 1, 2022).

¹⁷⁹ County of Alameda. 1994. East County Area Plan. May.

¹⁸⁰ Alameda County Transportation Commission. 2019. Countywide Active Transportation Plan. June.

¹⁸¹ County of Alameda. 2019. Alameda County Bicycle & Pedestrian Master Plan for Unincorporated Areas. October.

¹⁸² City of Fremont. 2011. City of Fremont General Plan 2030. December.

¹⁸³ City of Fremont. 2021. City of Fremont Municipal Code. Title 18. Planning and Zoning.

¹⁸⁴ City of Fremont. 2018. City of Fremont Bicycle Master Plan. July 10.

¹⁸⁵ City of Fremont. 2016. City of Fremont Pedestrian Master Plan. December 13.

The Alameda County Recreation Plan includes the following objectives and principles that are applicable to the proposed project:

- **Physical Planning Objective 4.** To provide sufficient and appropriate areas for park and recreation facilities and services of county, metropolitan, or state-wide significance and use, which, in conjunction with appropriately planned local neighborhood and community parks and recreation facilities and services, will satisfy the recreation needs of the entire population of the county.
- **Physical Planning Objective 5.** To provide a system of public open spaces of county, metropolitan or state-wide significance and recreation use in proper relation to neighborhood, community and other recreation areas serving cities and recreation districts, to other types of land use, to other public services and facilities, and to transportation.
- **Physical Planning Principal 3.** Sufficient and appropriate areas for all types of parks and recreation facilities and services of county, metropolitan or state-wide significance and use should be allocated so that such areas will be conveniently located in relation to all of the various population centers that will exist in the county, and so that a variety of such areas will exist for the county as a whole.
- **Physical Planning Principal 4.** The physical system of county-wide park and recreation areas and facilities should provide for a full range of active, passive, and cultural recreation activities, serving all age groups, organized activity groups, and serving daytime, overnight camping, weekend and vacation recreational needs.
- **Physical Planning Principal 5.** Parks and recreation areas should be planned and developed in conjunction with other conservation and development programs to serve multiple purposes when appropriate, including flood, erosion and watershed control, reservoir development, land conservation and reclamation.
- **Physical Planning Principal 6.** The county-wide park and recreation areas and facilities should be achieved primarily through a county park and recreation system and program and should be coordinated with: (1) the local neighborhood and community parks, achieved through city and recreation district programs; (2) large parks and special recreation facilities of county-wide or greater area significance achieved through city, district, state, or federal programs; and (3) recreation areas and facilities provided by semi-public agencies and private individuals; and (4) semi-public recreation-residential areas.

The Alameda County Open Space element includes the following objectives and principals that are applicable to the proposed project:

- **To relate open space to existing and proposed urban land uses in such a manner as to enhance living conditions in the entire county.**

- **To provide for permanent separation and identification of communities through use of open space that will include park and recreation areas coordinated with a continuous system of trails and scenic tours.**
- **To provide open space recreation and study areas for the enjoyment and education of all people in the county.**
- **Provide a Coordinated System of Open Space.** A coordinated system of public and private open space and major park and recreation areas should be provided throughout the county and should connect to open space of adjacent counties. All major areas of public open space should be connected by trails and scenic routes.
- **Provide Park and Recreation and Nature Areas in Open Space Adjacent to Each Community.** Because of increasing demand per capita for park, recreation, and nature areas in or near metropolitan population centers, selected portions of easily accessible open space surrounding communities should be utilized for leisure time facilities.
- **Encourage Appropriate Low Intensity Commercial Recreation Areas in Selected Open Space Areas.** Appropriate low density commercial recreation areas should be encouraged by local recreation and park districts in the vicinity of urban areas.
- **Recreation and Park Areas Accessible to Each Community Should be Provided.** To provide for close-in leisure time facilities, recreation and park areas should be provided within the open space surrounding each city or community. Recreation trails should be provided throughout the public open space surrounding each community to connect with recreation areas.
- **Provide a Variety of Major Park and Recreational Areas to Accommodate a Range of Facilities.** A variety of major park and recreational areas to accommodate a range of facilities, including those for short duration visits near the urban area to weekend vacation needs in the more rural areas. All facilities should be of a character compatible to the natural environment.
- **Provide Major Park and Recreation Facilities in Areas of Outstanding Beauty.** Wherever possible, major park and recreation areas should be designated in areas of outstanding beauty, which include vegetation, streambeds of water bodies, unusual topography, or viewpoints.

East County Area Plan. The Board of Supervisors adopted The East County Area Plan on May 5, 1994. The area plan is divided into seven chapters that describe the existing conditions and context for seven related topic areas: Land Use, Transportation, Public Services and Facilities, Environmental Health and Safety, Policies Pertaining to North Livermore, Policies Pertaining to South Livermore, and Policies Pertaining to Pleasanton Ridglands.

The East County Area Plan land use diagram designates the project site and adjacent areas as Large Parcel Agriculture (LPA), Parklands (P), Water Management (WM), Rural Density

Residential (RR), and Downtown Sunol (SD). Allowable uses within these designations include the following:

- *Large Parcel Agriculture (LPA)* is intended for low intensity agriculture and grazing, agricultural processing facilities, agricultural support services, secondary residential units, recreational uses, visitor-service commercial facilities, public and quasi-public uses, solid waste landfills and related waste management facilities, quarries, windfarms, utility corridors, and similar uses compatible with agriculture.
- *Parklands (P)* are intended for regional parks and open space.
- *Water Management (WM)* is intended for sand and gravel quarries, reclaimed quarry lakes, watershed lands, arroyos, public use areas, and similar and compatible uses.
- *Rural Density Residential (RR)* is intended for single family detached homes, secondary residential units, limited agricultural uses, public and quasi-public uses, and similar and compatible uses.

The East County Area Plan includes the following goals and policies that are applicable to the proposed project:

- **Interjurisdictional Coordination Goal:** To foster cooperative planning and implementation in East County.
 - *Policy 4:* The County shall actively consult with East County cities during formulation of County land use plans and projects that have potential subregional impacts and shall encourage cities to reciprocate.
- **Community Facilities Goal:** To provide a full range of community facilities to maintain and improve service levels and the quality of life for existing and future residents.
 - *Policy 48:* The County shall promote the development of a full range of accessible neighborhood facilities including elementary schools, parks, and other amenities.
 - *Policy 50:* The County shall promote the location of community facilities near major transportation corridors and within existing city downtown areas.
- **General Open Space Goal:** To protect regionally significant open space and agricultural land from development.
 - *Policy 52:* The County shall preserve open space areas for the protection of public health and safety, provision of recreational opportunities, production of natural resources (e.g., agriculture, wind power, and mineral extraction), protection of sensitive viewsheds, preservation of biological resources, and the physical separation between neighboring communities.

- **Program 24:** The County shall work with the East Bay Regional Park District, the Livermore Area Recreation and Park District, the San Francisco Water Department, California Department of Fish and Game, and cities to identify appropriate public and private uses that should be allowed within various portions of the open space system, including active and passive recreation, and grazing.
- **Watershed Goal:** To protect watershed land from the direct and indirect effects of development.
 - *Policy 101:* The County shall encourage public water management agencies to explore recreational opportunities on watershed lands, particularly reclaimed quarries, where recreational use would not conflict with watershed protection objectives.
 - *Policy 102:* The County shall encourage the San Francisco Water Department to provide limited public access on trail corridors through the watershed lands surrounding San Antonio and Calaveras Reservoirs, Sunol Watershed, and the Arroyo de la Laguna. The County shall work with the East Bay Regional Park District to incorporate these watershed corridors into the regional trail system, where recreational use would not conflict with watershed protection objectives.
- **Sensitive Viewsheds Goal:** To preserve unique visual resources and protect sensitive viewsheds.
 - *Policy 116:* To the maximum extent possible, development shall be located and designed to conform with rather than change natural landforms. The alteration of natural topography, vegetation, and other characteristics by grading, excavating, filling or other development activity shall be minimized. To the extent feasible, access roads shall be consolidated and located where they are least visible from public viewpoints.
- **General Transportation Goal:** To create and maintain a balanced, multi-modal transportation system that provides for the efficient and safe movement of people, goods, and services.
 - *Policy 176:* The County shall allow development and expansion of transportation facilities (e.g., streets and highways, public transit, bicycle and pedestrian paths, airports, etc.) in appropriate locations inside and outside the Urban Growth Boundary consistent with the policies and Land Use Diagram of the East County Area Plan.
- **Bicycle and Pedestrian Paths Goal:** To include a comprehensive network of bicycle and pedestrian paths in the local and subregional transportation network.
 - *Policy 211:* The County shall create and maintain a safe, convenient, and effective bicycle system that maximizes bicycle use.

- *Policy 212*: The County shall create and maintain a safe and convenient pedestrian system that links residential, commercial, and recreational uses and encourages walking as an alternative to driving.
- **Infrastructure and Services Goal**: To provide infrastructure and services necessary to accommodate East County holding capacities in a logical, cost-effective, and timely manner.
 - *Policy 218*: The County shall allow development and expansion of public facilities (e.g., parks and recreational facilities; schools; child care facilities; police, fire, and emergency medical facilities; solid waste, water, storm drainage, flood control, subregional facilities; utilities etc.) in appropriate locations inside and outside the Urban Growth Boundary consistent with the policies and Land Use Diagram of the East County Area Plan.

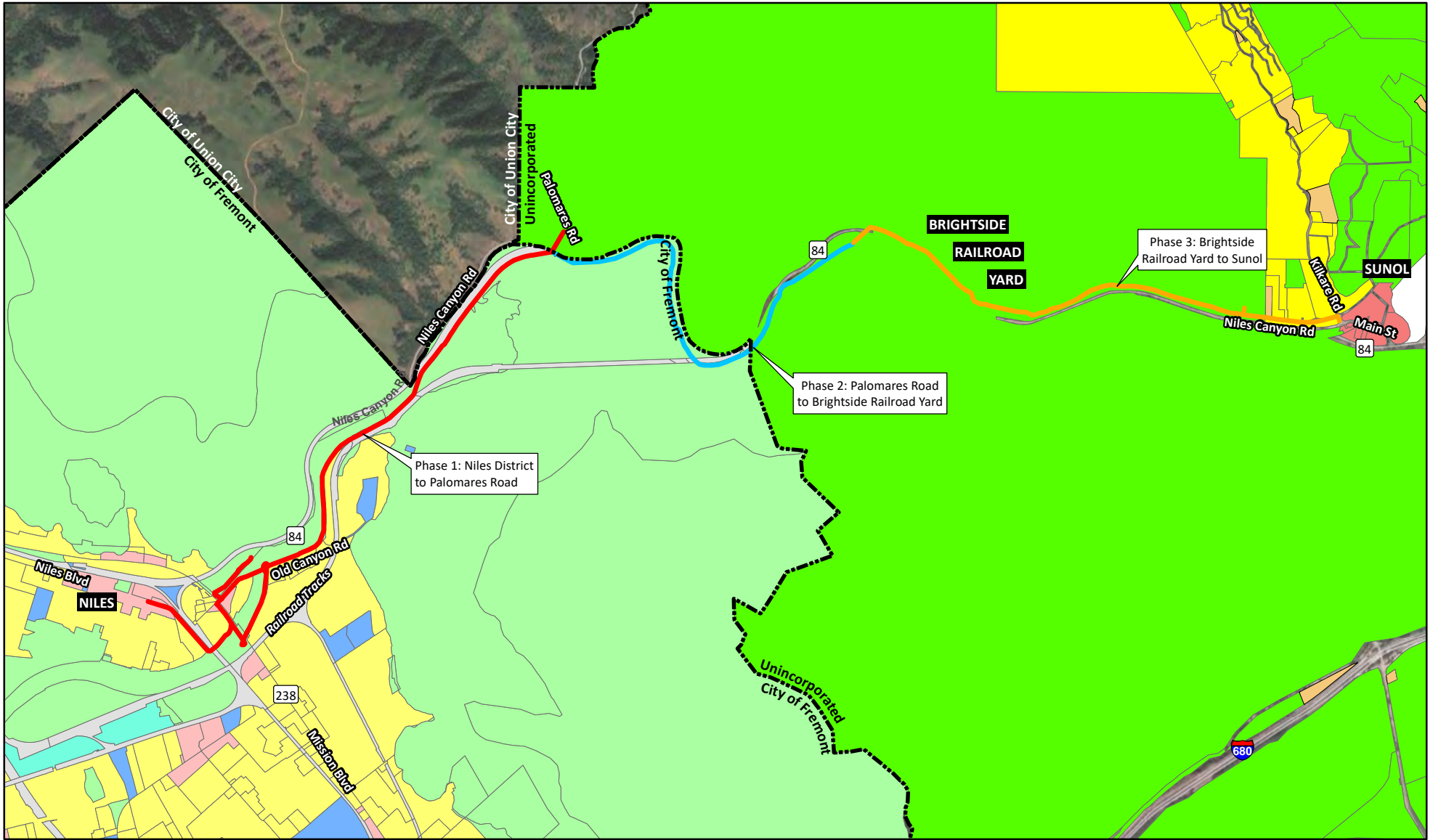
Alameda County Zoning. The Alameda County Zoning Ordinance implements the goals and policies of the General Plan by classifying and regulating the use of land and structures within the county. In addition, the Zoning Ordinance is intended to protect and promote the public health, safety, and general welfare of residents and preserve and enhance the aesthetic quality of the county. Each zoning district specifies standards for new development, such as allowable uses, minimum lot sizes, maximum densities, setbacks, height, and parking requirements. The Zoning Map also depicts allowable uses for each district, which may either be permitted by right or permitted with a use permit (or minor use permit). The project site and adjacent areas are zoned as Agriculture (A), Single Family Residential (R1), and Sunol Downtown (SD)), as shown on **Figure 4.8-1**. Allowable uses within these designations include:

- *Agriculture (A)* is intended for agricultural and other non-urban uses including single-family residences, grazing, wineries or microbreweries, fish hatcheries, public or private riding or hiking trails, boarding stables, agricultural employee housing, and other similar uses.
- *Single Family Residential (R1)* is intended for one-family dwellings, field crop, orchard or gardens, and conditionally allows community facilities, parking lots, plant nurseries, mobile home parks, medical or residential care facilities, and other similar uses.
- *Sunol Downtown (SD)* is intended for a combination of residential and commercial uses so as to maintain the economic viability of such uses to the greatest extent possible consistent with provisions of the East County Area Plan.

Alameda County Active Transportation Plan. The Alameda County Active Transportation Plan was adopted in June 2019 and addresses the implementation of pedestrian and bicycle facilities and programs of countywide significance throughout Alameda County and its four planning areas. The Plan includes the following goals related to the proposed project:

- **Safety.** Increase the safety of people bicycling and walking in Alameda County by identifying projects, policies and programs that address the greatest safety needs and by optimizing investments, through corridor-level analyses, performance evaluation, and by following industry best practices.

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LSA

LEGEND

- City Boundary
- Project Phase
 - Phase 1
 - Phase 2
 - Phase 3

City of Fremont General Plan Land Use

- Commercial
- Industrial
- Open Space
- Public Facility
- Residential
- Railroad Corridor

Alameda County Zoning

- Agriculture
- Planned Development
- Sunol Downtown
- Single Family Residential
- Unspecified

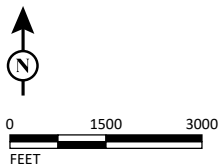


FIGURE 4-8.1

SOURCE: CSW | ST2 (06/2022); Alameda County (11/2022); City of Fremont (09/2023); Esri World Imagery Map (2023).

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- **Multimodal Connectivity.** Create connected networks of streets and trails that enable people of all ages and abilities to walk and bike to meet their daily needs, including access to transit, work, school, and major activity centers.

Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas. The Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas (BPMP) provides a roadmap for bicycle and pedestrian improvements throughout the unincorporated areas of Alameda County and builds on the vision from the 2012 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas. The 2019 BPMP updates goals, an implementable bicycle network, pedestrian network recommendations to improve safety and connectivity, and support programs for both the populated communities of West County and the rural communities of East County. The BPMP includes the following goals related to the proposed project:

- **Safety.** Increase the safety of people bicycling and walking in Alameda County by identifying projects, policies and programs that address the greatest safety needs and by optimizing investments, through corridor-level analyses, performance evaluation, and by following industry best practices.
- **Multimodal Connectivity.** Create connected networks of streets and trails that enable people of all ages and abilities to walk and bike to meet their daily needs, including access to transit, work, school, and major activity centers.

City of Fremont General Plan. The City Council adopted the City of Fremont General Plan on December 13, 2011. The General plan is divided into 12 chapters that describe the existing conditions and context for the following related topic areas: Sustainability, Land Use, Mobility, Community Character, Housing, Economic Development, Conservation, Parks and Recreation, Public Facilities, Safety, Community Plans, and Implementation. Each element establishes goals to guide future land use activities and development within the city limits and Sphere of Influence. The goals are followed by policies that provide implementation measures to accomplish each goal. The General Plan Vision Statement acts as a general guideline in developing the goals and policies within the General Plan. The Fremont General Plan Vision Statement is: “Fremont will serve as a national model of how an auto-oriented suburb can evolve into a sustainable, strategically urban, modern city.”

The Land Use Element establishes districts and policies to designate appropriate uses for those districts. The City of Fremont General Plan land use diagram designates the project site and adjacent areas as Open Space – Hill Face, Open Space – Hillside, Open Space – Resource Conservation/Public, Open Space – Park, Residential – Hillside Residential, Residential – Low, Residential – Low-Medium, Residential – Medium, Commercial – General, and Commercial – Town Center, as shown on Figure 4.8-1. Allowable uses within these designations include:

- *Open Space – Hill Face* includes all land between Toe of the Hill and the Ridgeline and allows outdoor recreation and limited public and quasi-public uses as well as grazing and agriculture.

- *Open Space – Hillside* is intended for passive outdoor recreation, agriculture, and rural residential development.
- *Open Space – Resource Conservation/Public* includes open spaces located below the Toe of the Hill and owned by public or quasi-public agencies other than the City of Fremont. These areas are intended to remain as permanent open space, allowing limited recreational and regional park improvements such as trails or interpretive nature centers.
- *Open Space – Park* includes parks that are owned and operated by the City of Fremont including fields, trails, playgrounds, tennis courts, and recreation centers.
- *Residential – Hillside Residential* includes single-family lots and subdivisions, hobby farms, estates, and open space.
- *Residential – Low* is intended for single-family detached homes, schools, childcare centers, parks, and religious facilities.
- *Residential – Low-Medium* is intended single family homes, multi-unit buildings, mobile home parks, schools, childcare centers, parks, and religious facilities.
- *Residential – Medium* is intended for apartments, condominiums, townhouses, multi-family complexes, schools, childcare centers, parks, and religious facilities.
- *Commercial – General* is intended for low-scale commercial, office, businesses, retail, and service uses.
- *Commercial – Town Center* is intended for local services, retail, restaurants, civic facilities, housing, and mixed-use development.

The City of Fremont Land Use Element includes the following goals, policies, and implementations that are applicable to the proposed project:

- **Goal 2-1: City Form and Structure.** A city transformed from an auto-oriented suburb into a distinctive community known for its walkable neighborhoods, dynamic city center, transit-oriented development at focused locations, attractive shopping and entertainment areas, thriving work places, and harmonious blending of the natural and built environments.
 - *Policy 2-1.2: A Complete City.* Plan and develop Fremont’s available land supply that achieves a balance between jobs and housing, matches future jobs to the capabilities of the local workforce, and provides an array of shopping choices, recreational choices, and entertainment and cultural facilities, thereby reducing the need for residents to travel outside the City.
 - *Policy 2-1.10: Pedestrian Scale.* Create a more pedestrian-oriented environment in Fremont’s City Center, its five Town Centers, and the other Transit-Oriented Development areas shown on the General Plan Land Use Map. These areas should be

characterized by: convenient and continuous sidewalks, crosswalks, and walkways; easy access to transit; comfortable outdoor spaces for pedestrian use; and parking that is located in structures or in shared lots to the rear of buildings rather than between buildings and the streets they face.

- **Goal 2-2: Directing Change.** Growth and development that is orderly and efficient, leverages public investment, ensures the continued availability of infrastructure and public services, reduces adverse impacts on adjacent properties, and protects the natural environment.
 - *Policy 2-2.4: Use of the General Plan Land Use Map.* Ensure that future land use decisions are fully consistent with the General Plan Land Use Map. Each General Plan land use category shall have at least one corresponding zoning district. More than one zoning district per General Plan category may be established for categories which accommodate a wide range of densities or development types. Residential zoning districts should generally be differentiated by the number of units allowed per net acre (or square feet of lot area per dwelling unit).
 - **Implementation 2-2.4.B: Parks and Public Facilities in the General Plan.** Allow parks and public facilities in any General Plan land use category, provided that the use is consistent with other policies in the General Plan. A General Plan amendment shall not be required to locate a park or public facility in an area designated for other uses on the General Plan Land Use Map. The Land Use Map should be periodically updated to reflect parkland acquisition and the development of new city parks and public facilities.
- **Goal 2-3: Complete Neighborhoods.** Compact, walkable, and diverse neighborhoods, each with an array of housing types and shopping choices, with parks, schools, and amenities that can be conveniently accessed by all residents.
 - *Policy 2-3.5: Balance of Services, Amenities, and Uses.* Promote design and land use decisions which improve the walkability of neighborhoods, enhance the ability to travel by bicycle or public transportation, and minimize the distance a resident must travel to reach basic services, shopping, parks, and schools. Except where precluded by steep terrain, each neighborhood should include a mix of compatible uses, including housing, parks, civic facilities, and local shopping and services.
 - *Policy 2-3.6: Connectivity.* Improve the ability to travel through neighborhoods and between neighborhoods on foot, bicycle, or automobile. Street layouts should facilitate pedestrian travel and connect homes with nearby services to the greatest extent feasible. Cul-de-sacs and dead ends should be avoided if they require circuitous routes for pedestrians. Incomplete links in the City's street system should be eliminated to improve circulation and reduce trip lengths.
 - **Implementation 2-3.6.A: Neighborhood Connectivity.** Undertake improvements which make Fremont's neighborhood streets safer and more convenient for walking and bicycling. This is both a sustainability objective and a public health objective.

The pedestrian and bicycle networks in Fremont’s neighborhoods should reflect universal design principles that make the city more accessible for seniors and others with mobility limitations.

- **Goal 2-4: Centers and Corridors.** Distinctive, vibrant centers and corridors that accommodate housing, commerce, shopping, services, civic activities, entertainment, and culture.
 - *Policy 2-4.8: Connectivity and Centers.* Strengthen the connections between Fremont’s commercial centers and the neighborhoods around them – and between the different commercial centers themselves – through physical improvements, public transit, and coordinated land use and transportation planning.
- **Goal 2-6: Open Space.** An open space “frame” around Fremont, complemented by local parks and natural areas, which together protect the City’s natural resources, provide opportunities for recreation, enhance visual beauty and shape the City’s character.
 - *Policy 2-6.4: Parks.* Maintain and enhance a network of civic, neighborhood, community, and linear parks. Parks should be recognized as fundamental to Fremont’s quality of life, and should be carefully managed to create a balance between passive and active open space.
 - *Policy 2-6.5: Linear Open Space Connections.* Utilize open space, including parks, flood control channels, greenbelts, easements, and other open areas to connect the City, provide car-free corridors for pedestrians and bicyclists, and tie together Fremont’s neighborhoods, centers, and employment districts.
 - **Implementation 2-6.5A: Linear Park Network.** Utilize the Bicycle Master Plan and Pedestrian Master Plan and work with utility companies and other agencies to complete linear open space connections and trail parks throughout the City.
 - *Policy 2-6.7: Environmentally Sensitive Use of Open Space.* Regulation recreational and public facility development on lands designated as open space to conserve the overall character of such sites and minimize impacts on recreational activities, mature landscaping, and environmentally sensitive areas.

The City of Fremont Mobility Element includes the following goals, policies, and implementations that are applicable to the proposed project:

- **Goal 3-1: Complete Streets.** City streets that serve multiple modes of transportation while enhancing Fremont’s appearance and character.
 - *Policy 3-1.4: Walking, Bicycling, and Public Health.* Recognize the importance of a walkable, bicycle- and pedestrian-friendly city to overall public health and wellness.

- *Policy 3-1.5: Improving Pedestrian and Bicycle Circulation.* Incorporate provisions for pedestrians and bicycles on city streets to facilitate and encourage safe walking and cycling throughout the city. Landscaping should reduce wind, provide shade, provide a buffer to adjacent roadways, and stimulate visual interest. Visually appealing, energy-efficient street lighting should be provided to ensure night-time safety.
- **Goal 3-2: Reducing Vehicle Miles Traveled.** Improve mobility in Fremont while reducing the growth of vehicle miles traveled.
 - *Policy 3-2.3: Pedestrian Networks.* Integrate continuous pedestrian walkways in Fremont’s City Center, Town Centers, residential neighborhoods, shopping centers, and school campuses. Place a priority on improving areas that are not connected by the City’s pedestrian network, with the objective of making walking safer, more enjoyable, and move convenient.
 - *Policy 3-2.4: Improving Bicycle Circulation.* Enhance bicycle circulation, access, and safety throughout Fremont, particularly in the City Center, the Town Centers, around existing and planned BART stations, and near schools and other public facilities. Barriers and impediments to bicycle travel should be reduced.
 - **Implementation 3-2.4.B: Connecting the Trail System.** Connect recreational trails in the City and regional parks, access trails along creeks and flood control channels, and sidewalks and bike lanes on local streets to fill the gaps and improve the continuity of the city’s bike and pedestrian trail system. Require right-of-way dedication from development projects to complete the system.
- **Goal 3-5: Connecting the Region.** Fremont becomes a more prominent regional transportation hub and is seamlessly connected to locations throughout the Bay Area and state.
 - *Policy 3-5.2: Regional Trail Development.* Promote and coordinate the planning of pedestrian and bicycle trail systems with Alameda County, Newark, Milpitas, Union City, Santa Clara County, ABAG, BCDC, EBRPD, SFPUC, ACFC, and other jurisdictions and organizations.
 - **Implementation 3-5.2.B: Rails to Trails.** Support the conversion of abandoned or vacated railroad rights of way to linear parks containing bicycle trails and walking paths. A priority should be placed on the surplus Union Pacific corridor between Niles and Milpitas.

The City of Fremont Community Character Element includes the following goals, policies, and implementations that are applicable to the proposed project:

- **Goal 4-2: Sustainable Design and Construction.** A city that becomes more sustainable and walkable through community planning, design and building.

- *Policy 4-2.2: Connectivity.* Improve the ability to travel through Fremont and between Fremont’s neighborhoods on foot or by bicycle. Safe, comfortable sidewalks, bike lanes, trails, and paths should be incorporated for pedestrians and cyclists so that neighborhoods are conveniently connected to nearby community facilities, services, and shopping areas.
 - **Implementation 4-2.2.A:** Undertake capital improvements that make Fremont’s streets safer and more convenient for walking and bicycling, consistent with the Pedestrian and Bicycle Master Plans.
- *Policy 4-2.4: Pedestrian and Bicycle Trails.* Create and maintain a network of trail corridors that connect Fremont to adjacent cities, link the Hill Area to the Baylands, and provide a convenient means of non-auto travel from neighborhood to neighborhood. Trails should be designed for practical transportation across the city, and not solely for recreational use.

City of Fremont Municipal Code and Zoning. The Fremont Zoning Ordinance implements the goals and policies of the General Plan by classifying and regulating the use of land and structures within Fremont. In addition, the Zoning Ordinance is intended to protect and promote the public health, safety, and general welfare of residents and preserve and enhance the aesthetic quality of the city. The establishment of zoning districts – such as residential, commercial, and industrial districts – provides regulations regarding permitted, conditionally permitted, and specifically prohibited land uses and establishes development standards such as setbacks, height limits, and building size limitations for structures and land.

The project site and adjacent areas are zoned as Open Space (OS), Single-Family Residential (R1), Duplex and Two-Family Residential (R-2), Commercial – General (C-G), and Town Center – Pedestrian (TC-P). Allowable uses within these designations include:

- *Open Space (OS)* is intended to permit limited but reasonable use of open lands while protecting the public health, safety and welfare from the dangers of seismic hazards and unstable soils; preserve the topography of the city that shapes it and gives it its identity; allow land to be used for agricultural production in its natural or as near natural a state as possible; coordinate with and carry out regional, county, and city open space plans; and where permitted, encourage the clustering of dwelling units to preserve and enhance the remainder of open space lands as a limited and valuable resource.
- *Single-Family Residential (R-1)* is intended to promote and maintain predominantly single-family home neighborhoods together with compatible accessory and supporting uses.
- *Duplex and Two-Family Residential (R-2)* is intended to promote and maintain duplex/two-family home neighborhoods to increase housing opportunities for both ownership and rental homes.

- *Town Center – Pedestrian (TC-P)* is intended for areas that were initially developed before Fremont’s incorporation and that are characterized by small parcels, a mix of older and newer structures, and missed-use context.
- *Commercial – General (C-G)* is intended to accommodate a broad range of commercial uses including retail and general merchandising, offices, health-related services, education and instructional services, group assembly, auto sales, service and repair, gas stations, equipment rental uses, and similar activities.

City of Fremont Bicycle Master Plan. The City of Fremont’s Bicycle Master Plan identifies projects and programs to make Fremont a city in which bicycling is safe, comfortable, and convenient for people of all ages and abilities. The Plan includes the following goals, policies, and implementations that are applicable to the proposed project:

- **Goal 1:** Implement a safe, convenient, connected, and comfortable citywide bicycling network for people of all ages and abilities who live, work, and visit Fremont.
 - *Policy 1-2:* Provide maintenance and targeted expansion of the City’s trail system that integrates seamlessly with the on-street bicycle network, serves its diverse population, and respects and protects the integrity of its natural and cultural resources.
 - **Action 1-2B:** Coordinate with stakeholders and across City departments to ensure that all development and roadway projects shall implement bikeways and paths, such as the East Bay Greenway, Niles Canyon Trail, Dumbarton Bridge to Quarry Lakes Trail, Bay Trail, and Public Utility Commission trails and provide access points to these.

City of Fremont Pedestrian Master Plan. The City’s Pedestrian Master Plan envisions Fremont as a community that inspires people of all ages and abilities to walk for everyday transportation, recreation, and health, and identifies goals in the areas of activity safety, infrastructure and design, connectivity and accessibility, and land development. The Plan includes the following goals, policies, and implementations that are applicable to the proposed project:

- **Goal 4. Connectivity and Accessibility:** Ensure safe, continuous, and convenient pedestrian access to essential pedestrian destinations and districts throughout Fremont for all residents, workers, and visitors.

East Bay Regional Park District Master Plan. The East Bay Regional Park District Master Plan was adopted on July 16, 2013 and defines the overall mission and vision for the Park District. The Plan includes the following goals and policies that are applicable to the proposed project:

- **PA5:** The Park District will cooperate with local and regional planning efforts to create more walkable and bikeable communities and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.

- **RFAS:** The Park District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers.
- **PRPT10:** The Park District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The Park District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.
- **RPT11:** Regional trails may be part of a national, state, or Bay Area regional trail system. The Park District will cooperate with other agencies and organizations to implement these multi-jurisdictional efforts.

4.8.2 Impacts and Mitigation Measures

The following section discusses the impacts related to land use and planning that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, to avoid or reduce significant impacts to a less than significant level. Cumulative impacts are also addressed.

As set forth by the *State CEQA Guidelines*, inconsistencies between the project and applicable General Plan and other policies do not constitute impacts in and of themselves. A policy inconsistency is considered to be a significant adverse environmental impact only when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect, and it is anticipated that the inconsistency would result in a significant adverse physical impact based on an established significance criterion. The proposed project's consistency with regional policies related to physical environmental topics (e.g., air quality, transportation, and noise) is fully described in those topical sections of this EIR.

4.8.2.1 Criteria of Significance

The following thresholds of significance are based on Appendix G of the *State CEQA Guidelines*. Based on these thresholds, development of the proposed project would result in a significant impact related to land use and planning policy if it would:

Threshold 4.8.1: Physically divide an established community; or

Threshold 4.8.2: 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.

4.8.2.2 Project Impacts

The following section provides an evaluation and analysis of the potential impacts of the proposed project for each of the criteria of significance listed above and potential cumulative impacts. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ substantially by phase and therefore are not differentiated in this section.

Threshold 4.8.1: Physically Divide an Established Community. The physical division of an established community typically refers to the construction of a physical feature, such as an Interstate highway, or the removal of a means of access, such as a local road, that would impair mobility within an existing community or between a community and outlying areas. For example, the construction of an Interstate highway through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside of the community.

The proposed project would be a multi-use trail for pedestrians, bicyclists and other non-motorized vehicle users that would connect neighborhoods, businesses, open space areas, and other regional and local trails/bikeways and would ultimately provide an important regional connection through Niles Canyon. The proposed project would also provide two overcrossings of SR-84, improving connections to both sides of the canyon. The proposed project would create a new route that would enhance travel between the existing communities of Fremont and Sunol.

The proposed project would construct a 6-mile, Class I, multi-use trail open to hikers, bicyclists, and equestrians. The proposed trail would consist of a 10-foot-wide, all-weather surface with 2-foot shoulders on either side composed of decomposed granite or aggregate. The trail design would incorporate several different barrier options to separate trail users from railroad and highway traffic. These barriers would be designed to accommodate wildlife passage. In addition, retaining walls would need to be installed in some locations to accommodate slope cuts. These walls would be sculpted concrete with soil nail tiebacks. The proposed trail would be constructed along SR-84, Alameda Creek, UPRR, Niles Canyon Railroad, and existing roads within Fremont. In some locations the proposed trail alignment would pass through private property and would require the acquisition of right-of-way or permanent easements. However, the right-of-way acquisitions and easements would not require the demolition or relocation of existing buildings and would not eliminate access to affected properties.

The proposed project would construct a multi-use trail that would provide linkages through, rather than divide, the community. **No impact** would occur.

Threshold 4.8.2: Conflict with Applicable Land Use Plans. The following addresses the proposed project's compatibility with the applicable land use regulations of the Alameda County General Plan, the Alameda County Zoning Ordinance, the East County Area Plan, the Alameda County Active Transportation Plan, the Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas, the City of Fremont General Plan, the City of Fremont Zoning Ordinance, the City of Fremont Bicycle Master Plan, and the City of Fremont Pedestrian Master Plan.

Table 4.8.A evaluates potential conflicts with specific land use regulations and policies. Only policies adopted for the purpose of avoiding or mitigating an environmental effect that relate directly to development of the project site are discussed.

The majority of the proposed trail alignment would be within public right-of-way (e.g., City of Fremont, Caltrans) or on lands owned by public agencies, including EBRPD, the County, and the SFPUC. Some private properties would be traversed for implementation of Phase 3.

The goals and policies of the Alameda County General Plan, the City of Fremont General Plan and the East Bay Regional Park District Master Plan include the provision of additional recreational opportunities in Alameda County while preserving public safety and natural, cultural and scenic resources. The proposed project would provide connectivity between existing communities (e.g., Niles District and community of Sunol) and recreational facilities (e.g, Alameda Creek Trail) and support the goals to enhance recreational opportunities by improving parking and access. In addition, the Alameda County Department of Public Works would oversee operation of the proposed trail to ensure that the trail and associated facilities are maintained in safe condition (e.g., collecting trash/recycling, repairing pavement and fencing), and coordinate with local law enforcement as necessary to maintain safe conditions along the project corridor.

The proposed project would also be consistent with the policies set forth in the Alameda County Active Transportation Plan and the Alameda County BPMP, because it supports the development of safe bicycle and pedestrian routes and would implement the “Niles Canyon Corridor Trail” designated in the Alameda County BPMP as a high-priority bicycle project.

As shown in Table 4.8.A, the proposed project would:

- Establish a safe form of alternative transportation and recreation.
- Provide safe crossings over State Route 84 to provide a continuous trail connection between the City of Fremont and the unincorporated community of Sunol.
- Provide an additional recreational use in Alameda County, while protecting adjacent private land uses through fencing the proposed project corridor where needed and by providing signage to specify approved trail uses.
- Provide an educational element, including signage with local natural resources and historic features.
- Support a variety of policies that encourage the mix of public recreational land uses with the protection of natural land uses and providing educational opportunities for the public.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
Alameda County General Plan – Recreation Plan		
Physical Planning Objective 4	To provide sufficient and appropriate areas for park and recreation facilities and services of county, metropolitan, or state-wide significance and use, which, in conjunction with appropriately planned local neighborhood and community parks and recreation facilities and services, will satisfy the recreation needs of the entire population of the county.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of the city of Fremont, both in Alameda County. The trail would provide a regional recreation facility for Alameda County.
Physical Planning Objective 5	To provide a system of public open spaces of county, metropolitan or state-wide significance and recreation use in proper relation to neighborhood, community and other recreation areas serving cities and recreation districts, to other types of land use, to other public services and facilities, and to transportation.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities.
Physical Planning Principal 3	Sufficient and appropriate areas for all types of parks and recreation facilities and services of county, metropolitan or state-wide significance and use should be allocated so that such areas will be conveniently located in relation to all of the various population centers that will exist in the county, and so that a variety of such areas will exist for the county as a whole.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County. The trail would connect existing population centers that are currently underserved with multi-use trail facilities.
Physical Planning Principal 4	The physical system of county-wide park and recreation areas and facilities should provide for a full range of active, passive, and cultural recreation activities, serving all age groups, organized activity groups, and serving daytime, overnight camping, weekend and vacation recreational needs	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail to provide passive recreation opportunities for pedestrians, bicyclists, and equestrians.
Physical Planning Principal 6	The county-wide park and recreation areas and facilities should be achieved primarily through a county park and recreation system and program and should be coordinated with: (1) the local neighborhood and community parks, achieved through city and recreation district programs; (2) large parks and special recreation facilities of county-wide or greater area significance achieved through city, district, state, or federal programs; and (3) recreation areas and facilities provided by semi-public agencies and private individuals; and (4) semi-public recreation-residential areas.	Consistent. The proposed trail has been developed in coordination with various public entities including EBRPD, SFPUC, Caltrans and UPRR.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
Alameda County General Plan – Open Space Element		
	To relate open space to existing and proposed urban land uses in such a manner as to enhance living conditions in the entire county.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County. The trail would connect existing population centers that are currently underserved with multi-use trail facilities.
	To provide for permanent separation and identification of communities through use of open space that will include park and recreation areas coordinated with a continuous system of trails and scenic tours.	Consistent. The proposed trail would connect existing population centers that are currently underserved with multi-use trail facilities.
	To provide open space recreation and study areas for the enjoyment and education of all people in the county.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail to provide passive recreation opportunities for pedestrians, bicyclists, and equestrians.
	Provide a Coordinated System of Open Space. A coordinated system of public and private open space and major park and recreation areas should be provided throughout the county and should connect to open space of adjacent counties. All major areas of public open space should be connected by trails and scenic routes	Consistent. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities.
	Provide Park and Recreation and Nature Areas in Open Space Adjacent to Each Community. Because of increasing demand per capita for park, recreation, and nature areas in or near metropolitan population centers, selected portions of easily accessible open space surrounding communities should be utilized for leisure time facilities	Consistent. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities.
	Encourage Appropriate Low Intensity Commercial Recreation Areas in Selected Open Space Areas. Appropriate low density commercial recreation areas should be encouraged by local recreation and park districts in the vicinity of urban areas	Consistent. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities.
	Recreation and Park Areas Accessible to Each Community Should be Provided. To provide for close-in leisure time facilities, recreation and park areas should be provided within the open space surrounding each city or community. Recreation trails should be provided throughout the public open space surrounding each community to connect with recreation areas	Consistent. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
	Provide a Variety of Major Park and Recreational Areas to Accommodate a Range of Facilities. A variety of major park and recreational areas to accommodate a range of facilities, including those for short duration visits near the urban area to weekend vacation needs in the more rural areas. All facilities should be of a character compatible to the natural environment	Consistent. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities. The proposed trail would provide recreation and transportation opportunities for pedestrians, bicyclists and equestrians of all levels/abilities. The trail has been designed to be compatible with the natural environment.
	Provide Major Park and Recreation Facilities in Areas of Outstanding Beauty. Wherever possible, major park and recreation areas should be designated in areas of outstanding beauty, which include vegetation, streambeds of water bodies, unusual topography, or viewpoints	Consistent. The proposed trail would provide a new recreation and transportation facility through Niles Canyon, a scenic area adjacent to Alameda Creek.
East County Area Plan		
Interjurisdictional Coordination Goal	To foster cooperative planning and implementation in East County.	Consistent. The proposed trail has been developed in coordination with various public entities including EBRPD, SFPUC, Caltrans, and UPRR.
<i>Policy 4</i>	The County shall actively consult with East County cities during formulation of County land use plans and projects that have potential subregional impacts, and shall encourage cities to reciprocate.	Consistent. The proposed trail has been developed in coordination with the City of Fremont, Sunol, and other public entities.
Community Facilities Goal	To provide a full range of community facilities to maintain and improve service levels and the quality of life for existing and future residents	Consistent. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities.
<i>Policy 48</i>	The County shall promote the development of a full range of accessible neighborhood facilities including elementary schools, parks, and other amenities	Consistent. The trail would provide a regional recreation facility for Alameda County, connecting existing communities and other recreation and open space facilities.
<i>Policy 50</i>	The County shall promote the location of community facilities near major transportation corridors and within existing city downtown areas	Consistent. The proposed trail would connect the Niles District with the community of Sunol and would run along State Route 84 in Niles Canyon.
General Open Space Goal	To protect regionally significant open space and agricultural land from development	Consistent. The proposed project would construct a multi-use trail within undeveloped open space lands and along public and private right-of-way to provide recreation and transportation opportunities to Alameda County residents.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
<i>Policy 52</i>	The County shall preserve open space areas for the protection of public health and safety, provision of recreational opportunities, production of natural resources (e.g., agriculture, wind power, and mineral extraction), protection of sensitive viewsheds, preservation of biological resources, and the physical separation between neighboring communities.	Consistent. The proposed project would construct a multi-use trail within undeveloped open space lands and along public and private right-of-way to provide recreation and transportation opportunities to Alameda County residents.
<i>Program 24</i>	The County shall work with the East Bay Regional Park District, the Livermore Area Recreation and Park District, the San Francisco Water Department, California Department of Fish and Game, and cities to identify appropriate public and private uses that should be allowed within various portions of the open space system, including active and passive recreation, and grazing.	Consistent. The proposed project would construct a multi-use trail within undeveloped open space lands and along public and private right-of-way to provide recreation and transportation opportunities to Alameda County residents.
Agriculture Goal	To maximize long-term productivity of East County's agricultural resources.	Consistent. Much of the land in unincorporated Alameda County through which the trail is proposed is zoned for agriculture; however, this land is not currently used for agricultural production and implementation of the proposed trail would not prevent the land from being used for agricultural purposes.
<i>Policy 73</i>	The County shall require buffers between those areas designated for agricultural use and new non-agricultural uses within agricultural areas or abutting parcels. The size, configuration and design of buffers shall be determined based on the characteristics of the project site and the intensity of the adjacent agricultural uses, and if applicable, the anticipated timing of future urbanization of adjacent agricultural land where such agricultural land is included in a phased growth plan. The buffer shall be located on the parcel for which a permit is sought and shall provide for the protection of the maximum amount of arable, pasture, and grazing land feasible.	Consistent. Much of the land in unincorporated Alameda County through which the trail is proposed is zoned for agriculture; however, this land is not currently used for agricultural production and implementation of the proposed trail would not prevent the land from being used for agricultural purposes.
<i>Policy 74</i>	The County shall require that, where conflicts between a new use and existing use are anticipated, the burden of mitigating the conflicts be the responsibility of the new use	Consistent. Much of the land in unincorporated Alameda County through which the trail is proposed is zoned for agriculture; however, this land is not currently used for agricultural production and implementation of the proposed trail would not prevent the land from being used for agricultural purposes.
Watershed Goal	To protect watershed land from the direct and indirect effects of development.	Consistent. The proposed trail would be designed to protect watershed land from direct and indirect environmental effects, as described herein.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
<i>Policy 101</i>	The County shall encourage public water management agencies to explore recreational opportunities on watershed lands, particularly reclaimed quarries, where recreational use would not conflict with watershed protection objectives	Consistent. The proposed project would provide a multi-use trail within undeveloped open space lands, including watershed lands, and public and private right-of-way.
Policy 102	The County shall encourage the San Francisco Water Department to provide limited public access on trail corridors through the watershed lands surrounding San Antonio and Calaveras Reservoirs, Sunol Watershed, and the Arroyo de la Laguna. The County shall work with the East Bay Regional Park District to incorporate these watershed corridors into the regional trail system, where recreational use would not conflict with watershed protection objectives	Consistent. The proposed project would provide a multi-use trail within undeveloped open space lands, including watershed lands, and public and private right-of-way.
Sensitive Viewsheds Goal	To preserve unique visual resources and protect sensitive viewsheds	Consistent. The proposed project has been designed to minimize impacts to visual resources and to provide access to scenic viewsheds along the Niles Canyon corridor.
<i>Policy 116</i>	To the maximum extent possible, development shall be located and designed to conform with rather than change natural landforms. The alteration of natural topography, vegetation, and other characteristics by grading, excavating, filling or other development activity shall be minimized. To the extent feasible, access roads shall be consolidated and located where they are least visible from public viewpoints	Consistent. The proposed project has been designed to minimize impacts to visual resources and to provide access to scenic viewsheds along the Niles Canyon corridor.
General Transportation Goal	To create and maintain a balanced, multi-modal transportation system that provides for the efficient and safe movement of people, goods, and services	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County.
<i>Policy 176</i>	The County shall allow development and expansion of transportation facilities (e.g., streets and highways, public transit, bicycle and pedestrian paths, airports, etc.) in appropriate locations inside and outside the Urban Growth Boundary consistent with the policies and Land Use Diagram of the East County Area Plan	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County.
Bicycle and Pedestrian Paths Goal	To include a comprehensive network of bicycle and pedestrian paths in the local and subregional transportation network	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
<i>Policy 211</i>	The County shall create and maintain a safe, convenient, and effective bicycle system that maximizes bicycle use	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County.
<i>Policy 212</i>	The County shall create and maintain a safe and convenient pedestrian system that links residential, commercial, and recreational uses and encourages walking as an alternative to driving	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County.
Infrastructure and Services Goal	To provide infrastructure and services necessary to accommodate East County holding capacities in a logical, cost-effective, and timely manner	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County.
<i>Policy 218</i>	The County shall allow development and expansion of public facilities (e.g., parks and recreational facilities; schools; child care facilities; police, fire, and emergency medical facilities; solid waste, water, storm drainage, flood control, subregional facilities; utilities etc.) in appropriate locations inside and outside the Urban Growth Boundary consistent with the policies and Land Use Diagram of the East County Area Plan	Consistent. The proposed trail would be outside of the Urban Growth Boundary as designated in the East County Area Plan; however, as described herein, development of the proposed trail is consistent with the policies and Land Use Diagram of the East County Area Plan.
<i>Alameda County Active Transportation Plan</i>		
Safety	Increase the safety of people bicycling and walking in Alameda County by identifying projects, policies and programs that address the greatest safety needs and by optimizing investments, through corridor-level analyses, performance evaluation, and by following industry best practices	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians. The Class I facility would be separated from roadway traffic, providing a safe route for all users.
Multimodal Connectivity	Create connected networks of streets and trails that enable people of all ages and abilities to walk and bike to meet their daily needs, including access to transit, work, school, and major activity centers	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians. The Class I facility would provide a recreation and transportation facility for users of all abilities.
<i>Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas</i>		
Goal 1. Connectivity	Develop and maintain a connected and continuous bicycle and pedestrian network.	Consistent. The proposed project would implement the "Niles Canyon Corridor Trail" designated in the Alameda County BPMP as a high priority bicycle project, closing an identified gap in the bicycle network.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
<i>Policy 1.1</i>	Create and maintain safe, convenient and effective bicycle and pedestrian networks that maximize bicycle use and walking for commuting, recreation and local transportation.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail connecting the Niles District in Fremont and the unincorporated community of Sunol. The proposed trail would connect to other regional trails, including the Alameda Creek Trail, helping to promote a regional multi-modal transportation network within this portion of Alameda County.
<i>Policy 1.2</i>	Eliminate gaps in the existing network and improve bicycle and pedestrian connections to transit, schools, parks/trails, retail and employment centers, community/senior centers, and libraries.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail between the Niles District in Fremont to the unincorporated community of Sunol. The trail would provide connectivity between these existing communities and existing recreational facilities, such as the Alameda Creek Trail.
<i>Policy 1.3</i>	Provide accommodate for bicyclists and pedestrians where man-made barriers restrict access.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians, including two overcrossings of State Route 84, to provide north-south trail connections where the highway restricts access.
<i>Policy 1.4</i>	Construct and/or promote shared use paths and trails in rural and open space areas.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians. The proposed trail would be primarily within public right-of-way and through undeveloped open space lands owned by public entities.
Goal 2: Access	Provide access for all users.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians. The Class I facility would be separated from roadway traffic, providing a safe route for all users.
<i>Policy 2.1</i>	Construct and/or promote shared use paths and trails in rural and open space areas.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians through primarily undeveloped open space areas.
Goal 3: Safety	Improve safety for all modes of transportation.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians.
Goal 4: Comfort	Consider the whole walking and biking experience through the provision of support facilities.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians. The Class I facility would be separated from roadway traffic, providing a safe route for all users.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
<i>City of Fremont General Plan</i>		
Policy 2-1.2: A Complete City	Plan and develop Fremont's available land supply that achieves a balance between jobs and housing, matches future jobs to the capabilities of the local workforce, and provides an array of shopping choices, recreational choices, and entertainment and cultural facilities, thereby reducing the need for residents to travel outside the City.	Consistent. The proposed project would provide a new multi-use trail through Niles Canyon connecting the Niles District in Fremont to the community of Sunol. The proposed trail would provide an additional recreation and transportation opportunity for Fremont residents.
Policy 2-1.10: Pedestrian Scale	Create a more pedestrian-oriented environment in Fremont's City Center, its five Town Centers, and the other Transit-Oriented Development areas shown on the General Plan Land Use Map. These areas should be characterized by: convenient and continuous sidewalks, crosswalks, and walkways; easy access to transit; comfortable outdoor spaces for pedestrian use; and parking that is located in structures or in shared lots to the rear of buildings rather than between buildings and the streets they face.	Consistent. The proposed project would provide a multi-use trail connection from the Niles District in Fremont through Niles Canyon to the community of Sunol. Implementation of the proposed trail would improve pedestrian accessibility within the Niles District.
Policy 2-2.4: Use of the General Plan Land Use Map	Ensure that future land use decisions are fully consistent with the General Plan Land Use Map. Each General Plan land use category shall have at least one corresponding zoning district. More than one zoning district per General Plan category may be established for categories which accommodate a wide range of densities or development types. Residential zoning districts should generally be differentiated by the number of units allowed per net acre (or square feet of lot area per dwelling unit).	Consistent. The proposed trail would be within undeveloped open space and within public and private right-of-way. Implementation of the proposed project would be consistent with the General Plan Land Use designations.
<i>Implementation 2-2.4.B: Parks and Public Facilities in the General Plan.</i>	Allow parks and public facilities in any General Plan land use category, provided that the use is consistent with other policies in the General Plan. A General Plan amendment shall not be required to locate a park or public facility in an area designated for other uses on the General Plan Land Use Map. The Land Use Map should be periodically updated to reflect parkland acquisition and the development of new city parks and public facilities.	Consistent. The proposed trail would be within undeveloped open space and within public and private right-of-way. Implementation of the proposed project would be consistent with the General Plan Land Use designations.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
Policy 2-3.5: Balance of Services, Amenities, and Uses	Promote design and land use decisions which improve the walkability of neighborhoods, enhance the ability to travel by bicycle or public transportation, and minimize the distance a resident must travel to reach basic services, shopping, parks, and schools. Except where precluded by steep terrain, each neighborhood should include a mix of compatible uses, including housing, parks, civic facilities, and local shopping and services.	Consistent. The proposed project would provide a multi-use trail connection from the Niles District in Fremont through Niles Canyon to the community of Sunol. Implementation of the proposed trail would improve pedestrian and bicycle mobility within the project area.
Policy 2-3.6: Connectivity.	Improve the ability to travel through neighborhoods and between neighborhoods on foot, bicycle, or automobile. Street layouts should facilitate pedestrian travel and connect homes with nearby services to the greatest extent feasible. Cul-de-sacs and dead ends should be avoided if they require circuitous routes for pedestrians. Incomplete links in the City's street system should be eliminated to improve circulation and reduce trip lengths.	Consistent. The proposed project would provide a multi-use trail connection from the Niles District in Fremont through Niles Canyon to the community of Sunol. Implementation of the proposed trail would improve pedestrian and bicycle mobility within the project area.
<i>Implementation 2-3.6.A: Neighborhood Connectivity.</i>	Undertake improvements which make Fremont's neighborhood streets safer and more convenient for walking and bicycling. This is both a sustainability objective and a public health objective. The pedestrian and bicycle networks in Fremont's neighborhoods should reflect universal design principles that make the city more accessible for seniors and others with mobility limitations.	Consistent. The proposed project would provide a multi-use trail connection from the Niles District in Fremont through Niles Canyon to the community of Sunol. Implementation of the proposed trail would improve pedestrian and bicycle mobility within the project area.
Policy 2-4.8: Connectivity and Centers.	Strengthen the connections between Fremont's commercial centers and the neighborhoods around them – and between the different commercial centers themselves – through physical improvements, public transit, and coordinated land use and transportation planning.	Consistent. The proposed project would provide a multi-use trail connection from the Niles District in Fremont through Niles Canyon to the community of Sunol. Implementation of the proposed trail would improve pedestrian and bicycle mobility within the Niles District.
Policy 2-6.4: Parks.	Maintain and enhance a network of civic, neighborhood, community, and linear parks. Parks should be recognized as fundamental to Fremont's quality of life and should be carefully managed to create a balance between passive and active open space.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont, both in Alameda County. The proposed trail would connect to existing open space and park facilities, including the Alameda Creek Trail.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
Policy 2-6.5: Linear Open Space Connections.	Utilize open space, including parks, flood control channels, greenbelts, easements, and other open areas to connect the City, provide car-free corridors for pedestrians and bicyclists, and tie together Fremont's neighborhoods, centers, and employment districts.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont, both in Alameda County. The proposed trail would connect to existing open space and park facilities, including the Alameda Creek Trail.
<i>Implementation 2-6.5A: Linear Park</i>	<i>Network.</i> Utilize the Bicycle Master Plan and Pedestrian Master Plan and work with utility companies and other agencies to complete linear open space connections and trail parks throughout the City.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont, both in Alameda County. The proposed trail would connect to existing open space and park facilities, including the Alameda Creek Trail.
Policy 2-6.7: Environmentally Sensitive Use of Open Space.	Regulate recreational and public facility development on lands designated as open space to conserve the overall character of such sites and minimize impacts on recreational activities, mature landscaping, and environmentally sensitive areas.	Consistent. The proposed trail has been designed to minimize the environmental effects of trail development, while providing new recreation and multi-modal transportation opportunities for Alameda County residents.
Policy 3-1.4: Walking, Bicycling, and Public Health.	Recognize the importance of a walkable, bicycle- and pedestrian-friendly city to overall public health and wellness.	Consistent. The proposed project would provide a multi-use trail connection from the Niles District in Fremont through Niles Canyon to the community of Sunol. Implementation of the proposed trail would improve pedestrian and bicycle mobility within the project area.
Policy 3-1.5: Improving Pedestrian and Bicycle Circulation.	Incorporate provisions for pedestrians and bicycles on city streets to facilitate and encourage safe walking and cycling throughout the city. Landscaping should reduce wind, provide shade, provide a buffer to adjacent roadways, and stimulate visual interest. Visually appealing, energy-efficient street lighting should be provided to ensure nighttime safety.	Consistent. The proposed project would create a trail connection from the Niles District along Niles Boulevard and Mission Boulevard to connect to the existing Alameda Creek Trail.
Policy 3-2.3: Pedestrian Networks.	Integrate continuous pedestrian walkways in Fremont's City Center, Town Centers, residential neighborhoods, shopping centers, and school campuses. Place a priority on improving areas that are not connected by the City's pedestrian network, with the objective of making walking safer, more enjoyable, and more convenient.	Consistent. The proposed project would create a trail connection from the Niles District along Niles Boulevard and Mission Boulevard to connect to the existing Alameda Creek Trail. The trail would then extend through Niles Canyon to Sunol, providing a continuous pedestrian pathway for the proposed 6-mile alignment.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
Policy 3-2.4: Improving Bicycle Circulation.	Enhance bicycle circulation, access, and safety throughout Fremont, particularly in the City Center, the Town Centers, around existing and planned BART stations, and near schools and other public facilities. Barriers and impediments to bicycle travel should be reduced.	Consistent. The proposed project would create a trail connection from the Niles District along Niles Boulevard and Mission Boulevard to connect to the existing Alameda Creek Trail. The trail would then extend through Niles Canyon to Sunol, providing a continuous bicycle pathway for the proposed 6-mile alignment.
<i>Implementation 3-2.4.B: Connecting the Trail System.</i>	Connect recreational trails in the City and regional parks, access trails along creeks and flood control channels, and sidewalks and bike lanes on local streets to fill the gaps and improve the continuity of the city's bike and pedestrian trail system. Require right-of-way dedication from development projects to complete the system	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and the Niles District in Fremont, both in Alameda County. The proposed trail would connect to existing open space and park facilities, including the Alameda Creek Trail.
Policy 3-5.2: Regional Trail Development.	Promote and coordinate the planning of pedestrian and bicycle trail systems with Alameda County, Newark, Milpitas, Union City, Santa Clara County, ABAG, BCDC, EBRPD, SFPUC, ACFC, and other jurisdictions and organizations	Consistent. The proposed project has been developed in coordination with various public entities, including the City of Fremont, EBRPD, SFPUC, and Caltrans.
<i>Implementation 3-5.2.B: Rails to Trails.</i>	Support the conversion of abandoned or vacated railroad rights of way to linear parks containing bicycle trails and walking paths. A priority should be placed on the surplus Union Pacific corridor between Niles and Milpitas	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of the City of Fremont both in Alameda County. A portion of the proposed trail alignment would utilize Union Pacific Railroad (UPRR) right-of-way.
Policy 3-7.1: Parking Management.	Manage on-street parking to ensure the efficient use of curbside space, avoid conflicts with residents and neighborhoods, and provide adequate customer parking for local businesses.	Consistent. The proposed project would include parking improvements to accommodate the needs of trail users to park and access the proposed trail and to reduce conflicts related to on-street parking.
Policy 4-2.2: Connectivity.	Improve the ability to travel through Fremont and between Fremont's neighborhoods on foot or by bicycle. Safe, comfortable sidewalks, bike lanes, trails, and paths should be incorporated for pedestrians and cyclists so that neighborhoods are conveniently connected to nearby community facilities, services, and shopping areas.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont, both in Alameda County.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
<i>Implementation 4-2.2.A:</i>	Undertake capital improvements that make Fremont's streets safer and more convenient for walking and bicycling, consistent with the Pedestrian and Bicycle Master Plans.	Consistent. The proposed project would create a trail connection from the Niles District along Niles Boulevard and Mission Boulevard to connect to the existing Alameda Creek Trail and extend through Niles Canyon to Sunol. The proposed trail is consistent with the proposed pedestrian and bicycle networks as identified in the Pedestrian and Bicycle Master Plans.
Policy 4-2.4: Pedestrian and Bicycle Trails.	Create and maintain a network of trail corridors that connect Fremont to adjacent cities, link the Hill Area to the Baylands, and provide a convenient means of non-auto travel from neighborhood to neighborhood. Trails should be designed for practical transportation across the city, and not solely for recreational use.	Consistent. The proposed project would create a trail connection from the Niles District along Niles Boulevard and Mission Boulevard to connect to the existing Alameda Creek Trail and extend through Niles Canyon to Sunol. The proposed trail is consistent with the proposed bicycle network as identified in the Bicycle Master Plan.
City of Fremont Bicycle Plan		
Goal 1	Implement a safe, convenient, connected, and comfortable citywide bicycling network for people of all ages and abilities who live, work, and visit Fremont.	Consistent. The proposed multi-use trail would implement portions of the proposed bicycle network as identified in the Bicycle Master Plan. The multi-use trail would accommodate bicyclists of all ages and abilities.
<i>Policy 1-2</i>	Provide maintenance and targeted expansion of the City's trail system that integrates seamlessly with the on-street bicycle network, serves its diverse population, and respects and protects the integrity of its natural and cultural resources.	Consistent. The proposed multi-use trail would implement portions of the proposed bicycle network as identified in the Bicycle Master Plan. The multi-use trail would accommodate bicyclists of all ages and abilities. The proposed trail has been designed to minimize impacts to natural and cultural resources.
Action 1-2B	Coordinate with stakeholders and across City departments to ensure that all development and roadway projects shall implement bikeways and paths, such as the East Bay Greenway, Niles Canyon Trail, Dumbarton Bridge to Quarry Lakes Trail, Bay Trail, and Public Utility Commission trails and provide access points to these.	Consistent. The proposed project would create a trail connection from the Niles District along Niles Boulevard and Mission Boulevard to connect to the existing Alameda Creek Trail and extend through Niles Canyon to Sunol. The proposed trail is consistent with the proposed bicycle network as identified in the Bicycle Master Plan.
City of Fremont Pedestrian Master Plan		
Goal 4. Connectivity and Accessibility	Ensure safe, continuous, and convenient pedestrian access to essential pedestrian destinations and districts throughout Fremont for all residents, workers, and visitors.	Consistent. The proposed project would create a trail connection from the Niles District along Niles Boulevard and Mission Boulevard to connect to the existing Alameda Creek Trail and extend through Niles Canyon to Sunol, providing for a continuous pedestrian pathway along the entire 6-mile alignment.

Table 4.8.A: Relationship of the Proposed Project to Relevant Alameda County General Plan Policies

Goal/Policy/ Objective/Number	Policy Summary	Project's Relationship to Policy
<i>East Bay Regional Park District Master Plan</i>		
PA5	The Park District will cooperate with local and regional planning efforts to create more walkable and bikeable communities and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.	Consistent. The proposed trail has been developed in coordination with various public entities, including the EBRPD. A portion of the proposed trail alignment would be constructed on undeveloped open space land owned by the EBRPD.
RFA5	The Park District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont, both in Alameda County.
PRPT10	The Park District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The Park District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.	Consistent. The proposed project would construct a six-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont, both in Alameda County.
RPT11	Regional trails may be part of a national, state, or Bay Area regional trail system. The Park District will cooperate with other agencies and organizations to implement these multi-jurisdictional efforts.	Consistent. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of the City of Fremont both in Alameda County. The proposed trail has been developed in coordination with various public entities, including the EBRPD.

BPMP = Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas
 Caltrans = California Department of Transportation
 EBRPD = East Bay Regional Parks District
 SFPUC = San Francisco Public Utilities Commission
 UPRR = Union Pacific Railroad

As described above, the project site and adjacent areas are zoned as Agriculture (A), Single Family Residential (R1), and Sunol Downtown (SD) in the Alameda County Zoning Ordinance. The majority of the proposed trail alignment within the unincorporated areas of Alameda County would be located within lands designated as Agriculture. Public or private riding or hiking trails are a permitted use within the Agriculture zoning district. A small portion of the Phase 3 alignment may be located within lands designated as Single Family Residential (R1) and Sunol Downtown (SD). Community facilities are conditionally allowed in both of these zoning districts.

In Fremont, the project site and adjacent areas are zoned as Open Space (OS), Single-Family Residential (R1), Duplex and Two-Family Residential (R-2), and Commercial – General (C-G), and Town Center – Pedestrian (TC-P). Public or quasi-public uses, including parks and outdoor recreational uses having the purpose primarily of serving the general public and that are on public lands leased for a specified period of time, are conditionally allowed in all of these zoning districts. Therefore, the proposed project would be consistent with applicable zoning regulations.

It should be noted that according to CEQA, policy conflicts do not, in and of themselves, constitute a significant environmental impact. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. As such, associated physical environmental impacts are discussed in this Environmental Impact Report (EIR) under specific topical sections. The proposed project would not result in any direct physical impacts that cannot be mitigated to less than significant with implementation of the mitigation measures identified herein.

In summary, the proposed project would not conflict with local land use and planning documents and ordinances and would support recreation and site-specific planning goals to enhance and establish safe recreational and multi-modal transportation opportunities throughout Alameda County, while protecting natural and cultural resources.

This impact of the proposed project would be **less than significant**. No mitigation would be required.

4.8.2.3 Cumulative Impacts

The proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to land use and planning. The proposed project would not physically divide an already established community and would be consistent with all applicable planning documents.

The proposed project would not make a significant contribution to cumulative impacts related to land use. In general, the impacts related to land use that would result from the proposed project would be confined to the project site; and other projects in the vicinity that could result in impacts related to land use would be subject to mitigation requirements to bring them into compliance with relevant planning policies. Therefore, the proposed project, in combination with other past, present, and reasonably probable future projects, would not result in significant cumulative effects on land use. This impact would be **less than significant**.

4.9 NOISE

This section describes existing noise and vibration conditions, sets forth criteria for determining the significance of noise and vibration impacts, and estimates the likely noise and vibration impacts that would result from construction and operation of the proposed project. It identifies standard conditions of approval and/or mitigation measures to reduce or avoid potentially significant noise and vibration impacts, where appropriate.

4.9.1 Setting

This section describes the fundamentals of noise and vibration, summarizes the regulatory framework, and describes the existing noise environment of the project site and its vicinity.

4.9.1.1 Characteristics of Sound

Noise is generally defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is the number of complete vibrations or cycles per second of a wave that results in the range of tone from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment, and it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effects on adjacent sensitive land uses.

Measurement of Sound. Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. Table contains a list of typical acoustical terms and definitions. Figure shows representative outdoor and indoor noise levels in units of A-weighted decibels (dBA).

A decibel (dB) is a unit of measurement which indicates the relative intensity of a sound. 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. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness.

Table 4.9.A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L ₀₁ , L ₁₀ , L ₅₀ , L ₉₀	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L _{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L _{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L _{max} , L _{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source 1: *Technical Noise Supplement* (Caltrans 2013)

Source 2: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

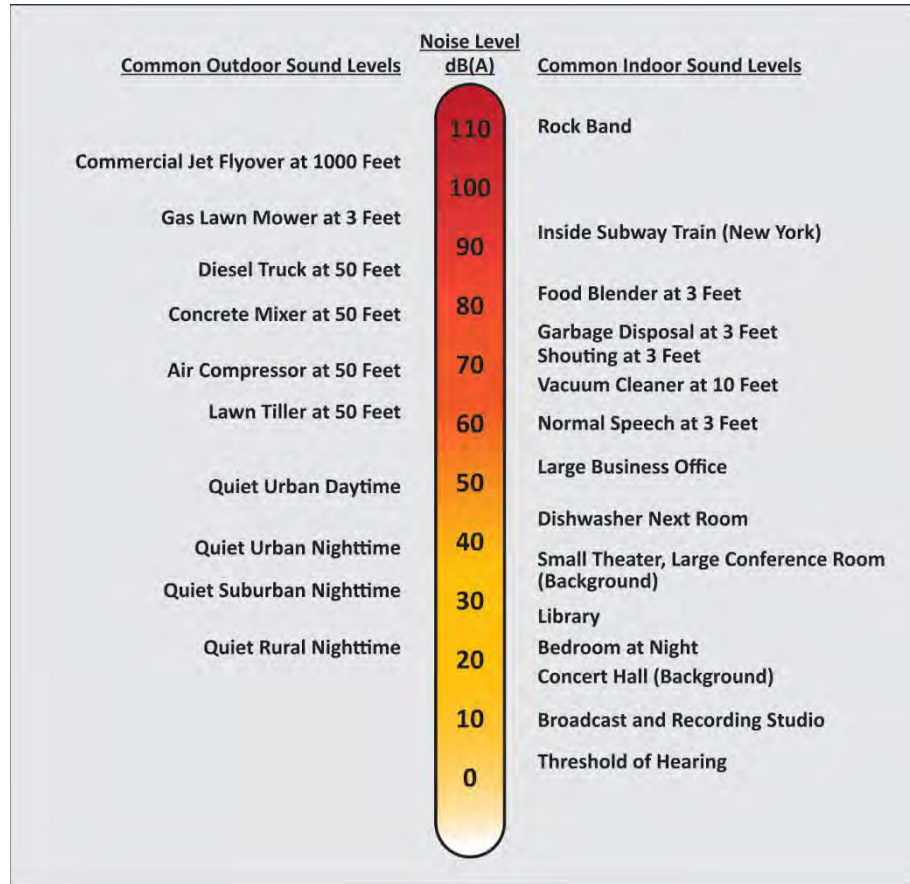
Caltrans = California Department of Transportation

FTA = Federal Transit Administration

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, 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. Typical A-weighted sound levels from various sources are described in **Figure 4.9-1**.

Figure 4.9-1: Typical A-Weighted Sound Levels



Source: Compiled by LSA (2016).

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 standards in terms of percentile exceedance levels, L_n , are often used together with the L_{max} for noise enforcement purposes. When specified, the percentile exceedance levels are not to be exceeded by an offending sound over a stated time period. For example, the L_{10} noise level represents the level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background noise level. For a relatively steady noise, the measured L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dBA or greater, because, as described earlier, this level of noise change has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1 and 3 dBA. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1 dBA that are inaudible to the human ear. A change in noise level of at least 5 dBA would be required before any noticeable change in human response would be expected and a 10 dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise. The effects of noise on people can also be described in three categories: annoyance, interference with activities such as speech or sleep, and physiological effects such as hearing loss. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the ear, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling.

Unwanted community effects of noise occur at levels much lower than those that cause hearing loss and other health effects. Noise annoyance occurs when it interferes with sleeping, conversation, and noise-sensitive work, including learning or listening to the radio, television, or music. According to World Health Organization noise studies, few people are seriously annoyed by daytime activities with noise levels below 55 dBA or are only moderately annoyed with noise levels below 50 dBA.¹⁸⁶

4.9.1.2 Characteristics of Ground-borne Vibration

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. As the vibration propagates from the foundation throughout the remainder of the building, the vibration of floors and walls may cause perceptible vibration from the rattling of windows or a rumbling noise. The rumbling sound caused by the vibration of room surfaces is called ground-borne noise. When assessing annoyance from ground-borne noise, vibration is typically expressed as root-mean-square (RMS) velocity in units of decibels of 1 microinch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB." Human perception to vibration starts at levels as low as 67 VdB and sometimes lower. Annoyance due to vibration in residential settings starts at approximately 70 VdB. Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

¹⁸⁶ World Health Organization. 1999. *Guidelines for Community Noise*.

In extreme cases, excessive ground-borne vibration has the potential to cause structural damage to buildings. Vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). Common sources of ground-borne vibration include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment. Typical vibration source levels from construction equipment are shown in Table .

Table 4.9.B: Typical Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 feet (in/sec)	Approximate VdB at 25 feet
Pile Driver (impact)	Upper range	1.518	112
	Typical	0.644	104
Pile Driver (sonic)	Upper range	0.734	105
	Typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In soil	0.008	66
	In rock	0.017	75
Vibratory roller		0.210	94
Hoe ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration, May 2006)
 in/sec = Inch(es) per second
 PPV = peak particle velocity
 VdB = vibration velocity decibels

4.9.1.3 Regulatory Context

The applicable federal, State, regional, and local regulatory framework is discussed below.

Federal and State Regulations. The following federal and state regulations are applicable to the proposed project.

Federal Transit Administration Noise and Vibration Impact Assessment Manual. The Federal Transit Administration (FTA) provides procedures for predicting and assessing noise and vibration impacts of proposed transit projects for different stages of project development and different levels of analysis as well as descriptions of noise and vibration mitigation measures, construction noise and vibration, and how to present these analyses in the FTA’s environmental documents. As described below, these procedures were used to assess construction noise and vibration.

Construction noise was assessed using criteria from the *Transit Noise and Vibration Impact Assessment Manual*¹⁸⁷ (FTA Manual). Table 4.9.C shows the FTA’s Detailed Assessment Construction Noise Criteria based on the composite noise levels per construction phase.

Table 4.9.C: Detailed Assessment Daytime Construction Noise Criteria

Land Use	Daytime 8-hour L_{eq} (dBA)
Residential	80
Commercial	85
Industrial	90

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

dBA = A-weighted decibels

FTA = Federal Transit Administration

L_{eq} = equivalent continuous sound level

The criteria for environmental impacts resulting from ground-borne vibration and noise are based on the maximum levels for a single event. The Alameda County’s (County) Municipal Code does not include specific criteria for assessing vibration impacts associated with structural damage. Therefore, for the purpose of determining the significance of vibration impacts experienced at sensitive uses surrounding the project site, the guidelines within the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA Manual) have been used to determine vibration impacts associated with potential damage and are presented in Table below.

Table 4.9.D: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
Reinforced concrete, steel, or timber (no plaster)	0.50
Engineered concrete and masonry (no plaster)	0.30
Non-engineered timber and masonry buildings	0.20
Buildings extremely susceptible to vibration damage	0.12

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), Table 12-3.

FTA = Federal Transit Administration

PPV = peak particle velocity

in/sec = inches per second

The FTA Manual guidelines show that a vibration level of up to 0.2 inches per second (in/sec) in PPV is considered safe for non-engineered timber and masonry buildings and would not result in any construction vibration damage. Therefore, the 0.2 in/sec in PPV threshold has been used when evaluating vibration impacts at the nearest structures to the site (i.e., residential uses in the vicinity of the project site).

To provide numerical thresholds related to ground-borne vibration impacts, criteria included in the FTA Manual for human annoyance are shown in Table . The criteria account for the variation

¹⁸⁷ Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. Office of Planning and Environment. Report No. 0123. September.

in project types as well as the frequency of events, which differ widely among projects. It is logical that when there would be fewer events per day, it should take higher vibration levels to evoke the same community response. The variation in project times and the frequency of events is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, in which the term “frequent events” is defined as more than 70 events per day.

Table 4.9.E: Ground-Borne Vibration Impact Criteria for General Assessment

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 μ in/sec)		
	Frequent Events ¹	Occasional Events ²	Infrequent Events ³
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB ⁴	65 VdB ⁴	65 VdB ⁴
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018), Table 8-1.

- ¹ Frequent events are defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
- ² Occasional events are defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
- ³ Infrequent events are defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.
- ⁴ This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

μ in/sec = microinches per second
 FTA = Federal Transit Administration

HVAC = heating, ventilation, and air-conditioning
 VdB = vibration velocity decibels

Noise Control Act. In 1972 Congress enacted the Noise Control Act. This act authorized the U.S. Environmental Protection Agency (USEPA) to publish descriptive data on the effects of noise and establish levels of sound “requisite to protect the public welfare with an adequate margin of safety.” These levels are separated into health (hearing loss levels) and welfare (annoyance levels), as shown in Table 4.9.F. The USEPA cautions that these identified levels are not standards because they do not take into account the cost or feasibility of the levels.

For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to an $L_{eq}(24)$ of 70 dBA. The “(24)” signifies an L_{eq} duration of 24 hours. The USEPA activity and interference guidelines are designed to ensure reliable speech communication at about 5 feet in the outdoor environment. For outdoor and indoor environments, interference with activity and annoyance should not occur if levels are below 55 dBA and 45 dBA, respectively.

Table 4.9.F: Summary of USEPA Noise Levels

Effect	Level	Area
Hearing loss	$L_{eq}(24) \leq 70$ dB	All areas.
Outdoor activity interference and annoyance	$L_{dn} \leq 55$ dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	$L_{eq}(24) \leq 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{eq} \leq 45$ dB	Indoor residential areas.
	$L_{eq}(24) \leq 45$ dB	Other indoor areas with human activities such as schools, etc.

Source: *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (United States Environmental Protection Agency, March 1974).

The noise effects associated with an outdoor L_{dn} of 55 dBA are summarized in Table 4.9.G. At 55 dBA L_{dn} , 95 percent sentence clarity (intelligibility) may be expected at 11 feet and no substantial community reaction. However, 1 percent of the population may complain about noise at this level and 17 percent may indicate annoyance.

Table 4.9.G: Summary of Human Effects in Areas Exposed to 55 dBA L_{dn}

Type of Effect	Magnitude of Effect
Speech – Indoors	100 percent sentence intelligibility (average) with a 5 dB margin of safety.
Speech – Outdoors	100 percent sentence intelligibility (average) at 0.35 meter (approximately 1 foot). 99 percent sentence intelligibility (average) at 1.0 meter (3.3 feet). 95 percent sentence intelligibility (average) at 3.5 meters (approximately 10 feet).
Average Community Reaction	None evident; 7 dB below level of significant complaints and threats of legal action and at least 16 dB below “vigorous action.”
Complaints	1 percent dependent on attitude and other non-level related factors.
Annoyance	17 percent dependent on attitude and other non-level related factors.
Attitude Towards Area	Noise essentially the least important of various factors.

Source: *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (U.S. Environmental Protection Agency, March 1974).

Regional and Local Regulations. The following regional and local regulations are applicable to the proposed project.

Alameda County General Plan. The Noise Element of the Alameda County General Plan¹⁸⁸ includes the following goals, objectives, and principles related to noise:

¹⁸⁸ Alameda County. 1975. *Noise Element of the Alameda County General Plan*. As amended May 5, 1994. Website: https://www.acgov.org/cda/planning/generalplans/documents/Noise_Element_1994.pdf (accessed October 17, 2023).

Countywide Policies.

- **Goal 1:** The peace, health, safety, and welfare of the residents of Alameda County require protection from excessive, unnecessary, and unreasonable noises from any and all sources in the cities and unincorporated territory.
- **Goal 2:** Promote the compatibility of land uses with respect to noise generation by legislatively protecting sensitive land uses from noise sources.
 - *Objective 1.* Investigate and implement physical and legislative techniques to reduce noise impacts where appropriate.
 - *Principle 1.* Community noise control standards which establish maximum permitted noise levels of sensitive land uses – residential, community care facilities (hospitals, nursing homes, etc.), schools, and any other use considered by the community to be sensitive to noise should be developed and implemented by each jurisdiction.
 - *Principal 2.* Local governments in cooperation with transportation agencies should promote the abatement of highway, circulation, aircraft, and rapid transit noise.
 - *Principal 3.* Local governments should exercise significant authority in controlling the noise problem because they have the responsibility for land development control and zoning.

Unincorporated Area Policies

- **Goal 1:** Alameda County should provide its residents and wildlife with an environment which is free from excessive noise pollution by preventing and suppressing undesirable levels, frequencies and time durations of noise.
- **Goal 2:** Alameda County should encourage noise compatible land uses near highways and other noise generators.
 - *Objective 1.* In order to control objectionable noise, Alameda County should survey noise sources and impacts in the unincorporated area and develop acceptable noise level standards for noise impacted areas.
 - *Objective 2.* The County should seek to develop regional planning agreements for zoning and soundproofing to reduce noise incompatibilities across jurisdictional boundaries.
 - *Objective 3.* The County should examine existing County ordinances and regulations to determine the effectiveness of existing control and where additional performance standards are needed to reduce noise problems.
 - *Objective 4.* Alameda County should develop and adopt a County Noise Ordinance to prohibit unwanted and unnecessary sounds of all types within the unincorporated territory.

- *Objective 5.* The County should encourage architectural designers, developers and builders to employ physical techniques to reduce noise impacts.
- *Objective 6.* The public should be informed of the significant financial and social costs of noise incompatibilities.

East County Area Plan. The following goals and policies from the East County Area Plan Environmental Health and Safety section sets forth the following goals, policies, and implementation measures related to noise that are relevant to the proposed project.

- **Noise Goal:** To minimize East County residents' and workers' exposure to excessive noise.
 - *Policy 288:* The County shall not endeavor to maintain acceptable noise levels throughout the East County.
 - *Policy 289:* The County shall limit or appropriate mitigate new noise-sensitive development in areas exposed to projects noise levels exceeding 60 dB based on the *California Office of Noise Control Land Use Compatibility Guidelines*.
 - *Policy 290:* The County shall require noise studies as part of development review of projects located in areas exposed to high noise levels and in areas adjacent to existing residential or other sensitive land uses. Where noise studies show that noise levels in areas of existing housing will exceed "normally acceptable" standards (as defined by the *California Office of Noise Control Land Use Compatibility Guidelines*), major development projects shall contribute their prorated share to the cost of noise mitigation measures such as those described in Program 104.
 - *Implementation Program 104:* The County shall require the use of noise reduction techniques (such as buffers, building design modifications, lot orientation, soundwalls, earthberms, landscaping, building setbacks, and real estate disclosure notices) to mitigated noise impacts generated by transportation-related to and stationary sources as specified in the *California Office of Noise Control Land Use Compatibility Guidelines*.

Alameda County Municipal Code. Alameda County regulates noise in the County's Noise Ordinance. Table 4.9.H shows the number of cumulative minutes that a particular external noise level is permitted for receiving sensitive land uses such as single- or multifamily residential, school, hospital, church, or public library properties. The County Noise Ordinance also restricts the operation and use of electric and gas-powered tools in residential areas and authorizes the imposition of more stringent noise limits on activities subject to a conditional use permit. The Noise Ordinance does not apply to noise associated with construction if such activities take place between 7:00 a.m. and 7:00 p.m. on weekdays or between 9:00 a.m. and 8:00 p.m. on weekends.

Table 4.9.H: Exterior Noise Level Standards – Sensitive Land Uses

Category	Cumulative Number of Minutes in any one-hour time period	Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

Source: Section 6.60.040 of the County of Alameda Code of Ordinance.

¹ Daytime means 7:00 a.m. to 10:00 p.m.

² Nighttime means 10:01 p.m. to 6:59 a.m.

dBA = A-weighted decibels

L_{eq} = equivalent continuous sound level

4.9.2 Impacts and Mitigation Measures

This section discusses potential noise and vibration impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents potential impacts associated with implementation of the proposed project and identifies applicable mitigation measures, as appropriate.

4.9.2.1 Criteria of Significance

The following thresholds of significance are based on Appendix G of the *State CEQA Guidelines*. Based on these thresholds, implementation of the proposed project would have a significant impact related to noise if it would:

- Threshold 4.9.1:** 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;
- Threshold 4.9.2:** Generate excessive groundborne vibration or groundborne noise levels; or
- Threshold 4.9.3:** 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 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

4.9.2.2 Project Impacts

The following section discusses the potential noise impacts associated with implementation of the proposed project. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ substantially by phase and therefore are not differentiated in this section.

Threshold 4.9.1: Generate an increase in ambient noise levels in excess of established standards. Noise impacts from the proposed project would be associated with construction

activities. Construction-related noise levels would be higher than existing ambient noise levels in the project area under existing conditions but would no longer occur once construction of the project is completed.

Two types of potential short-term noise impacts could occur during construction of the proposed project: (1) noise impacts related to construction crew commutes and the transportation of construction equipment and materials to the site; and (2) noise impacts associated with grubbing and land clearing, grading, excavation, and paving activities.

Based on the results of the California Emissions Estimator Model version 2022.1.1.18, construction crew commutes and the transport of construction equipment and materials to the project site would result in a maximum of 217 trips per day during the phase with the highest construction activity, which would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single-event noise exposure from heavy trucks, potentially causing intermittent noise nuisance (passing pickup trucks at 50 feet would generate up to a maximum of 75 dBA), the effect on longer-term (hourly or daily) ambient noise levels would be small (i.e., less than 0.1 dBA) given that the traffic volume increase on adjacent roadways is at most 217 trips. Therefore, construction-related impacts associated with worker commutes and equipment transport to the project site would be less than significant.

The second type of potential short-term noise impact is related to noise generated during grubbing and land clearing, grading and excavation, subgrade, and paving activities. 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. 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.

Once the composite reference maximum noise level is calculated for each phase, the usage factor provided in Table 4.9.I is used to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10 \log(U.F.) - 20 \log\left(\frac{D}{50}\right)$$

- where:
- $L_{eq}(equip)$ = L_{eq} at a receiver resulting from the operation of a single piece of equipment over a specified time period
 - E.L. = Noise emission level of the particular piece of equipment at a reference distance of 50 feet
 - U.F. = Usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time
 - D = Distance from the receiver to the piece of equipment

Table 4.9.I: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 feet)
Air Compressor	40	80
Backhoe	40	80
Cement Mixer	40	85
Concrete/Industrial Saw	20	90
Crane	16	85
Excavator	40	85
Generator	50	82
Grader	40	85
Loader	40	80
Paver	50	85
Roller	20	85
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84
Welder	40	73

Source: *Roadway Construction Noise Model User's Guide* (FHWA 2006).

dBA = A-weighted decibels

FHWA = Federal Highway Administration

L_{max} = maximum instantaneous noise level

Each piece of construction equipment operates as an individual point source. Using the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq (composite) = 10 * \log_{10} \left(\sum_{1}^n 10^{\frac{Ln}{10}} \right)$$

Using the equations from the methodology above and the reference information in Tables 4.9.I and 4.9.J, the composite noise level would be 89 dBA L_{eq} at a distance of 50 feet from the construction area. This noise level would be the same for the loudest phase at each project location. Table 4.9.J provides a summary of the reference noise levels during construction by phase.

Table 4.9.J: Noise Levels by Construction Phase

Phase	Composite Reference Level at 50 feet	
	dBA L_{max}	dBA L_{eq}
Linear, Demolition, and Land Clearing	86	82
Linear, Grading, and Excavation	91	89
Linear, Drainage Sub-Grade	91	89
Linear, Paving	89	86

Source: Compiled by LSA (2023).

dBA = A-weighted decibels

L_{eq} = equivalent continuous noise level

L_{max} = maximum instantaneous noise level

The nearest sensitive receptor would be the residential uses within approximately 15 feet of the proposed trail alignment, particularly residences along Mission Clay Road, which are within Phase 1 of the proposed trail corridor. It is expected that noise levels during construction at the nearest sensitive receptors could exceed those presented in Table 4.9.J if equipment were to be within 50 feet of the residence and multiple pieces of equipment operated simultaneously. This is a **potentially significant** impact. All other sensitive receptors are farther from areas of construction and would therefore experience lower noise levels.

Impact NOI-1: Construction period activities could result in significant short-term noise impacts on noise-sensitive receptors in the project vicinity.

While construction-related, short-term noise levels have the potential to be higher than existing ambient noise levels in the vicinity of the proposed project, the noise impacts would no longer occur once project construction is completed. Construction-related noise impacts at the nearest sensitive receptors could exceed the 90 dBA L_{eq} 1-hour construction noise level criteria as established by the FTA; however, this exceedance is expected to be of short duration.¹⁸⁹

Compliance with the County’s General Plan policies and Noise Ordinance would ensure that construction noise would not disturb the sensitive receptors during hours when ambient noise levels are likely to be lower (i.e., at night). Mitigation Measure NOI-1 would limit construction hours and require the implementation of noise-reducing measures during construction. Therefore, with implementation of **Mitigation Measure NOI-1**, construction activity noise impacts would be less than significant.

Mitigation Measure NOI-1

Construction Noise. Prior to commencement of construction activities, the Alameda County shall verify that grading and construction plans include the following requirements to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved:

- Construction activities occurring as part of the project shall be subject to the limitations and requirements of the Alameda County Municipal Code, which states that construction activities are allowed between the hours of 7:00 a.m. and 7:00 p.m. on weekdays or between 9:00 a.m. and 8:00 p.m. on weekends.
- During all project area excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers’ standards.

¹⁸⁹ Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123. September.

- To the best extent possible, the project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project area.
- Construction staging areas shall be located as far away from sensitive receptors as possible during all phases of construction.

Operation of the project would involve pedestrian and cyclist use of the trail and related amenities; neither hiking nor cycling generate substantial noise, and the closest sensitive receptors already experience noise from vehicles traveling on Niles Canyon Road and other local roadways. Consequently, trail users are expected to generate an incremental increase in the noise levels adjacent to nearby residences, resulting in permanent noise level increases that are less than significant.

As described above, with the incorporation of Mitigation Measure NOI-1, the project would not result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed project in excess of standards established in the local general plan or noise ordinance, or any other applicable standards. Therefore, this impact would be **less than significant with mitigation**.

Threshold 4.2-2: Generate excessive groundborne vibration. Construction of the proposed project could result in the generation of ground-borne vibration. The construction vibration impact analysis assessed the potential for building damages using vibration levels in peak particle velocity (in/sec PPV). The FTA Manual guidelines indicate that a vibration level up to 0.2 in/sec PPV is considered safe for non-engineered timber and masonry buildings.

Table 4.9.K shows the PPV values at 25 feet from a construction vibration source. As shown in Table 4.9.K, bulldozers and other heavy-tracked construction equipment (except for vibratory rollers) generate approximately 0.089 in/sec PPV of ground-borne vibration when measured at 25 feet.

Table 4.9.K: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV (in/sec) at 25 feet
Vibratory Roller	0.210
Hoe Ram	0.089
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Sources: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
 in/sec = inches per second
 PPV = peak particle velocity

Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside of residential buildings in the project vicinity). The proposed project is expected to include the use of heavy equipment similar to a large bulldozer. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project disturbance areas because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

$$PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$$

As identified above, sensitive receptor structures are approximately 15 feet from the proposed construction activities and would experience vibration levels approaching 0.191 in/sec PPV. Construction vibration levels at these structures could exceed the FTA threshold of 0.2 in/sec PPV for non-engineered timber and masonry building damage if heavy equipment were to operate within 15 feet of the structures. For example, vibration levels at a distance of 14 feet would be 0.212 in/sec PPV. Therefore, construction that would take place within 15 feet of existing structures would exceed the FTA vibration damage thresholds, resulting in a **potentially significant** impact.

Impact NOI-2: Construction period activities could result in significant short-term vibration for sensitive receptor structures in the project vicinity.

Implementation of Mitigation Measure NOI-2 would be required to maintain a minimum distance of 15 feet between the heavy construction equipment and the adjacent structures. Implementation of Mitigation Measure NOI-2 would ensure that construction vibration levels would be below the FTA threshold of 0.2 in/sec PPV for building damage, thereby reducing potential vibration impacts to less than significant. In addition, due to the linear nature of the project, construction activities at any one receptor location would occur for a limited duration.

Mitigation Measure NOI-2 The use of heavy construction equipment, such as large bulldozers or excavators, within 15 feet of existing structures shall be prohibited.

Construction vibration associated with the project would be less than significant with implementation of Mitigation Measure NOI-2. Therefore, construction of the proposed project would not result in generation of excessive ground-borne vibration or ground-borne noise levels. Ground-borne vibration would not be associated with the proposed project following construction activities. This impact would be **less than significant with mitigation**.

Threshold 4.2-3: Exposure to excessive noise levels due to proximity to an airport. The nearest airports to the project site are Livermore Municipal Airport, 7.7 miles northeast of the project site, and Hayward Executive Airport, approximately 10 miles northwest of the project site. The project site is not within the land use plan area for either Livermore Municipal Airport¹⁹⁰ or Hayward

¹⁹⁰ Alameda County Community Development Agency. 2012a. Livermore Executive Airport, Airport Land Use Compatibility Plan. August.

Executive Airport¹⁹¹ and is not within 2 miles of a public airport or public use airport. Given the distances from the project site to the nearest public or public use airports and because the proposed project would consist of a multiuse trail and associated improvements for recreational uses, the project would not expose people working in or visiting the project area to excessive noise levels, and **no impact** would occur.

4.9.2.3 Cumulative Impacts

For the topic of noise, the scope for assessing cumulative impacts encompasses past, current, or probable future projects under review by the County and within less than 0.5-mile to the project site, as noise levels decline rapidly with distance. Similarly, vibration is a localized phenomenon that reduces progressively as the distance from the source increases. As discussed above, noise associated with use of the proposed trail by pedestrians and bicyclists and with maintenance of the proposed trail would be relatively minimal and is not expected to result in a substantial increase in ambient noise levels. Because the proposed project would not result in a substantial permanent increase in noise, the proposed project, when combined with the cumulative projects identified in Table 4.A, would not create a cumulatively considerable increase in ambient noise levels, and this impact would be less than significant.

Construction activities would result in a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. With implementation of Mitigation Measure NOI-1, the proposed project would not result in adverse noise impacts from construction activities. Although the proposed project may be under construction at the same time as one or more cumulative development projects identified in Table 4.A, each project would be required to implement similar measures as those identified in Mitigation Measure NOI-1 to ensure that construction noise levels would be reduced to the extent feasible and to ensure that construction activities comply with the County's Noise Ordinance. In addition, construction-related noise impacts would be temporary and would no longer occur once construction of each project is completed. Therefore, construction activities would not be considered a cumulatively considerable contribution to the total noise environment in the project site vicinity and this impact would be less than significant.

Similarly, ground-borne vibration would be limited to the construction phase. The generation of ground-borne vibration during construction would be reduced to less than significant with implementation of Mitigation Measure NOI-2. Although the proposed project may be under construction at the same time as one or more cumulative development projects identified in Table 4.A, each project would be required to implement similar measures as those identified in Mitigation Measure NOI-2 to ensure that ground-borne vibration associated with construction activities is reduced to the extent feasible. Vibration would cease after construction is completed. Therefore, construction activities would not be considered a cumulatively considerable contribution to ground-borne vibration in the project site vicinity and this impact would be less than significant.

¹⁹¹ Alameda County Community Development Agency. 2012b. Hayward Executive Airport, Airport Land Use Compatibility Plan. August.

As noise and vibration impacts would not be substantial, they would not combine with other cumulative development to generate cumulative noise or vibration impacts. Therefore, the proposed project would not result in a cumulatively considerable contribution to noise impacts, and the cumulative impact would be **less than significant**.

4.10 PUBLIC SERVICES

This section analyzes the proposed project's potential impacts on the following public services: fire protection, police services, schools, and other public services. Potential impacts to public services that could result from the proposed project are identified, and mitigation measures are recommended, as appropriate.

4.10.1 Setting

The setting section describes the current service locations, capacities, and expansion possibilities as well as laws, codes, and regulations relevant to public services.

4.10.1.1 Fire Protection and Emergency Medical Services

Fire protection and emergency medical services for the project site would be provided by the East Bay Regional Parks District (EBRPD) Fire Department, the City of Fremont Fire Department, the Alameda County Fire Department and the California Department of Forestry and Fire Protection.

East Bay Regional Parks District Fire Department. Portions of the proposed trail alignment are located on land owned by the EBRPD and are under the jurisdiction of the EBRPD Fire Department. The EBRPD Fire Department is composed of three branches that work together to manage the EBRPD's 73 regional parks and 125,000 acres of parkland. The Operations Branch manages emergency services such as fire suppression, search and rescue, and pre-hospital emergency medical care. The Fuels Management branch is tasked with fire prevention and uses fuels reduction strategies to maintain safe and healthy parklands. The Lifeguard Services branch provides public safety during recreational swimming and provides aquatic programs and public water safety education.¹⁹²

The EBRPD Fire Department responds to incidents concurrently with other agencies, including Cal Fire and municipal fire departments such as City of Fremont (City) Fire Department. EBRPD Fire Department employs three fire captains, two permanent fire lieutenants, eight permanent firefighters, four on-call fire lieutenants, up to 48 additional "paid on-call" firefighters, and 190 seasonal lifeguards for fire, EMS, and aquatic response. Based on staffing numbers, each fire service personnel is responsible for 13 square miles of EBRPD parkland and open space during the non-fire season and during peak fire season, each firefighter is responsible for approximately 3 square miles.¹⁹³

The EBRPD Fire Department operates from 10 fire stations, 6 of which are in Alameda County and 4 in Contra Costa County. Fire station #1 serves as the primary fire station and is in Tilden Park at 2501 Grizzly Peak Boulevard in Orinda. Fire Station #7 is the closest station to the project area and is in Hayward at 1320 Garin Avenue, approximately 4.75 miles northwest of the project site. This station

¹⁹² East Bay Regional Park District, 2022. *Fire Department* website: <https://www.ebparks.org/public-safety/fire> (accessed March 2, 2022).

¹⁹³ Local Agency Formation Commission of Alameda County (Alameda LAFCo). 2013. *East Bay Regional Park District Municipal Service Review Final*. July 11.

is equipped with fire apparatus and is staffed on an as-needed basis during periods of high wildland fire danger or periods of extraordinary visitor use.¹⁹⁴

In 2011, the EBRPD Fire Department responded to 907 calls for service including fire, EMS, hazardous materials, and mutual aid calls. The average response times for EBRPD are 11 minutes for medical aid calls, 16 minutes for wildland fires, 9 minutes for vehicle fires, and 12 minutes for injury accidents.¹⁹⁵

City of Fremont Fire Department. The western portion of the project area is within Fremont and is under the jurisdiction of the Fremont Fire Department (FFD). The FFD is responsible for providing the rapid delivery of fire, medical, rescue, and life safety emergency services within Fremont. The FFD is composed of an Administrative Division, a Training/EMS Division, an Operations Division, and a Special Operations Division, which provides hazardous materials and rescue services. The administrative headquarters are at 3300 Capital Avenue and there are 11 fire stations operated throughout Fremont.¹⁹⁶

The FFD operates an on-duty force composed of 11 fire engines, two aerial ladder trucks, one specialized hazardous materials unit, one heavy-duty rescue, and two battalion chiefs. Each engine and truck company in Fremont has at least one certified paramedic assigned to it.¹⁹⁷ The project site is within the district associated with Fire Station 2, which is located at 37299 Niles Boulevard, approximately 0.5-mile northwest of the project site. Fire Station 9 is the next closest station, which is at 39609 Stevenson Place, approximately 1.5 miles south of the project site.

Approximately 60 percent of the emergency calls the FFD receives are for medical emergencies, and fires represent about 10 percent of all calls. In 2010, the FFD responded to 12,958 calls for service, including 350 fire incidents and 8,700 EMS/rescue incidents. The City has a response time goal of 6 minutes 40 seconds for 90 percent of all emergency calls. Additionally, the City has a “concentration” response time goal¹⁹⁸ of 9 minutes and 30 seconds for 90 percent of calls.

Alameda County Fire Department and California Department of Forestry and Fire Protection. The central and eastern portions of the project alignment are within the unincorporated community of Sunol and under the jurisdiction of the Alameda County Fire Department (ACFD), which is contracted with the California Department of Forestry and Fire (Cal Fire) to provide fire protection services in the area. ACFD provides all-risk emergency services to the unincorporated areas of Alameda County (excluding Fairview, the cities of San Leandro, Dublin, Newark, Union and

¹⁹⁴ Local Agency Formation Commission of Alameda County (Alameda LAFCo). 2013. *East Bay Regional Park District Municipal Service Review Final*. July 11.

¹⁹⁵ Ibid.

¹⁹⁶ City of Fremont. n.d.-a. *Fire Department*. <https://fremont.gov/96/Fire-Department> (accessed March 2, 2022).

¹⁹⁷ City of Fremont. n.d.-b. *Fire Department Operations*. <https://fremont.gov/125/Operations> (accessed March 2, 2022).

¹⁹⁸ A “concentration” response consists of having a full alarm assignment of 14 firefighters on the scene of a structure fire.

Emeryville, the Lawrence Berkeley National Laboratory, and the Lawrence Livermore National Laboratory.

ACFD is composed of four organizational branches including the Operations Branch, the Communications and Special Operations Branch, the Administrative Support Services Branch, and the Fire Prevention Branch. ACFD is staffed by 475 authorized positions and 50 reserve firefighters who operate 29 fire stations and 35 companies. ACFD's total service area is 508 square miles with a daytime population of 394,000 people.¹⁹⁹

In the 2019–2020 fiscal year, ACFD responded to 16,693 calls for unincorporated Alameda County including 1,082 service calls, 203 structure fires, 315 other fires, 11,697 EMS/Rescue, and 286 hazardous conditions.²⁰⁰ The average call to arrival time for the ACFD was 7 minutes and 53 seconds in 2016, the most recent year for which data was readily-available.²⁰¹

The closest fire station to the project site is Fire Station 14, located at 11351 Pleasanton-Sunol Road in Sunol, approximately 0.5 mile northeast of the project site. Fire services for the unincorporated area around and including Sunol are provided under contract with Cal Fire. Fire Station 14 is the property of Cal Fire and the ACFD owns the Type 1 fire engine. The second closest fire station is Fire Station 33 at 33948 10th Street in Union City, approximately 3 miles northwest of the project site. This station is staffed by three firefighters and has one Engine 33 and one Engine 333.²⁰²

4.10.1.2 Police Services

The project site is served by the EBRPD Police Department, the City of Fremont Police Department, and the Alameda County Sheriff's Office, as further described below.

East Bay Regional Parks District Police Department. Portions of the project are on land owned by the EBRPD and are under the jurisdiction of the EBRPD Police Department. The EBRPD Police Department provides patrol services for all of the EBRPD's 73 parks, as well as East Bay Municipal Utilities District watershed and recreation facilities, San Francisco Public Utilities Commission's watershed, and State parklands within the East Bay.²⁰³

The EBRPD Police Department is composed of 71 sworn police officers, 90 non-sworn full-time employees, and approximately 200 volunteer trail safety patrols. The EBRPD Police Department operates within the District's Public Safety Department, which is headquartered at 17930 Lake Chabot Road in Castro Valley and has deployment points at the East Bay Municipal Utilities District

¹⁹⁹ Alameda County Fire Department. n.d.-a. *About Us* website: <https://fire.acgov.org/AboutUs/aboutus.page?> (accessed March 2, 2022).

²⁰⁰ Alameda County Fire Department. n.d.-b. *Response and Activity Statistics* website: <https://fire.acgov.org/AboutUs/stats.page?> (accessed March 2, 2022).

²⁰¹ Alameda County Fire Department. 2017. *Executive Summary Standards of Coverage Review*. September 1.

²⁰² Alameda County Fire Department. n.d.-c. *Stations and Facilities* website: <https://fire.acgov.org/AboutUs/facilities.page?> (accessed March 2, 2022).

²⁰³ East Bay Regional Park District. 2022. *Police Department* website: <https://www.ebparks.org/public-safety/police> (accessed March 1, 2022).

San Pablo Reservoir in Orinda, at Contra Loma Regional Park in Antioch, and at its Air Support Unit at the Hayward Municipal Airport. The EBRPD Police Department includes the Air Support Unit, a Marine Patrol, Equestrian Patrols, a K-9 Unit, a Special Enforcement Unit, an Investigations Unit, and a 24-hour-per-day 911 Communications Center.²⁰⁴

In 2021, EBRPD Police Department had an average response time of 19 minutes and 18 seconds. The EBRPD Police Department received 254 calls for service for the existing Alameda Creek Trail and 75 calls for the existing Niles staging area in 2021. The primary citations issued consisted of parking citations, 9 of which were issued at the existing Niles staging area and 39 of which were issued at the Alameda Creek Trail. There were six other citations unrelated to parking issued at the Niles staging area and 31 other citations issued at Alameda Creek Trail. The EBRPD Police Department responded to one medical/injury call and zero fire calls at the Niles Staging area in 2021 and five medical/injury calls and two fire calls at the Alameda Creek Trail. There were a total of 31 officer initiated stops at the Niles staging area and 123 officer initiated stops at Alameda Creek Trail.²⁰⁵

In 2011, the most recent year for which data was readily-available, EBRPD Police Department responded to a total of 7,779 calls for service, consisting of 47 911 calls, 800 alarm calls, and 5,995 other types of calls. A large portion of workload is based on officer observation or “on-view” violations. There were 937 calls of criminal violations on-viewed by officers in 2011 and 1,134 warnings issues, 397 arrests made, and 3,995 citations issued. The average response time for the month of July in 2011 was 28 minutes, an increase from the average response time of 19 minutes in July 2002.²⁰⁶

Fremont Police Department. The western portion of the project area is within Fremont and is under the jurisdiction of the Fremont Police Department (FPD). The FPD is made up of three divisions including the Patrol Division, the Special Operations Division, and the Administrative Operations Division. The FPD is headquartered at 2000 Stevenson Boulevard, approximately 2 miles south of the project site.

As of 2019, the FPD was composed of more than 300 staff, 200 of which were sworn personnel.²⁰⁷ The FPD has three zones within the city with an average of three to four patrol officers actively patrolling each zone at any given time. The project site is within Zone 1, which primarily covers Central Fremont, including downtown and the Niles District.²⁰⁸ Considering the population of Fremont was 235,740 in 2019, the police-officer-to-resident ratio was 0.84 sworn officer per 1,000

²⁰⁴ East Bay Regional Park District. 2022. *Police Department* website: <https://www.ebparks.org/public-safety/police> (accessed March 1, 2022).

²⁰⁵ East Bay Regional Park District. Severin, Janet, Support Services Supervisor. April 5, 2022. Personal communication.

²⁰⁶ Alameda LAFCo. 2013. *East Bay Regional Park District Municipal Service Review Final*. July 11.

²⁰⁷ Fremont Police Department. n.d.-a. *About Fremont Police* website: <https://www.fremontpolice.gov/about-us/about-fremont-police> (accessed March 1, 2022).

²⁰⁸ Fremont Police Department. n.d.-b. *Police Zone Map*. Website: <https://www.fremontpolice.gov/about-us/about-fremont-police/police-zone-map> (accessed March 1, 2022).

residents. This value is slightly lower than the industry standard target of 1 to 1.5 officers per 1,000 residents.

In 2019, the FPD handled 257,872 calls, of which 85,110 were 911 emergency calls and 172,762 were non-emergency calls, resulting in 21,620 documented police reports.²⁰⁹ The primary law enforcement concerns within the service area are theft, auto theft, burglary, and property crime.^{210,211} The FPD has a response time goal of 5 minutes for emergency calls and the Communication Center averages more than 800 phone calls per day and dispatches officers to approximately 300 incidents daily.²¹²

Alameda County Sheriff's Office. The central and eastern portions of the project site alignment are within the unincorporated area of Alameda County and under the jurisdiction of the Alameda County Sheriff's Office. The Sheriff's Office is headquartered at 1401 Lakeside Drive in Oakland. The Sheriff's Office has 1,500 authorized positions, including 1,000 sworn personnel distributed among five divisions.²¹³ The Alameda County Sheriff's Office is made up of five divisions including the Countywide Services Division, Eden Township Division, LES Contract Services Division, Detention and Corrections Division, and Management Services Division. Additionally, the Alameda County Sheriff's Office has a contract with the City of Dublin to provide police services.

4.10.1.3 Schools

Two school districts provide public education services in the project area: Fremont Unified School District and Sunol Glen Unified School District.

Fremont Unified School District. The western portion of the proposed trail alignment is within the boundary of the Fremont Unified School District (FUSD). FUSD is made up of 42 schools serving 34,000 students.²¹⁴ The project site is within the jurisdiction of Vallejo Mill Elementary School, Niles Elementary School, Centerville Junior High School, and Washington High School.

²⁰⁹ Fremont Police Department. n.d.-c. *FAQ* website: <https://www.fremontpolice.gov/about-us/about-fremont-police/faq> (accessed March 1, 2022).

²¹⁰ Fremont Police Department. n.d.-d. *Five (5) Year Crime Comparison Calendar Year 2017-2021*. Website: <https://www.fremontpolice.gov/home/showpublisheddocument/646> (accessed March 1, 2022).

²¹¹ Fremont Police Department. n.d.-e. *Fremont, California Part I Crimes 2017-2021*. Website: <https://www.fremontpolice.gov/home/showpublisheddocument/650/637817287111130000> (accessed March 1, 2022).

²¹² Fremont Police Department. n.d.-f. *Dispatch/Communications* website: <https://www.fremontpolice.gov/about-us/administrative-operations-division/dispatch> (March 1, 2022).

²¹³ Alameda County. 2017. *Safety Element of the Alameda County General Plan*. April 25.

²¹⁴ Fremont Unified School District. n.d. *About the District*. Website: https://www.fremont.k12.ca.us/pf4/cms2/view_page?d=x&group_id=1524555033922&vdid=4ia17a1jujp9d2c5 (accessed March 3, 2022).

Sunol Glen Unified School District. The central and eastern portions of the proposed trail are within the boundary of the Sunol Glen Unified School District (SGUSD). SGUSD is made up of one K-8 school with 273 students and a student/teacher ratio of 22.6 in the 2020–2021 school year.²¹⁵

4.10.1.4 Other Public Facilities

The Alameda County Library system provides library services in Alameda County from 10 libraries in Albany, Dublin, Fremont, Newark and Union City and the unincorporated communities of Castro Valley and San Lorenzo. Mobile and outreach services are provided through the Mobile Library, the Education and Literacy Program, and the County jails.²¹⁶ The closest libraries to the proposed trail corridor are the Niles Library at 150 I Street in Fremont, the Union City Library at 34007 Alvarado-Niles Boulevard in Union City and the Fremont Library at 2400 Stevenson Boulevard in Fremont. All three libraries are at the western end of the proposed project alignment.

4.10.1.5 Regulatory Context

The following regulatory framework discussion sets the context for the range of issues related to public services that relate to the evaluation of the potential for the proposed project to have a significant effect on public services.

Federal and State Regulations. There are no federal or State laws or regulations regarding public services that are applicable to the proposed project.

Regional and Local Regulations. *Alameda County General Plan.* The Alameda County General Plan includes the following goals and policies related to public services.

- **Goal 2.** To reduce the risk of urban and wildland fire hazards.
 - *Policy P4.* All urban and rural development, existing and proposed, should be provided with adequate water supply and fire protection facilities and services. Facilities serving hill area development should be adequate to provide both structural and wildland fire protection. The primary responsibility falls upon the owner and the developer.
 - *Policy P10.* The County shall require the design of adequate infrastructure if a new development is located in a state responsibility area (SRA) or in a very high fire hazard severity zone, including safe access for emergency response vehicles, visible street signs, and water supplies for structural fire suppression.

East County Area Plan. The East County Area Plan includes the following goals and policies that are applicable to the proposed project:

²¹⁵ National Center for Education Statistics. n.d. *Search for Public Schools Tool. Sunol Glen Elementary.* https://nces.ed.gov/ccd/schoolsearch/school_detail.asp?Search=1&DistrictID=0600021&ID=060002109291 (accessed March 21, 2022).

²¹⁶ Alameda County Library. 2022. *Who We Are.* Website: <https://aclibrary.org/who-we-are/> (accessed March 21, 2022).

- **Community Facilities Goal.** To provide a full range of community facilities to maintain and improve service levels and the quality of life for existing and future residents.
 - *Policy 49.* The County shall require new developments to pay their fair share of the costs of providing community facilities.
- **Schools Goal.** To ensure the development of adequate school facilities to meet the needs of East County residents
 - *Policy 233.* The County shall support the location of school facilities adjacent to local parks and trails and shall support the shared use of school facilities with recreation, child care, and other public uses.
- **Police, Fire, and Emergency Medical Services Goal.** To ensure the prompt and efficient provision of police, fire, and emergency medical facility and service needs.
 - *Policy 243.* The County shall require new developments to pay their fair share of the costs for providing police, fire, and emergency medical services and facilities.
 - *Policy 241.* The County shall require that new developments are designed to maximize safety and security and minimize fire hazard risks to life and property.

City of Fremont General Plan. The City of Fremont General Plan's Public Facilities and Safety Elements include the following policies and programs related to public services.

- *Policy 9-1.2: Public Safety Facilities.* Ensure public safety facilities are added or expanded as necessary to keep pace with population growth and meet operational needs. Take into account the availability of both capital and operating funds when determining the timing of new and expanded facilities.
- *Policy 10-4.2: Development Standards.* Maintain development standards that limit potential health and safety risks, and the risks of structure damage and severe economic loss due to fire hazards.
 - **Implementation 10-4.2.A: Fire Code Compliance.** Require all new development and renovations to comply with the California Building Code, Fire Code, and all local ordinances for construction and adequacy of water flow and pressure, ingress/egress and other measures for fire protection.
- *Policy 10-4.3: Access and Clearance.* Require adequate access and clearance for fire equipment, fire suppression personnel, and evacuation for new development.
- *Policy 10-5.2: 6 Minute 40 Second Response Time.* Strive to maintain a 6 minute 40 second response time for area below the Toe of the Hill.

- *Policy 10-9.1: Crime Preventive Design.* Apply site and building design techniques and standards that are intended to deter criminal activity in new development and redevelopment projects.
- *Implementation 10-9.1.A: Police Department Review.* Include the Police Department in the review of development projects and solicit comments regarding implementation of crime prevention and CPTED concepts.

East Bay Regional Park District Master Plan. The EBRPD Master Plan includes the following policies related to public services:

- *Policy FR1b.* The District will not open new parkland for public use unless it has adequate resources for planning and meeting the operational needs for public safety, fire protection, resource stewardship, interpretation and recreation services.

4.10.2 Impacts and Mitigation Measures

The following section discusses the impacts related to public services that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, to avoid or reduce significant impacts to a less-than-significant level. Cumulative impacts are also addressed.

In the context of this section, it is important to note that consistent with *City of Hayward v. Trustees of California State University (2015) 242 Cal.App.4th 833*, significant impacts under CEQA consist of adverse changes in any of the physical conditions within the area of a project, and potential impacts on public safety services are not an environmental impact that CEQA requires a project proponent to mitigate: “[T]he obligation to provide adequate fire and emergency medical services is the responsibility of the city. (Cal. Const., art. XIII, § 35, subd. (a)(2) [“The protection of the public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services.”].) Thus, the need for additional fire or police protection services would not be considered an environmental impact that CEQA requires a project proponent to mitigate.

4.10.2.1 Criteria of Significance

The following thresholds of significance were adapted from Appendix G of the State CEQA Guidelines. Based on these thresholds, implementation of the project would result in a significant impact related to public services if it would:

Threshold 4.10.1: Result in substantial adverse physical impacts associated with provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services

ratios, response times, or other performance objectives for any of the following public services:

- Fire protection
- Police protection
- Schools
- Other Public Facilities

4.10.2.2 Project Impacts

The following section provides an evaluation and analysis of the potential impacts of the proposed project for each of the criteria of significance listed above and potential cumulative impacts. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ by phase and therefore are not differentiated in this section.

Threshold 4.10.1: Public Services. Potential impacts related to the provision of public services are discussed below.

Fire Protection. The first responder for fire protection services and medical aid would be the FFD for the western portion of the project site located within the city limits and ACFD for the eastern portion in unincorporated Alameda County. The EBRPD Fire Department would respond for a larger fire or search and rescue operations. As previously discussed, the response time goal for FFD is approximately 9 minutes and 30 seconds and ACFD has an average response time of 7 minutes and 53 seconds. The nearest FFD and ACFD fire stations are both approximately 0.5 mile from the project site.

Construction of the project could increase the potential for accidental on-site fires from the operation of construction equipment and the use of flammable construction materials. As required by Occupational Safety and Health Administration and Fire and Building Code requirements, the construction contractor would be required to carefully store flammable materials in appropriate containers and to immediately and completely clean up spills of flammable materials when they occur. As discussed in Section 4.6, Hydrology and Water Quality, a Stormwater Pollution Prevention Plan would be prepared and would include the implementation of best management practices for hazardous materials storage and containment of releases during construction. In addition, construction managers and personnel would be trained in emergency response and fire suppression equipment specific to construction sites. Therefore, because the proposed project would be required to adhere to existing laws, construction of the proposed project would not have a significant impact related to fire.

Any road closures or traffic control measures necessitated by project construction would be temporary in nature and would not require new or physically altered governmental facilities to maintain acceptable services ratios, response times, or other performance objectives.

The proposed project would provide a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont

in Alameda County. The proposed project also includes a new staging area and improvements at existing staging areas to accommodate visitor demand for parking. Once construction is completed, the proposed project would include the addition of 43 parking spaces. The proposed project would likely result in an increase in visitor population to the project area and surrounding areas. As stated in Section 3.0, Project Description, it is estimated that 800 to 1,000 daily trail users may be present on any given day along the project corridor, with daily use varying seasonally (e.g., fewer trail users on weekdays, in the winter, and in times of inclement weather).

The increase in visitation to the area could increase the demand for fire and particularly emergency medical services as more hikers and bicyclists would be present in the area, resulting in more injuries and a higher level of calls for service. As previously discussed, the majority of service calls received by FFD and ACFD are for emergency medical services. The EBRPD, ACFD, and FFD regularly assess anticipated increased need for staffing. Considering the existing population of Fremont of 235,740, the incremental increase in visitor population that would result from the proposed project would not substantially increase the service need for fire protection services and medical aid. There are existing fire stations close to the project site and no new facilities would need to be constructed to serve a potential increase in demand for services. In addition, the new trail would be clearly marked at frequent intervals to aid in access and timely response, and emergency personnel would receive training related to the marker system, including the best way to access people requiring assistance.

Given the above, development of the proposed trail would not result in adverse physical impacts associated with the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives as existing facilities are adequate to support the provision of these services even with an increase in demand for fire services. Therefore, this impact would be **less than significant**.

Police Protection. FPD would provide police protection services for the western portion of the project site within the city limits, the Alameda County Sheriff's Office for the eastern portion in unincorporated Alameda County, and EBRPD Police Department for the portions of the project site on EBRPD land.

Any road closures or traffic control measures necessitated by project construction would be temporary in nature and would not require new or physically altered governmental facilities to maintain acceptable services ratios, response times, or other performance objectives.

The proposed project includes the development of a 6-mile multi-use trail and improvements to existing recreational facilities along the project corridor, including 43 additional parking spaces at the Niles Staging Area and Vallejo Mill Historic Park, a new staging area at Palomares Road, and trail amenities along the project corridor, such as trash/recycling receptacles, interpretive signage, and benches. None of these improvements are anticipated to result in an increase in crime to the area; however, it would likely result in an increase in visitor population to the project area and surrounding areas which could increase the demand for police services. As

stated in Section 3.0, Project Description, it is estimated that 800 to 1,000 daily trail users may be present on any given day along the project corridor, with daily use varying seasonally.

As previously discussed, the EBRPD, Alameda County Sheriff's Office, and City of Fremont Police Departments regularly assess anticipated increased need for staffing. Considering the existing population of Fremont of 235,740, the incremental increase in visitor population that would result from the proposed project would not substantially increase the service need for police services. No new facilities would need to be constructed to serve a potential increase in demand for services. In addition, the new trail would be clearly marked at frequent intervals to aid in access and timely response and emergency personnel would receive training related to the marker system, including the best way to access people requiring assistance.

Given the above, development of the proposed trail would not result in adverse physical impacts associated with the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives as existing facilities are adequate to support the provision of these services even with an increase in demand for police services. Therefore, this impact would be **less than significant**.

Schools. The proposed project entails the development of a Class I multi-use trail. Construction of residential structures is not proposed as part of the project, and as such, the project would not lead to an increase in population in the local area, or an increase in student population in the project area. Maintenance and patrol of the proposed trail would be provided by Alameda County Department of Public Works staff as part of their existing operations; therefore, no additional staff would be required. Therefore, the proposed project would not indirectly affect local schools as a result of employees moving into the area to serve the proposed project and it would not increase the demand for school services.

Given the above, development of the proposed trail would not result in adverse physical impacts associated with the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain performance objectives and there would be **no impact**.

Parks. The proposed project entails the development of a Class I multi-use trail, linking open spaces, parks, the City of Fremont and the unincorporated community of Sunol. Implementation of the proposed trail would not significantly increase the usage of existing parks and open space areas nor would it increase the demand for new park facilities within the vicinity of the proposed trail alignment. Please refer to Section 4.11, Recreation, for a description of the proposed project's impact on surrounding parks and open space areas. Impacts would be **less than significant**.

Other Public Facilities. As previously discussed, the proposed project would not result in an increase in population or employment-generating facilities. Therefore, development of the proposed trail would not result in adverse physical impacts associated with the need for new or physically altered public facilities, the construction of which could cause significant

environmental impacts, in order to maintain performance objectives and there would be **no impact**.

4.10.2.3 Cumulative Impacts

The proposed project, combined with past, present, and reasonably foreseeable future projects, would not contribute to cumulative effects related to the provision of fire, police, or school services. Cumulative public service-related impacts are those that would result from substantial increases in population in Alameda County or within Fremont. Growth within these areas is planned for through the Alameda County General Plan, East County Area Plan, and the City of Fremont General Plan. In addition, service providers regularly review service needs within their respective jurisdictions to accommodate increased growth and to evaluate the need for new facilities. The proposed project is intended to serve a recreational use and would not induce population growth. Existing facilities that provide fire, police, and school services would not be physically altered and no new facilities would be required to be constructed to provide these services as a result of the proposed project. Existing service levels and standards would continue to be achieved within existing facilities with the proposed project. Therefore, no new facilities, the construction of which could result in physical environmental impacts, would be built as a result of the project. The minor increase in demand for public services associated with development of a new 6-mile, Class I, multi-use trail would not be cumulatively considerable. Therefore, cumulative impacts to public services would be **less than significant**.

4.11 RECREATION

This section analyzes the proposed project's potential impacts to parks and recreation. Potential impacts to parks and recreation facilities that could result from the proposed project are identified, and mitigation measures are recommended, as appropriate.

4.11.1 Setting

The East Bay Regional Park District (EBRPD) and the City of Fremont (City) own and operate parks and recreational facilities that serve the project vicinity. These facilities are discussed below.

4.11.1.1 East Bay Regional Park District Recreation Facilities

The EBRPD operates and maintains 73 parks and 31 regional inter-park trails covering more than 125,000 acres in Alameda and Contra Costa counties. The EBRPD also manages 40 miles of accessible shoreline including 3 bay fishing piers. The EBRPD operates swimming areas, campsites, golf courses, picnic areas, playgrounds, and equestrian centers as well as educational centers and banquet facilities. The EBRPD maintains its natural areas, park areas, trees, landscaping, buildings, and other structures at the EBRPD's park sites and facilities. The EBRPD employs 322 operations and maintenance staff.²¹⁷

The EBRPD distinguishes parkland by type including regional parks, regional preserves, regional recreation areas, regional shorelines, and regional trails. The EBRPD operates seven open space and recreational facilities and two trails within Fremont and three regional preserves and parks within Sunol. Portions of the project site are located within some of these facilities, including along the Alameda Creek Regional Trail. EBRPD facilities in the project area are discussed below.

Ardenwood Historic Farm. Ardenwood Historic Farm (Farm) consists of 205 acres and is a working farm that also exhibits the Victorian-era lifestyle. The Farm is at 34600 Ardenwood Boulevard in northern Fremont, approximately 5 miles southwest of the project site. The Farm operates year round and charges an entrance fee from \$2 to \$6, depending on the day, season, and age of the visitor. The Farm features educational programs, a farm train, Victorian garden, animal farms, and the Patterson House. The Farm also operates a produce stand outside the main gate and sells organic vegetables grown on-site.²¹⁸

Alameda Creek Regional Trail. The Alameda Creek Regional Trail extends 12 miles along Alameda Creek from Niles Canyon to San Francisco Bay. The "south side trail" is paved and recommended for bicyclers, hikers, joggers, and runners. The 12-mile paved "south side" trail also provides access to Coyote Hills Regional Park. The "north-side" trail is unpaved and designed for horseback riding. The trail is served by four trailheads/staging areas, including the Niles Staging Area at the eastern end of the trail alignment.²¹⁹ The Niles Staging area currently has 15 existing parking stalls, a restroom,

²¹⁷ East Bay Regional Park District (EBRPD). 2022a. *Park District Policies and Profile* website: <https://www.ebparks.org/about/policies-profile> (accessed March 3, 2022).

²¹⁸ EBRPD. 2022b. *Ardenwood Historic Farm* website: <https://www.ebparks.org/parks/ardenwood> (accessed March 7, 2022).

²¹⁹ EBRPD. 2022. *Alameda County Regional Trail* website: <https://www.ebparks.org/trails/interpark/alameda-creek> (accessed March 14, 2022).

drinking water, a picnic area, and informational signage. The proposed trail alignment would coincide the Alameda Creek Trail along the south side of Alameda Creek from Mission Boulevard to the Niles Staging area.

Coyote Hills Regional Park. Coyote Hills Regional Park consists of 1,266 acres of open space along the shoreline of San Francisco Bay. The park is at 8000 Patterson Ranch Road in the northwest area of Fremont, approximately 7 miles southwest of the project site. The park features a visitor center with educational displays and exhibits, a Tuibun Ohlone village site, picnic areas, group campsites, and a variety of trails. The park has trails that provide access to the Don Edwards San Francisco Bay National Wildlife Refuge, which is south and west of the park.²²⁰

Dumbarton Quarry Campground on the Bay. Dumbarton Quarry Campground on the bay is within Coyote Hills Regional Park. The campground includes 63 campsites, a camp store, an amphitheater, a playground, and picnic areas.²²¹

Mission Peak Regional Preserve. Mission Peak Regional Preserve consists of more than 3,000 acres of open space comprising mostly of open grasslands and oak woodlands. Access to the summit of Mission Peak is provided by three multi-use (hiking, biking and equestrian) trails from the western face, including the Peak Trail and the Panorama Trail, which start from Ohlone College and head southward towards the summit; and the Hidden Valley/Ohlone Wilderness, Peak Meadow, and Horse Heaven Trails. Mission Peak is served by two parking areas: the Stanford Avenue Staging Area and Ohlone College Parking Area. The Peak Trail from Ohlone College is approximately 4.5 miles southeast of the project site and is part of the Bay Area Ridge Trail. The Stanford Avenue Staging area is approximately 6 miles southeast of the project site and is heavily used on weekends and holidays. Regional trails (i.e., Ohlone Wilderness Trail, Bay Area Ridge Trail) connect to other open space areas that the EBRPD manages. Backpack camping is available at the Eagle Springs Backpack Camp by reservation only. Mission Peak is also a popular location for hang gliding and paragliding and for launching remote-controlled aircraft.²²²

Ohlone Wilderness Regional Preserve. The Ohlone Regional Wilderness Preserve consists of 9,737 acres of parkland that is accessible only by the Ohlone Wilderness Trail, a 28-mile trail through southern Alameda County. A hiking permit is required for day use and camping. Overnight camping is permitted along the Ohlone Wilderness Trail at designated campgrounds and by reservation only. The Ohlone Regional Wilderness is accessible from Del Valle Regional Park near Livermore, Sunol Regional Wilderness near Pleasanton, and Mission Peak Regional Preserve.²²³

Pleasanton Ridge Regional Park. The Pleasanton Ridge Regional Park consists of 9,090-acres of oak-covered ridge that overlooks Pleasanton and the Livermore Valley from the west. The park includes

²²⁰ EBRPD. 2022c. *Coyote Hills Regional Park* website: <https://www.ebparks.org/parks/coyote-hills> (accessed March 3, 2022).

²²¹ EBRPD. 2022d. *Dumbarton Quarry Campground on the Bay* website: <https://www.ebparks.org/parks/dumbarton-quarry> (accessed March 3, 2022).

²²² EBRPD. 2022e. *Mission Peak Regional Preserve* website: <https://www.ebparks.org/parks/mission-peak> (accessed March 3, 2022).

²²³ Ibid.

a multi-use trail system, which accommodates hikers, equestrians, and bicyclists. The park is accessible via the Foothill Staging Area, located along Interstate 680 in Sunol, approximately 1.5 miles northeast of Sunol and the project site.²²⁴

Quarry Lakes Regional Recreation Area. Quarry Lakes Regional Recreation Area is a water-oriented recreation area that features picnicking, boating, swimming, fishing, and hiking. The park consists of 471 acres, 350 of which are the Quarry Lakes. The Quarry Lakes Regional Recreation Area is at 2100 Isherwood Way in northern Fremont, approximately 2 miles southwest of the project site. The park is open year round with hours that vary depending on the season.²²⁵

Sunol Wilderness Regional Preserve. The Sunol Regional Wilderness Preserve spans 6,859 acres and is used for camping, picnicking, hiking, and backpacking. The Sunol Regional Wilderness Preserve includes a visitor center and connects to the Mission Peak Regional Preserve and the Ohlone Wilderness Regional Preserve via the Ohlone Wilderness Trail.²²⁶

Tyler Ranch Staging Area. As outlined in Section 3.0, Project Description, the Tyler Ranch Staging Area recently opened to the public and provides pedestrian, equestrian, and bicycle access into the southern end of Pleasanton Ridge Regional Park. The staging area includes 66 parking spaces on a gravel lot, 4 Americans with Disabilities Act-compliant spaces, and 3 horse trailer or bus parking spaces. Additionally, the staging area will have restrooms (vault toilets), a drinking fountain, bike racks, and a picnic area.²²⁷ The eastern end of the proposed trail alignment would connect to the Tyler Ranch Staging Area.

Vargas Plateau Regional Park. The Vargas Plateau Regional Park is a 1,249-acre park in the Fremont Hills. The park is accessible via the Vargas Plateau Staging Area on Morison Canyon Road, approximately 1.75 miles southeast of the Niles Staging Area.

4.11.1.2 City of Fremont Recreation Facilities

The City operates a variety of park and recreational facilities including citywide parks, neighborhood parks, mini parks, historic parks, civic parks, and linear parks. Citywide parks are intended to serve the entire Fremont community and are typically greater in size to allow for more active play. These parks may also include special cultural facilities such as theaters or museums. Neighborhood parks provide space for daily recreation activities such as picnicking or informal play for residents in the area of the park. Mini parks provide very limited recreation opportunities due to their size or configuration. Historic parks are established around important historic buildings or structures and provide an opportunity to preserve these sites. Civic parks are outdoor public spaces that are

²²⁴ EBRPD. 2022f. *Pleasanton Ridge Regional Park* website: <https://www.ebparks.org/parks/pleasanton-ridge> (accessed March 3, 2022).

²²⁵ EBRPD. 2022g. *Quarry Lakes Regional Recreation Area* website: <https://www.ebparks.org/parks/quarry-lakes> (accessed March 3, 2022).

²²⁶ EBRPD. 2022h. *Sunol Wilderness Regional Preserve* website: <https://www.ebparks.org/parks/sunol> (accessed March 3, 2022).

²²⁷ EBRPD. 2023. *Tyler Ranch Staging Area and Trails at Pleasanton Ridge Regional Park* website: <https://www.ebparks.org/projects/tyler-ranch-staging-area-and-trails-pleasanton-ridge-regional-park> (accessed October 25, 2023).

typically paved areas that contain trees and ornamental landscaping. These outdoor spaces are located in urban areas and provide space for the occasional outdoor concert or festival. Linear parks are paved paths with landscaping that provide opportunities for walkers, runners, and cyclists. These parks are typically constructed on former rail corridors, utility corridors, or similar areas. The following provides a description of City park facilities that are within 1.5 miles of the project site. In addition, portions of the project site are located within some of these facilities, including within the Vallejo Mill Historical Park.

California Nursery Historical Park and Vallejo Adobe. The California Nursery Historical Park is a 20-acre property that is a remnant of the original 463-acre California Nursery Company, which was significantly associated with the evolution of the nursery industry on a Statewide level. The park is approximately 1 mile west of the project site. The Vallejo Adobe is within the California Nursery Historical Park and was built in 1842.²²⁸

California Terrace. California Terrace Park is a 1.75-acre neighborhood park located 1.5 miles northwest of the project site. The park features grassy areas, a basketball court, and a playground.

Niles Community Park. Niles Community Park borders the Alameda Creek Trail and features a lake, grassy areas, tennis courts, a playground, a large parking lot, picnic areas, public bathrooms, and a dog park.

Rancho Arroyo Park. Rancho Arroyo Park is a neighborhood park that is adjacent to Niles Community Park and features grassy areas, picnic areas, and a playground.

Shinn Historical Park and Arboretum. Shinn Historical Park and Arboretum is a 4.5-acre park 0.9 mile southwest of the project site.²²⁹

Vallejo Mill Historical Park. The Vallejo Mill Historical Park is a 12-acre park that features a historical flour mill.²³⁰ As detailed in the Chapter 3.0, Project Description, the project site includes the Vallejo Mill Parking area.

4.11.1.3 Other Recreational Facilities

Other recreational facilities in the project vicinity include the Bay Area Ridge Trail, the Niles Canyon Railway, and the San Francisco Bay Trail. These facilities are described further below.

Bay Area Ridge Trail. The Bay Area Ridge Trail is a planned, continuous 550-mile multi-use loop connecting the ridges throughout the Bay Area. Approximately 400 miles of the trail are currently open, 80 percent of which are open to bikes and horses.²³¹ The trail is managed by the Bay Area

²²⁸ City of Fremont. n.d.-c. *Historical Parks & Facilities*. Website: <https://www.fremont.gov/government/departments/parks-recreation/parks/historic-parks-facilities> (accessed July 11, 2023).

²²⁹ Ibid.

²³⁰ Ibid.

²³¹ Bay Area Ridge Trail Council. 2022. *About Us*. Website: <https://ridgetrail.org/about-us/> (accessed March 7, 2022).

Ridge Trail Council, a 501(c)(3) nonprofit and is primarily funded by donations. Portions of the Bay Area Ridge Trail are within Mission Peak Regional Preserve.

Niles Canyon Railway. The Niles Canyon Railway is operated by Pacific Locomotive Association, Inc. (PLA), a 501(c)(3) nonprofit organization. The Niles Canyon Railway is a living history museum that illustrates railroad operations specifically during the period from 1910 to 1960.²³² Currently, trains travel between Niles and Sunol two weekends per month from March through October.²³³ PLA operates both historic diesel and steam locomotives along the corridor, typically with four passenger cars, at a maximum allowable speed of 30 miles per hour (mph). However, the trains typically operate at about 20 mph. The train tracks run alongside SR-84 and a portion of the project site alignment runs along the Niles Canyon Railway Yard, which provides area for storage and repair of train equipment and facilities.

San Francisco Bay Trail. The San Francisco Bay Trail is a series of connected walking and cycling paths that surround the San Francisco and San Pablo bays. Approximately 350 miles of the trail have been constructed, with the ultimate goal to complete 500 miles of trail along the Bay shoreline. The proposed trail would connect to the San Francisco Bay Trail via the Alameda Creek Trail. The San Francisco Bay Trail is being implemented by the Metropolitan Transportation Commission in coordination with the Association of Bay Area Governments. It is funded through the San Francisco Bay Trail Project, a 501(c) non-profit that is funded primarily with donations.²³⁴

4.11.1.4 Regulatory Context

The following regulatory framework discussion sets the context for the range of issues related to recreation that relate to the evaluation of the potential for the proposed project to have a significant effect on recreation resources.

Federal and State Regulations. There are no federal or State laws or regulations regarding recreation that are applicable to the proposed project.

Regional and Local Regulations.*Alameda County General Plan.* The Alameda County General Plan Open Space Element include the following goals and objectives related to recreation.

- To relate open space to existing and proposed urban land uses in such a manner as to enhance living conditions in the entire county.
- To provide for permanent separation and identification of communities through use of open space that will include park and recreation areas coordinated with a continuous system of trails and scenic tours.

²³² Niles Canyon Railway. n.d.-a. *About Us*. Website: <https://www.ncry.org/about/> (accessed March 14, 2022).

²³³ Niles Canyon Railway. n.d.-b. *Schedules and Fares*. Website: <http://www.ncry.org/ride/schedule/> (accessed October 23, 2023).

²³⁴ Metropolitan Transportation Commission. 2022. *About the Bay Trail*. Website: <https://mtc.ca.gov/operations/regional-trails-parks/san-francisco-bay-trail/about-bay-trail> (accessed March 7, 2022).

- To provide open space recreation and study areas for the enjoyment and education of all people in the county.
 - *Provide a Coordinated System of Open Space.* A coordinated system of public and private open space and major park and recreation areas should be provided throughout the county and should connect to open space of adjacent counties. All major areas of public open space should be connected by trails and scenic routes.
 - *Provide Park and Recreation and Nature Areas in Open Space Adjacent to Each Community.* Because of increasing demand per capita for park, recreation, and nature areas in or near metropolitan population centers, selected portions of easily accessible open space surrounding communities should be utilized for leisure time facilities.
 - *Encourage Appropriate Low Intensity Commercial Recreation Areas in Selected Open Space Areas.* Appropriate low density commercial recreation areas should be encouraged by local recreation and park districts in the vicinity of urban areas.
 - *Recreation and Park Areas Accessible to Each Community Should be Provided.* To provide for close-in leisure time facilities, recreation and park areas should be provided within the open space surrounding each city or community. Recreation trails should be provided throughout the public open space surrounding each community to connect with recreation areas.
 - *Provide a Variety of Major Park and Recreational Areas to Accommodate a Range of Facilities.* A variety of major park and recreational areas to accommodate a range of facilities, including those for short duration visits near the urban area to weekend vacation needs in the more rural areas. All facilities should be of a character compatible to the natural environment.
 - *Provide Major Park and Recreation Facilities in Areas of Outstanding Beauty.* Wherever possible, major park and recreation areas should be designated in areas of outstanding beauty, which include vegetation, streambeds of water bodies, unusual topography, or viewpoints.
 - *Designate Adequate Park and Recreation Area to Serve Population Throughout Plan Period.* Sufficient major park and recreation areas should be acquired to serve the needs of the county throughout the plan period.
 - *Existing and Future Park and Recreation Areas.* Should be Designated as Permanent Open Space, Existing park and recreation areas of community, county, regional, or state scale should be retained as permanent open space. Areas designated for future park and recreation areas should also be retained as permanent open space.
 - *Recreation and Park Areas Accessible to Each Community Should Be Provided.* To provide for close-in leisure time facilities, recreation and park areas should be provided within the open space surrounding each city or community. Recreation trails should be

provided throughout the public open space surrounding each community to connect with recreation areas.

- *Provide a Variety of Major Park and Recreational Areas to Accommodate a Range of Facilities.* A variety of major park and recreational areas to accommodate a range of facilities, including those for short duration visits near the urban area to weekend vacation needs in the more rural areas. All facilities should be of a character compatible to the natural environment.
- *Provide Recreation Opportunities For All People.* A range of facilities to provide leisure time enjoyment for all age and economic groups should be included within each park and recreation area.
- *Provide Major Park and Recreation Facilities in Areas of Outstanding Beauty.* Wherever possible, major park and recreation areas should be designated in areas of outstanding beauty, which include vegetation, streambeds or water bodies, unusual topography or viewpoints.
- *Limit Development of Facilities Within Major Park and Recreation Areas.* Development of recreational facilities in major park and recreation areas should be confined to selected accessible areas as a means of preserving larger park areas in an open state for future generations.

East County Area Plan. The East County Area Plan includes the following goals and policies that are applicable to the proposed project:

- **General Open Space Goal:** To protect regionally significant open space and agricultural land from development.
 - *Policy 52:* The County shall preserve open space areas for the protection of public health and safety, provision of recreational opportunities, production of natural resources (e.g., agriculture, wind power, and mineral extraction), protection of sensitive viewsheds, preservation of biological resources, and the physical separation between neighboring communities.
 - *Policy 54:* The County shall approve only open space, park, recreational, agricultural, limited infrastructure, public facilities (e.g., limited infrastructure, hospitals, research facilities, landfill sites, jails, etc.) and other similar and compatible uses outside the Urban Growth Boundary.
- **Watershed Goal:** To protect watershed land from the direct and indirect effects of development.
 - *Policy 101:* The County shall encourage public water management agencies to explore recreational opportunities on watershed lands, particularly reclaimed quarries, where recreational use would not conflict with watershed protection objectives.

- *Policy 102:* The County shall encourage the San Francisco Water Department to provide limited public access on trail corridors through the watershed lands surrounding San Antonio and Calaveras Reservoirs, Sunol Watershed, and the Arroyo de la Laguna. The County shall work with the East Bay Regional Park District to incorporate these watershed corridors into the regional trail system, where recreational use would not conflict with watershed protection objectives.
- **Bicycle and Pedestrian Paths Goal:** To include a comprehensive network of bicycle and pedestrian paths in the local and subregional transportation network.
 - *Policy 211:* The County shall create and maintain a safe, convenient, and effective bicycle system that maximizes bicycle use.
 - *Policy 212:* The County shall create and maintain a safe and convenient pedestrian system that links residential, commercial, and recreational uses and encourages walking as an alternative to driving.
- **Park and Recreational Facilities Goal:** To ensure the development of plentiful and well-designed local and regional parks throughout the planning area.
 - *Policy 223:* The County shall support expansion of the existing regional park system according to the recreational facility standards contained in the East Bay Regional Park District (EBRPD) Master Plan, the Livermore Area Recreation and Park District (LARPD) Master Plan, and applicable County specific plans.
 - *Policy 224:* The County shall require new developments to provide trails consistent with EBRPD and LARPD regional trail plans.
 - *Policy 225:* The County shall integrate East County trail plans with the California Recreational Trail System.
 - *Policy 226:* The County shall coordinate provision of regional park facilities and programs between existing special districts.
 - *Policy 228:* The County shall support the development of recreation facilities in close proximity to major employment centers.

City of Fremont General Plan. The City of Fremont General Plan's Parks and Recreation Element establishes goals, policies, and implementation methods related to the provision of parks and recreational facilities. Applicable policies and implementation measures are identified below.

- *Policy 8-1.2: Acreage Standards for Park Acquisition and Development.* Acquire and develop park land using a standard of five acres per 1,000 residents.

- *Policy 8-3.1: Recreational Offerings and Facilities from other Agencies.* Encourage other land and resource agencies to maintain and expand their offerings of recreational opportunities in Fremont.
 - **Implementation 8-3.1.A: Existing and Future Regional Parks and Trails.** Work with [the East Bay Regional Park District] and others to ensure recreational opportunities at existing parks (Ardenwood Historic Farm, Mission Peak Regional Preserve, Coyote Hills Regional Park, and Quarry Lakes Regional Recreation Area), as well as future parks (such as Vargas Plateau Regional Park and planned park at the former Dumbarton Quarry), and trails (such as Alameda Creek Trail, Ridge Trail, and Bay Trail).
 - **Implementation 8-3.1.G: Regional Trail Facilities.** Encourage Regional Agencies to provide restrooms, parking, and staging facilities at trailheads of regional trails.

East Bay Regional Park District Master Plan. The EBRPD Master Plan includes the following policies related to the provision of open space and recreational resources.

- *Policy PA4:* The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.
- *Policy RFA1:* The District will provide areas and facilities that serve the recreational needs of park users, in accordance with the plans, policies, and park classifications adopted by the Board of Directors. The District will generally not develop or provide facilities that are more appropriately provided by local recreational and park agencies. Where possible and appropriate, the District will provide multiple-use facilities to serve recreational needs.
- *Policy RFA2:* The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists, and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple users based on location, recreational intensity, environmental and safety considerations. The District will focus on appropriate trail planning and design, signage and trail user education to promote safety and minimize conflicts between users.
- *Policy PRPT3:* The primary objective of a Regional Preserve is to preserve and protect significant natural or cultural resources. A Regional Preserve must have great natural or scientific importance (for example, it may contain rare or endangered plant or animal species and their supporting ecosystems, significant fossils, unique geologic features, or unusual topographic features or be of such significant regional historic or cultural value as to warrant preservation.

- *Policy PRPT21:* Areas of higher level recreational use and concentration of service facilities will be designated as Recreation/Staging Units. Where possible, these areas will be clustered and located on the edges of the park.
- *Policy PRPT24:* The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color scale, style, and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations and other resources.

4.11.2 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to recreation that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts related to parks and recreation that would result from development of the proposed trail.

4.11.2.1 Criteria of Significance

The following thresholds of significance were adapted from Appendix G of the State CEQA Guidelines. Based on these thresholds, implementation of the project would result in a significant impact related to public services if it would:

Threshold 4.11-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Thresholds 4.11-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.11.2.2 Project Impacts

The following section provides an evaluation and analysis of the potential impacts of the proposed project for each of the criteria of significance listed above. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ by phase and therefore are not differentiated in this section.

Threshold 4.11.1: Increase the Use of Existing Park and Recreation Facilities. The proposed project would provide a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District in Fremont in Alameda County. The proposed project also includes a new staging area and improvements at existing staging areas to accommodate visitor demand for parking. The proposed project would not include new housing; therefore, it would not result in a population increase or corresponding increase in the demand for or use of existing recreational facilities within Alameda County. However, the proposed project

would provide a new recreational resource (multi-use trail) and would increase connectivity and opportunity to access existing recreational facilities within the project vicinity.

The proposed trail would provide direct connections to the Alameda Creek Regional Trail, the Bay Area Ridge Trail, Pleasanton Ridge Regional Park, and Vallejo Mill Historic Park. The trail would also provide access via other trails to various parks and open space areas in the project vicinity, including Quarry Lakes Regional Recreation Area, Ardenwood Historic Farm, Garin Regional Park, Coyote Hills Regional Park and the Vargas Plateau.

As stated in Chapter 3.0, Project Description, it is estimated that 800 to 1,000 daily trail users may be present on any given day along the project corridor, with daily use varying seasonally (e.g., fewer trail users on weekdays, in the winter, and in times of inclement weather). Introducing the new trail and trail users along the project corridor would increase access to and likely use of the Niles Staging Area, Alameda Creek Regional Trail, Vallejo Mill Historic Park, Pleasanton Ridge Regional Park, and other open space areas in the vicinity that can be accessed via trail connections from the proposed trail. These existing facilities consist primarily of large, open-space areas with passive recreation uses, and do not include substantial infrastructure that would deteriorate through increased use. Therefore, the new trail users are not anticipated to increase the use of other existing recreational facilities such that it would result in a substantial physical deterioration of existing recreational facilities, open space, or parks in the project area.

The proposed project includes improvements to existing recreational facilities along the project corridor, including additional parking spaces at the Niles Staging Area and Vallejo Mill Historic Park, a new staging area at Palomares Road, and trail amenities along the project corridor, such as trash/recycle receptacles, interpretive signage, and benches. These improvements would serve existing visitors to these facilities. Portions of these facilities may be temporarily closed (e.g., closure of certain parking stalls) during construction of proposed improvements; however, access to these facilities would remain available throughout the construction period.

The proposed trail would be operated and maintained by the County of Alameda (County) as part of its normal operations. Operation and maintenance activities would include maintaining proper signage, managing the maintenance and remediation of any hazards that become present along the trail, and ensuring that trash and materials along the trail are disposed of in a timely and proper manner. In addition, the proposed trail would not include nighttime lighting and thus would limit access during the nighttime hours, which also reduces the potential for visitors to damage natural areas or to cause disturbances along the trail alignment. Through ongoing trail maintenance and oversight by County staff, physical deterioration of the proposed trail and associated amenities would not be substantial.

Although the proposed trail would increase accessibility to and use of parks and open space areas along the project alignment, it is expected that the use of these facilities would be passive and that visitors would not significantly degrade existing facilities. In addition, due to the length of the proposed trail, linkages to other trails, the proximity of other open space areas, and the daily hours of operation, it is likely that the arrival of trail users would be dispersed over time on any given day, and the visitors themselves would be dispersed throughout the project area and adjacent areas. The proposed project would provide a new recreational opportunity in Niles Canyon, with additional

amenities and trail supervision that would enhance the accessibility of recreational areas throughout this area, resulting in a positive impact to recreational facilities in the region. Therefore, impacts to existing recreational facilities would be **less than significant**.

Threshold 4.11.2: Construction of Recreational Facilities Resulting in Adverse Physical Effects. The proposed project would be a new 6-mile, multi-use trail from the Niles District in the City of Fremont to Sunol. The proposed project would not require the construction or expansion of recreational facilities beyond those included as part of the proposed project, which include the trail, a new staging area at Palomares Road, and staging area/parking lot improvements at the existing Niles Staging Area and Vallejo Mill Historic Park.

The potential construction- and operation-related impacts associated with development of the proposed trail are the subject of this EIR and are addressed within the appropriate topical sections as part of the assessment of overall project impacts, and therefore are not discussed further in this section. A summary of impacts and required mitigation is provided in Table 2.A in Section 2.0, Summary.

The new multi-use trail would provide an additional recreational amenity in Niles Canyon that is not currently available in the project area. The new trail would provide an opportunity for the public to walk, run, bicycle, and horseback ride through open space areas; and would improve access to Sunol, the Alameda Creek Regional Trail, and nearby open space preserves.

As described throughout Section 4.0 of this EIR, construction of the proposed trail would result in temporary environmental impacts related to biological resources, cultural resources, tribal cultural resources, air quality and noise; however, these impacts would be reduced to a less-than-significant level with implementation of the mitigation measures identified herein. Operation of the proposed trail would not result in a significant impact on the environment and it would provide a beneficial recreation resource for the region. Therefore, impacts associated with construction of new recreational facilities would be **less than significant**.

4.11.2.3 Cumulative Impacts

The proposed project, combined with past, present, and reasonably foreseeable future projects, would not contribute to cumulative effects related to recreation. As described above, the proposed trail would directly connect to several regional trails, including the Alameda Creek Regional Trail and the Bay Area Ridge Trail and to other regional trails (e.g., the San Francisco Bay Trail) via other trail connections. Recreational use of the regional trail network is anticipated to increase as new trail linkages are created. This increase in recreation use would result in a corresponding increase in demand for other amenities (e.g., restrooms, trash/recycling containers) within recreational and open space facilities serving the trail network.

Cumulative recreational impacts would result from substantial increases in population in Alameda County, which would increase the number of trail users and visitors to the project area, increasing the demand on existing parks, open space areas, and recreational facilities. However, any cumulative increase in demand is not anticipated to result in the physical deterioration of recreational and open space facilities, as the owners/operators of these facilities, such as the

EBRPD, the County, and the City of Fremont would continue to provide adequate maintenance of their facilities. Additionally, the proposed project is contemplated and planned for in local and regional open space planning documents including the Alameda Countywide Transportation Plan, the Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Alameda County, and the City of Fremont's 2018 Bike Plan, which consider population growth within their respective jurisdictions and the associated need for more open space and recreational resources, which the proposed project would contribute to. The proposed project would provide a new recreational amenity in Niles Canyon and would improve connections to existing parks, open space areas, and trails. As discussed above, the proposed project would not result a substantial physical deterioration of existing recreational facilities. Therefore, cumulative impacts to recreation would be **less than significant**.

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4.12 TRANSPORTATION

This section presents the analysis of potential project-level impacts on transportation and circulation resulting from implementation of the proposed project. This section provides an overview of existing traffic and transportation conditions, a description of applicable transportation regulations and policies, methodologies and assumptions used in the impact analysis, potential impacts of the proposed project, and mitigation measures, where appropriate.

4.12.1 Setting

This section provides a description of the existing transportation conditions in the vicinity of the project site. This section includes descriptions of existing roadway, transit, pedestrian, and bicycle conditions.

4.12.1.1 Roadway Setting

The project site alignment intersects with various roadways including State Route 84 (SR 84), Niles Boulevard, Mission Boulevard, Old Canyon Road, Palomares Road, and Foothill Road. These roads are described further below.

State Route 84. SR 84 is the primary vehicular route through Niles Canyon, which runs east-west from SR 1 in San Gregorio in Menlo Park through Fremont and Newark, ending at Interstate 580 (I-580) in Livermore. Within the project area, SR-84 consists of a winding, two-lane highway. It is heavily traveled. The segment of SR 84 within the project area is a designated California Scenic Highway. According to the State of California Department of Transportation, State Route 84 has an Annual Average Daily Traffic (AADT) volume of 15,000 vehicles.²³⁵

Niles Boulevard. Niles Boulevard is a two-lane minor arterial roadway that runs east-west between the Fremont city limits and Niles Canyon Road. Niles Boulevard is about 40 feet wide from curb to curb and contains two vehicle travel lanes. Near Niles Plaza, the west and east sides of Niles Boulevard have angular and parallel parking, respectively.

Mission Boulevard. Mission Boulevard (SR 238) is an arterial roadway running north-south between Hayward and Interstate 680 (I-680) in Fremont. The roadway segment between Pickering Avenue and I-680 is four lanes with bicycle lanes and carries an AADT of approximately 32,000 vehicles in the project area.²³⁶ Mission Boulevard (SR 262) is a 0.5-mile-long arterial roadway running east-west between I-880 and I-680 in Fremont that carries an AADT volume of about 70,000 vehicles.²³⁷

Old Canyon Road. Old Canyon Road is a two-lane local roadway running north-south between Niles Canyon Road (SR 84) and the Mission Clay property.

²³⁵ CSW. 2022. *Memorandum, Trail users and associated parking demand and traffic generated by the Niles Canyon Trail*. March 25.

²³⁶ California Department of Transportation (Caltrans). 2021. *2021 Annual Average Daily Traffic Volumes*. Traffic Census Program. Website: <https://dot.ca.gov/programs/traffic-operations/census> (accessed August 24, 2023).

²³⁷ Ibid.

Palomares Road. Palomares Road is a two-lane arterial road that runs north-south from I-580 to SR 84. Palomares Road is owned and maintained by Alameda County. In the vicinity of the project site, Palomares Road has no curbs or sidewalks and very narrow shoulders.

Foothill Road. Foothill Road is an arterial road that parallels SR 84 in the community of Sunol and provides direct access to the existing Tyler Ranch Staging Area. In the vicinity of the proposed Tyler Ranch Staging Area, Foothill Road, owned and maintained by Alameda County, terminates at the entrance to Pleasanton Ridge Regional Park and has no curbs or sidewalks and little paved shoulder. The road here is a low-volume roadway that provides local access to about 20 homes. Most of the length of Foothill Road is well-used by bicyclists.

4.12.1.2 Transit Network

Bus Transit. AC Transit is responsible for providing local transit service within the City of Fremont. The nearest bus stops to the project site are along Niles Boulevard, Mowry Avenue, and Mission Boulevard.

Rail Transit. Bay Area Rapid Transit (BART) and Altamont Corridor Express (ACE) currently operate within the City of Fremont. The nearest BART station is approximately 1.25 miles southwest of the project area, located at 2000 Bart Way. The nearest ACE station is approximately 2 miles southwest of the project site, at 37260 Fremont Boulevard.

Paratransit. The transit needs of the elderly and persons with disabilities in Fremont are addressed by demand responsive or “Dial-A-Ride” paratransit services. East Bay Paratransit and City of Fremont Paratransit provide transportation services for all Fremont area residents seven days a week.

Railroad. Niles Canyon is currently bisected by the Union Pacific Railroad (UPRR) and the Niles Canyon Railway. The Niles Canyon Railway alignment was originally constructed in 1864 for the Western Pacific Railroad to connect with other lines serving the Livermore and San Joaquin valleys. After improving the rail line constructed by the Western Pacific Railroad, the Central Pacific Railroad opened the rail line through Niles Canyon in 1869. Southern Pacific Railroad (SPRR) purchased the rail corridor from the Central Pacific in 1869 and built two bridges over Alameda Creek, at Farwell and Dresser. These bridges remain today and are within the project area. SPRR operated the line until 1984, when it ceased operation in the canyon, removed the tracks, and dedicated the land to Alameda County. In 1987, the Pacific Locomotive Association leased the property from Alameda County and began reconstructing the tracks to operate the Niles Canyon Railway as a railroad history museum.

In 1909, the Western Pacific Railroad began construction of a line parallel to the Niles Canyon Railway alignment on the south side of Niles Canyon, which required construction of two tunnels approximately 1 mile in length. In 1984, UPRR bought the line, which it currently uses for freight traffic. It also leases capacity to the Altamont Commuter Express, which provides passenger service between the Central Valley and the South Bay.

4.12.1.3 Bicycle and Pedestrian Facilities

Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the Highway Design Manual (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary types of bikeway facilities. These facility types are described below.

- **Class I Bikeways** (Bike Path) provide a completely separate right-of-way, are designated for the exclusive use of bicycles and pedestrians and minimize vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed.
- **Class II Bikeways** (Bike Lanes) are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally 5 feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. Note that when grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separate Bikeways (see below).
- **Class III Bikeways** (Bicycle Routes/Bicycle Boulevards) are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to (a) provide continuity to other bicycle facilities or (b) designate preferred routes through high-demand corridors. Bicycle routes are implemented on low-speed (less than 25 mile-per-hour) and low-volume (fewer than 3,000 vehicles/day) streets.
- **Class IV Bikeways**, also known as “cycle tracks” or “protected bike lanes,” provide a right-of-way designated exclusively for bicycle travel within a roadway and which are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts, inflexible physical barriers, or parked cars.

The project site connects to and coincides with a portion of the Alameda Creek Trail, an existing Class I trail. A trail use, parking demand, and traffic study (Trail Study)²³⁸ evaluated the existing conditions of Alameda Creek Trail at three locations (see attached memorandum in Appendix F). These locations include Site 5, at Dry Creek, Site 6 near Quarry Lakes, and Site 7 near Ardenwood Boulevard (**Figure 4.12-1**).

The average daily trips per day of the week as well as peak day use at each location is summarized below in Table 4.12.A. The average daily trail users from September 2010 to February 2022 for sites 5, 6, and 7 is 245, 185, and 110 respectively. Thus, when comparing these values to the 2021 data, trail use remains reasonably consistent indicating that COVID-19 did not create a major impact on demand.

²³⁸ CSW. 2022. *Memorandum, Trail users and associated parking demand and traffic generated by the Niles Canyon Trail*. March 25.

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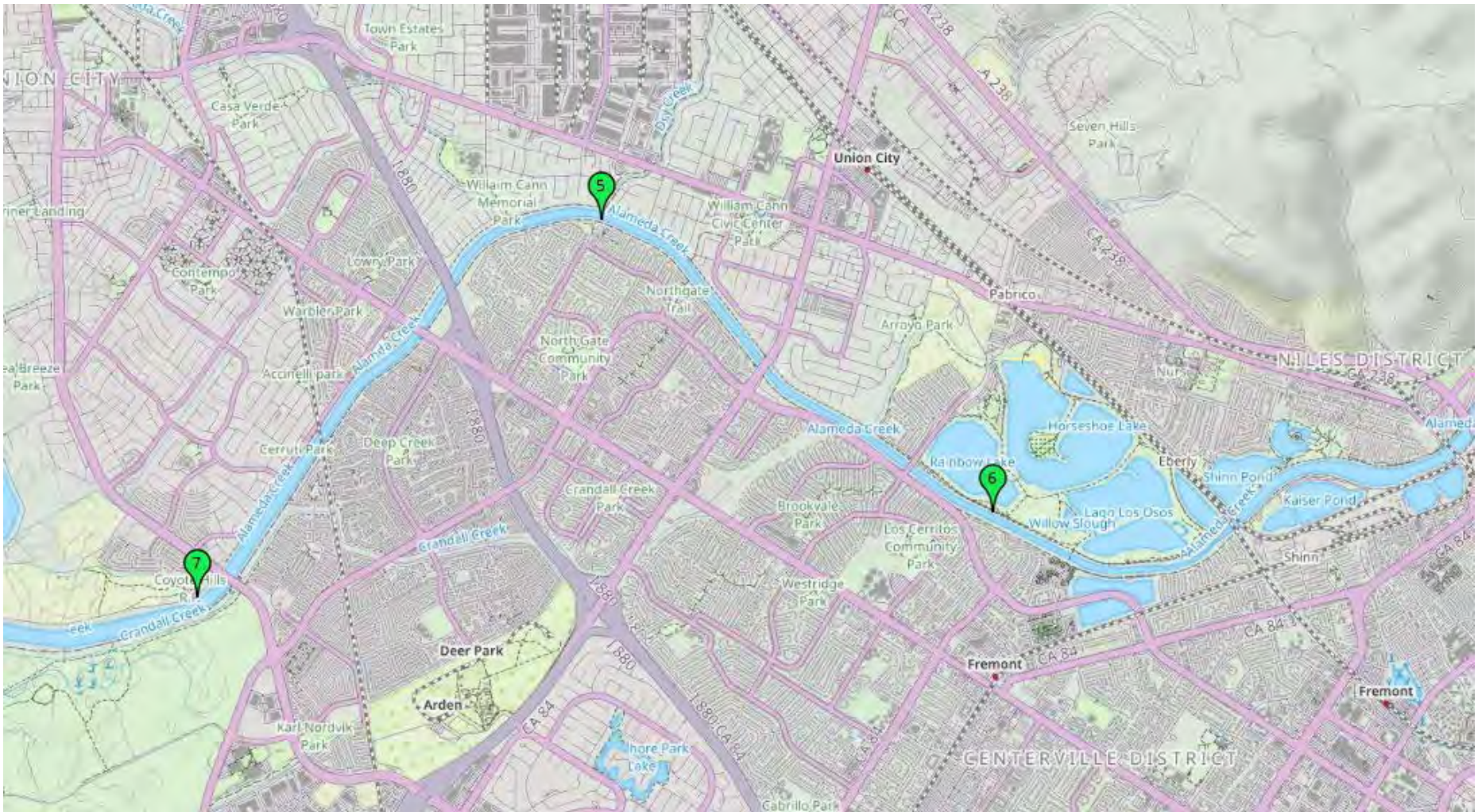


FIGURE 4.12-1

LSA

LEGEND

 Trail Counter Location



NO SCALE

*Niles Canyon Trail Project
Environmental Impact Report
Trail Counters along the Alameda Creek Trail*

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Table 4.12.A: Average Daily and Peak Day Trips in 2021

Day	Location 5	Location 6	Location 7
Monday	229	191	104
Tuesday	216	195	100
Wednesday	218	186	103
Thursday	215	191	96
Friday	227	183	103
Saturday	352	233	136
Sunday	352	223	135
Peak Day	824	508	303

Source: Memorandum, *Trail users and associated parking demand and traffic generated by the Niles Canyon Trail*. (CSW, March 2022).

In general, the weekends have heavier use than the weekdays and the trails are generally used from 6:00 a.m. to approximately 8:00 p.m., with peaks in the morning and evening. During peak hours, there are approximately 30 trails users on the trail on a Saturday at 9:00 a.m. and approximately 25 users on the trail on a weekday at 6:00 p.m.

4.12.1.4 Parking Facilities

The project site includes access points via the existing Niles Staging Area, the Niles Plaza parking area, the proposed Palomares Road staging area, Tyler Ranch staging area and the Vallejo Mill Park parking area. Table 4.12.B summarizes the number of stalls, occupancy, and available stalls during peak hours. The Fremont Niles Farmer’s Market, which takes place in downtown Niles on Saturday mornings, consumes all available parking during the peak Saturday morning trail use. For the Sunol side of the trail, there is no public parking available except at the Tyler Staging Area. The July 2012 Initial Study and Mitigated Negative Declaration the East Bay Regional Park District prepared for the Pleasanton Ridge Regional Park Land Use Plan²³⁹ concluded that the Tyler Ranch Staging Area would fill to capacity twice daily on a peak day, such as a Sunday in spring. The report notes that this is a “conservative” assumption. Thus, for the majority of the time, the parking stalls would be vacant.

Table 4.12.B: Availability of Parking Stalls

Parking Area	Total Number of Stalls	Occupancy During Peak Period	Available Number of Stalls During Peak
Town Plaza - Niles	76	>100%	0
Railroad Depot – Niles	122	93%	8
Alameda Creek - Niles	13	100%	0
Vallejo Mill - Niles	30	<25%	22
Palomares - Niles	13	Not Applicable	13
Tyler Ranch - Sunol	70	About 50%	35

Source: Memorandum, *Trail users and associated parking demand and traffic generated by the Niles Canyon Trail*. (CSW, March 2022).

²³⁹ East Bay Regional Park District. 2012. *Initial Study and Proposed Mitigated Negative Declaration for Pleasanton Ridge Regional Park Land Use Plan, Alameda County, California*. July 17.

4.12.1.5 Regulatory Context

The following regulatory framework discussion provides an overview of federal, State, and local regulatory settings that are applicable to transportation and the proposed project.

Federal Regulations. The following provides an overview of applicable federal transportation regulations that apply to the proposed project.

Federal Highway Administration. The Federal Highway Administration (FHWA) is a major agency of the United States Department of Transportation. In partnership with State and local agencies, the FHWA carries out federal highway programs to meet the nation’s transportation needs. The FHWA administers and oversees federal highway programs to ensure that federal funds are used efficiently.

Americans with Disabilities Act of 1990. Titles I, II, III, IV, and V of the Americans with Disabilities Act have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination on the basis of disability in “places of public accommodation” (businesses and nonprofit agencies that serve the public) and “commercial facilities” (other businesses). The regulation includes Standards for Accessible Design, which establish minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility.

Federal Transit Administration. The Federal Transit Administration (FTA) is an authority that provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys, and ferries. The FTA is funded by Title 49 of the United States Code, which states the FTA’s interest in fostering the development and revitalization of public transportation systems. The FTA invests approximately \$12 billion annually to support and expand public transit.

State Regulations. The following provides an overview of applicable State transportation regulations that apply to the proposed project.

Assembly Bill 32 (Global Warming Solutions Act of 2006) and Senate Bill 375. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (Act), requires California to reduce its greenhouse gas (GHG) emissions to levels present in the year 1990 by 2020. In response, the California Air Resources Board (CARB) is responsible for creating guidelines for this Act. In 2008, CARB adopted its proposed Scoping Plan, which included the approval of Senate Bill (SB) 375 as a means of achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks helps the State comply with AB 32.

Established through CARB, SB 375 lists four major components and requirements: 1) it requires regional GHG emissions targets; 2) it requires creating a Sustainable Communities Strategy (SCS) that provides a plan for meeting the regional targets; 3) it requires that regional housing elements and transportation plans be synchronized on 8-year schedules; and 4) it requires transportation and air pollutant emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission.

California Air Resources Board. As previously described, as part of SB 375 compliance, CARB was required to set targets for GHG reductions for each Metropolitan Planning Organization (MPO) within California. CARB provides targets and thresholds for MPOs and assists with regional efforts to achieve the GHG emission reductions contained in each MPO's SCS. It should be noted that CARB does not provide a threshold for reducing vehicle miles traveled (VMT); however, reducing VMT is a strategy for achieving CARB GHG reduction targets.

Senate Bill 743. On September 27, 2013, Governor Jerry Brown signed SB 743 into law and codified a process that changed transportation impact analysis as part of California Environmental Quality Act (CEQA) compliance. SB 743 directs the California Office of Planning and Research (OPR) to administer new CEQA guidance for jurisdictions that removes automobile vehicle delay and level of service (LOS) or other similar measures of vehicular capacity or traffic congestion from CEQA transportation analysis. Rather, it requires the analysis of VMT or other measures that "promote the reduction of greenhouse gas emissions, the development of multi-modal transportation networks, and a diversity of land uses," to be used as a basis for determining significant impacts to circulation in California. The goal of SB 743 is to appropriately balance the needs of congestion management with statewide goals related to reducing GHG emissions, encourage infill development, and promote public health through active transportation.

Local and Regional Policies. The following provides an overview of applicable local County and City transportation regulations and policies that apply to the proposed project.

Plan Bay Area 2050. The current Regional Transportation Plan produced by the Metropolitan Planning Commission and the Association of Bay Area Governments, Plan Bay Area 2050, was adopted in October 2021. The Regional Transportation Plan sets forth regional transportation and land use policy and provides capital program planning for all regionally, State and federally funded projects.

Alameda County Congestion Management Program. The 2021 Congestion Management Program describes strategies to monitor and improve the performance of every mode of travel in Alameda County. This includes monitoring congestion, transit performance, bicycle and pedestrian activity throughout the county, and major new land use developments.

East County Area Plan. The East County Area Plan's Transportation chapter includes the following policies and programs related to transportation:

- **General Transportation Goal:** To create and maintain a balanced, multi-modal transportation system that provides for the efficient and safe movement of people, goods, and services.
 - **Policy 180:** The County shall require that all new development in areas that are unincorporated as of the adoption of the East County Area Plan shall contribute their fair share towards the costs of transportation improvements shown on the Transportation Diagram, subject to confirmation in subsequent traffic studies, as a condition of project approval.

- **Transportation Demand Management Goal:** To reduce East County traffic congestion.
 - *Policy 188:* The County shall promote the use of transit, ridesharing, bicycling, and walking, through land use planning as well as transportation funding decisions.
 - *Policy 190:* The County shall require new non-residential developments in unincorporated areas to incorporate Transportation Demand Management (TDM) measures and shall require new residential developments to include site plan features that reduce traffic trips such as mixed-use development and transit-oriented development projects.
- **Streets and Highways Goal:** To complete County-planned street and highway improvements which are attractively designed to integrate pedestrian and vehicle use.
 - *Policy 193:* The County shall ensure that new development pays for roadway improvements necessary to mitigate the exceedance of traffic Level of Service standards (as described below) caused directly by the development. The County shall further ensure that new development is phased to coincide with roadway improvements so that (1) traffic volumes on intercity arterials significantly affected by the project do not exceed Level of Service D on major arterial segments within unincorporated areas, and (2) that traffic volumes on Congestion Management Program (CMP) designated roadways (e.g., Interstate Highways 580 and 680 and State Highway 84) significantly affected by the project do not exceed Level of Service E within unincorporated areas. If LOS E is exceeded, Deficiency Plans for affected roadways shall be prepared in conjunction with the Congestion Management Agency. LOS shall be determined according to Congestion Management Agency adopted methodology. The County shall encourage cities to ensure that these Levels of Service standards are also met within unincorporated areas.
- **Bicycle and Pedestrian Paths Goal:** To include a comprehensive network of bicycle and pedestrian paths in the local and subregional transportation network.
 - *Policy 211:* The County shall create and maintain a safe, convenient, and effective bicycle system that maximizes bicycle use.
 - *Policy 212:* The County shall create and maintain a safe and convenient pedestrian system that links residential, commercial, and recreational uses and encourages walking as an alternative to driving.

Alameda County Bicycle and Pedestrian Master Plan. The Alameda County Bicycle and Pedestrian Master Plan promotes pedestrian safety and access to create more walkable communities in the unincorporated areas of Alameda County. The plan makes providing safe routes to schools and safe routes to transit a high priority for pedestrians and advances the County of Alameda (County) goal of making bicycling an integral part of the transportation system in Alameda County's unincorporated areas. The plan recommends projects, programs, and policies to encourage bicycling. Projects include creating bike paths, adding bike lanes to

existing roads, and widening roads. High priority is given to projects that would close gaps in bike routes to public transit and schools.

City of Fremont General Plan. The City of Fremont General Plan's Mobility Element includes the following policies and programs related to transportation.

- *Policy 3-3.6: Road Hazards.* Minimize road hazards associated with overgrown vegetation, structures blocking sight lines, and other visual obstructions. New development should be reviewed to ensure that ingress and egress locations, driveways, crosswalks, and other circulation features, are sited to minimize accident hazards.
- *Policy 3-4.4: Mitigating Development Impacts.* Require new development to mitigate its impacts on mobility conditions through traffic impact fees, street and intersection improvements, transportation demand management programs, and other measures.
 - Implementation 3-4.4.A: Transportation Impact Fee. Maintain Transportation Impact Fee (TIF) and mitigation requirements that meet expected transportation needs in an equitable way.
 - Implementation 3-4.4.C: Traffic Studies. As appropriate, require traffic impact analyses when development is proposed, and use these analyses to identify transportation improvements. Mitigation measures should consider transit, bicycle, and pedestrian improvements as well as road improvements.
- *Policy 3-7.1: Parking Management.* Manage on-street parking to ensure the efficient use of curbside space, avoid conflicts with residents and neighborhoods, and provide adequate customer parking for local businesses.
 - Implementation 3-7.1.B: Reducing Surface Parking Lot Area. Reduce the land area in Fremont dedicated to surface parking lots. This should be accomplished by encouraging shared parking, developing parking structures and underground parking, making more efficient use of on-street parking, adjusting local parking standards, and reducing the need to drive.
- *Policy 3-7.3: Shared Parking.* Strongly encourage the concept of shared parking (and shared parking agreements) for land uses where the peak parking demand occurs at different times of the day, thereby reducing the aggregate number of spaces required.

City of Fremont Bicycle and Pedestrian Master Plans. The City of Fremont Bicycle Master Plan and Pedestrian Master Plan provide for a citywide network of bicycle paths, lanes and routes along with bicycle-related programs and support facilities. A key goal of the plan is to make bicycling and walking viable transportation options for people who live, work and recreate in Fremont. The plan contains a number of goals and policies, a needs analysis, a proposed system of bicycle and pedestrian facilities, and guidance on plan implementation.

4.12.2 Impacts and Mitigation Measures

This section analyzes the impacts to the transportation system that could result from the proposed project. The section begins with the significance criteria, which establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies mitigation measures to reduce impacts to acceptable levels, where possible.

4.12.2.1 Criteria of Significance

Appendix G of the *State CEQA Guidelines* provides guidance for determining the significance of potential transportation impacts. The criteria used to evaluate the proposed project have been derived from the Appendix G and traffic standards established by the City of Fremont and County of Alameda.

The proposed project would result in a significant impact related to transportation and circulation if it would:

- Threshold 4.12.1:** Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Threshold 4.12.2:** Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Threshold 4.12.3:** Substantially increase traffic hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment); or
- Threshold 4.12.4:** Result in inadequate emergency access.

4.12.2.2 Proposed Project

As described above, the trail study²⁴⁰ prepared for the proposed project (all segments) evaluated the existing conditions of Alameda Creek Trail at three locations - Site 5, at Dry Creek, Site 6 near Quarry Lakes, and Site 7 near Ardenwood Boulevard. Sites 6 and 7 include similar land uses to those along the proposed Niles Canyon Trail; therefore, these sites were used to estimate the number of users for the three segments of the proposed project. As shown in Table 4.12.C, averaging between Sites 6 and 7, the existing trail was found to generate approximately 145 average weekday trail users and 180 average weekend daily trail users between 6:00 a.m. and 8:00 p.m., with peaks in the morning and evening. Trail use would peak at approximately 30 trail users at 9:00 a.m. on the weekends and at approximately 25 trail users at 6:00 p.m. on the weekdays.

²⁴⁰ CSW. 2022. *Memorandum, Trail users and associated parking demand and traffic generated by the Niles Canyon Trail*. March 25.

Table 4.12.C: Average Numbers of Trail Users

Average	Location 6	Location 7
Monday	191	104
Tuesday	195	100
Wednesday	186	103
Thursday	191	96
Friday	183	103
Saturday	233	136
Sunday	223	135
Average Weekday	145	
Average Weekend	182	

Sources: Memorandum, *Trail users and associated parking demand and traffic generated by the Niles Canyon Trail*. March 25 (CSW, 2022; and LSA).

The total length of the proposed trail is approximately 6 miles, which is comparable to the Alameda Creek Regional Trail, which is almost 5 miles long. It is assumed that an average trail user can travel about 3 miles per hour and would spend approximately 1.5 hours on the trail; therefore, the majority of users would typically access only a small segment of the entire trail length (about 1.5 miles out and back). It is anticipated that trail users would primarily access the proposed trail from the western end at the existing Niles Staging Area or the eastern end at the Tyler Ranch staging area in Sunol. Other access points/parking would be provided at the Niles Plaza parking area, the proposed Palomares Road staging area, and the Vallejo Mill Park parking area.

As described in the trail study, it is estimated that a total of 90 trail users would be on the proposed trail during the peak periods. However, due to the increased population density in Niles/City of Fremont compared to Sunol, these users would not be uniformly distributed. Data from the Stroll and Roll²⁴¹ events held in 2015, 2017, and 2019 were used to gauge the distribution of trail users at the various staging areas. Typically, 60 percent of attendees originate in Niles/City of Fremont and 40 percent originate in Sunol. Therefore, of the 90 total trail users anticipated during peak hours, 54 would access the trail from the west end in Niles and the remaining 36 would access the trail at the east end in Sunol. It is assumed that approximately 10 percent (approximately 6) of the 54 trail users from Niles/City of Fremont would access the trail at the proposed Palomares Road Staging Area. It is also anticipated that many trail users would live near the staging area or would carpool to access the proposed trail. Importantly, given the proximity of the staging areas to potential users and observation of travel patterns at the Alameda Creek Trail, the analysis of potential use of the proposed project determined that approximately 50 percent of the peak users would travel to a staging area using an automobile and require a parking space. This is a ratio of one vehicle per two trail users. Table 4.12.D presents the anticipated peak parking demand at the primary staging areas.

²⁴¹ The Niles Canyon Stroll & Roll is a biennial event where SR 84/Niles Canyon Road is closed to vehicular traffic.

Table 4.12.D: Peak Trail User Parking Demand

Staging Area	Peak User Demand	Parking Stall Demand
Niles	48	24
Palomares Road	6	3
Sunol	36	18

Source: *Trail users and associated parking demand and traffic generated by the Niles Canyon Trail* (CSW, March 2022).

Applying the identified ratio of 1 vehicle per 2 trail users to the 145 daily weekday trail users and 182 daily weekend trail users anticipated to use the proposed trail results in an anticipated trip generation of 73 vehicles per weekday and 91 vehicles per weekend.

According to Caltrans, SR 84 has an AADT volume of 15,000 vehicles. Thus, the additional trips generated by the trail are a small addition.

4.12.2.3 Project Impacts

This section analyzes potential project-specific and cumulative impacts to the transportation and circulation network in the study area.

Threshold 4.12.1: Conflict with a Program, Plan, Ordinance or Policy Addressing the Circulation System. The proposed project would result in the construction of a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and the Niles District of the City of Fremont, both in Alameda County. In addition, the project would provide a critical link to Palomares Road bypassing SR 84 and would expand the Alameda Creek Trail, which provides a direct connection to the 500-mile San Francisco Bay Trail. As discussed in Section 4.12.1.5, adopted plans and policies are applicable to the project at the regional and local level. As discussed in more detail below, for CEQA purposes, the proposed project would be consistent with applicable plans, ordinances, and policies that address the circulation system as shown in Table 4.12.E. The proposed project would provide adequate bicycle and pedestrian infrastructure and would represent an overall improvement to bicycle and pedestrian access and circulation. Therefore, the proposed project would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and this impact would be **less than significant**.

Table 4.12.E: Project Compliance with Applicable Transportation-Related Plans, Ordinance, and Policies

Plan/Ordinance/Policy	Project Consistency
Plan Bay Area 2050	Consistent - The proposed project would be consistent with the Plan Bay Area 2050 goals and performance targets for creating healthy and safe streets. The proposed project would construct a 6-mile, Class I, multi-use trail to provide passive recreation opportunities for pedestrians, bicyclists, and equestrians, as well as potential alternative transportation. The proposed project would support Plan Bay Area 2050’s vision of a well-connected network with 10,000 new miles of protect bike lanes and off-street paths.
Congestion Management Program (CMP)	Not Applicable - The proposed project would result in an anticipated trip generation of 73 vehicles per weekday and 91 vehicles per weekend, with even fewer trips during the AM and PM peak hours, compared to the CMP threshold of projects that would generate 100 PM peak hour vehicle trips. Consequently, the project would not conflict with the CMP requirements, and a CMP analysis is not necessary.
East County Area Plan	
Policy 188: The County shall promote the use of transit, ridesharing, bicycling, and walking, through land use planning as well as transportation funding decisions.	Consistent – The proposed project would align with the goal of promoting bicycling and walking by providing a 6-mile multi-use trail between Niles and Sunol.
Policy 211: The County shall create and maintain a safe, convenient, and effective bicycle system that maximizes bicycle use.	Consistent – The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County, which would provide an opportunity for bicyclists to ride rather than drive.
Policy 212: The County shall create and maintain a safe and convenient pedestrian system that links residential, commercial, and recreational uses and encourages walking as an alternative to driving.	Consistent – The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of Fremont, both in Alameda County, which would provide an opportunity for pedestrians to walk rather than drive.
Alameda County Bicycle and Pedestrian Master Plan	Consistent - The project would align with planned projects identified in the Bicycle and Pedestrian Master Plan. Specifically, the 2019 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Alameda County identifies a Class I facility linking the Fremont District of Niles and the City of Pleasanton through Niles Canyon.
City of Fremont General Plan	
Policy 3-3.6: Road Hazards. Minimize road hazards associated with overgrown vegetation, structures blocking sight lines, and other visual obstructions. New development should be reviewed to ensure that ingress and egress locations, driveways, crosswalks, and other circulation features, are sited to minimize accident hazards.	Consistent - The proposed project would provide overcrossings of State Route 84 to protect equestrians, pedestrians, and bicyclists on the proposed trail from vehicular traffic. The proposed staging area at Palomares would be designed in accordance with County standards to ensure proper ingress and egress is provided.

Table 4.12.E: Project Compliance with Applicable Transportation-Related Plans, Ordinance, and Policies

Plan/Ordinance/Policy	Project Consistency
City of Fremont Bicycle and Pedestrian Master Plans	Consistent - The proposed project would be consistent with the City of Fremont Bicycle and Pedestrian Master Plans by providing a 6-mile multi-use trail for equestrians, pedestrian and bicyclists. Specifically, the City of Fremont’s 2018 Bike Plan ²⁴² identifies a Class I trail along SR-84.

Source: Compiled by LSA (2023).

Threshold 4.12.2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). *State CEQA Guidelines* Section 15064.3, subdivision (b) considers a project’s impact to VMT. This section distinguishes between criteria to be applied to land use or transportation project. For transportation projects, similar to the proposed project, *State CEQA Guidelines* Section 15064.3, subdivision (b)(2) states that “Transportation projects that reduce or have no impact on vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.”

Concurrent with changes to the Natural Resources Code and incorporation of the above section, the Governor’s Office of Planning and Research released the *Technical Advisory on Evaluating Transportation Impacts in CEQA*.²⁴³ The Technical Advisory provides clarification and recommendations to jurisdictions establishing thresholds and performing analysis of project VMT. For transportation projects, the Technical Advisory provides examples of projects that would not substantially or measurably lead to an increase in VMT. These examples include, “Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel.”

The proposed project is an off-road facility (trail) that serves non-motorized travel. The proposed project is a type of transportation project that would not substantially or measurably lead to an increase in VMT, and Section 15064.3, subdivision (b)(2) states that transportation projects that have no impact on VMT should be presumed to cause a less than significant transportation impact. Therefore, the proposed project would result in a **less than significant** impact related to *State CEQA Guidelines* Section 15064.3, subdivision (b).

Threshold 4.12.3: Design Hazards or Incompatible Uses. The proposed project would result in the construction of a six-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and the Niles District of the City of Fremont, both in Alameda County. In addition, the project would provide a critical link to Palomares Road bypassing

²⁴² City of Fremont. 2018. *City of Fremont 2018 Bicycle Master Plan*. Website: <https://www.fremont.gov/government/departments/transportation-engineering/walking-bicycling/bicycle-master-plan> (accessed September 2023).

²⁴³ OPR. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*.

SR 84 and would expand the Alameda Creek Trail, which provides a direct connection to the 500-mile San Francisco Bay Trail.

Under existing conditions, there are no sidewalks or pathways available for pedestrians and bicyclists traveling between the communities of Niles and Sunol. Non-motorized travelers must use the narrow shoulder of SR 84. These deficiencies create safety concerns for users seeking active transportation options through Niles Canyon. The proposed project includes a variety of safety improvements for pedestrians, bicyclists, and motorists, including several different barrier options to separate trail users from railroad and highway traffic and the addition of a pedestrian bridge that would provide a link between Palomares Road and the proposed trail and the potential for an additional pedestrian bridge over SR 84 as part of Phases 2 or 3.

Implementation of the proposed project would not significantly alter public roadways and no roadway geometry changes are proposed. Minor improvements such as roadway re-surfacing and re-stripping, installation of retaining walls, and removal of existing street parking would be completed. None of these roadway improvements would increase traffic hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections). As such, the proposed project would not result in hazards due to incompatible uses (e.g., farm equipment). Therefore, the proposed project would result in a **less than significant** impact related to hazards associated with a design feature or incompatible uses.

The majority of trail construction would occur on undeveloped open space lands; however, some portions of the proposed trail alignment would require improvements within the public roadway right-of-way. Construction activities may require temporary closure of a travel lane on Niles Boulevard and/or Old Canyon Road for trail installation, resulting in a temporary hazard to vehicles and bicycles. Additionally, construction of the proposed Palomares Road Overcrossing (Phase 1) and the potential additional overcrossing (either Phase 2 or Phase 3), would require overnight closure of SR 84 to accommodate bridge installation. Construction equipment would be operating near or within the roadway. Pavement conditions could deteriorate during project construction. Such deterioration could lead to safety hazards. Traffic delays, safety concerns, and pavement damage created by construction traffic would represent a **potentially significant** impact.

Impact TRA-1: Project construction activities could increase roadway hazards during the construction period due to the temporary closure of roadways/travel lanes, the presence of construction vehicles, and pavement damage created by construction traffic.

Implementation of Mitigation Measure TRA-1 would be required to ensure that appropriate traffic control measures are implemented to avoid potential temporary hazards to vehicles and bicyclists during construction of various trail components.

Mitigation Measure TRA-1 Prior to construction, the project contractor shall submit a Traffic Control Plan (TCP) to Alameda County for review and approval. During construction activities, Alameda County and the project contractors working on the project shall adhere to all requirements of the TCP. Implementation of a TCP would maintain peak period

travel time to the extent possible during construction. The TCP shall include the following:

- The route selection for movement of heavy equipment in the project vicinity shall be coordinated with the Alameda County Department of Public Works, Alameda County Sheriff's Department, and the City of Fremont Police Department to minimize traffic and physical road impacts. Truck drivers shall be notified and be required to use the most direct route to and from the project site.
- Heavy equipment transport, material transportation, or exportation to and from the project site shall not occur during weekday commute peak traffic periods and shall be coordinated by the contractor with the Alameda County Department of Public Works, Alameda County Sheriff's Department, and the City of Fremont Police Department.
- The TCP will define the use of flaggers, warning signs, lights, barricades, and cones, etc., according to standard guidelines required by the County, as appropriate. Further, the contractor will maintain the work site, including traffic control, in a safe condition at all times, even outside of normal work hours. In addition, the TCP shall prohibit lane closure within any intersections along the corridor during the a.m. and p.m. peak periods (i.e., from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m.). Prior to the start of these peak periods, the contractor shall cover any open trenches and remove all construction equipment such that all lanes within the intersection are available for vehicular traffic during the peak periods.
- Construction activities completed within public street rights-of-way would require the use of a traffic control service, and any lane closures or traffic control measures would be consistent with those published in the *California Joint Utility Traffic Control Manual* (California Inter-Utility Coordinating Committee 2010). Implementing measures contained within the *California Joint Utility Traffic Control Manual* would facilitate safe passage of both construction vehicles and private vehicles.

Implementation of Mitigation Measure TRA-1, which requires preparation and implementation of a Traffic Control Plan prior to and during construction, would reduce the potential traffic safety hazard associated with project construction to less than significant. With implementation of Mitigation Measure TRA-1, this impact would be **less than significant with mitigation**.

Threshold 4.12.4: Inadequate Emergency Access. The proposed project would provide a new six-mile, Class I, multi-use trail for pedestrians, bicyclists, and equestrians between the unincorporated community of Sunol and Niles District of the City of Fremont, increasing recreational opportunities and trail connectivity throughout the region. The proposed project does not include features that would alter emergency vehicle access routes or roadway facilities; fire and police vehicles would continue to have access to all facilities around the entire project area and city. The design, construction, and maintenance of project access locations, pedestrian overcrossings, and on-site roads would be in compliance with the City and County codes and would meet all emergency access standards. The Alameda County Fire Department would also review the proposed site plan and would provide input on final design in relation to emergency access prior to County approval of the proposed project.

Additionally, the trail would feature marker posts at frequent intervals along the route that could be used by trail users in need of emergency services to provide a reference for fire, police, or other personnel. Emergency personnel would receive training related to the marker system, including the best way to access people requiring assistance. Therefore, the project's impact would be **less than significant**.

As described above, the majority of trail construction would occur on undeveloped open space lands; however, some portions of the proposed trail alignment would require improvements within the public roadway right-of-way, resulting in temporary roadway and/or lane closures that could result in inadequate emergency access during the construction phases. Therefore, the impact would be **potentially significant**.

Impact TRA-2: Project construction activities could result in temporary inadequate emergency access.

Implementation of Mitigation Measure TRA-2 would be required to ensure that appropriate traffic control measures are implemented to avoid potential emergency access issues during construction of various trail components.

Mitigation Measure TRA-2

A schedule of construction activities and the Traffic Control Plan (TCP) prepared per Mitigation Measure TRA-1 shall be provided to any pertinent local emergency service providers, including the Alameda County Fire Department, Alameda County Sheriff's Department, City of Fremont Police and Fire Departments, and paramedics.

Implementation of Mitigation Measure TRA-2, which requires the TCP to include notification to emergency service providers of potential traffic delays associated with project construction, would reduce the potential emergency vehicle access impacts during project construction to less than significant. With implementation of Mitigation Measure TRA-2, this impact would be **less than significant with mitigation**.

4.12.2.4 Cumulative Impacts

Consistent with the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA, a project's cumulative impacts are based on an assessment of whether 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." The proposed project, combined with past, present, and reasonably foreseeable future projects, including completion of the Bay Area Ridge Trail, would not contribute to cumulative effects related to transportation, as the proposed project and similar cumulative projects are categories of transportation projects that are stated to not substantially or measurably lead to an increase in VMT and that should be presumed to cause a less than significant transportation impact. Future land use development would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to transportation and circulation and complete an evaluation for Section 15064.3, subdivision (b) and effects on VMT. In addition, design hazards and emergency access impacts associated with the proposed project would occur temporarily during project construction and would be localized to the project site. Therefore, the proposed project would not combine with other projects to create a cumulative impact, because none of the cumulative projects are located close enough to the project site or would be constructed concurrently with the proposed project. For these reasons, the proposed project, in combination with cumulative projects, would have a **less than significant** cumulative impact with respect to transportation.

4.13 TRIBAL CULTURAL RESOURCES

This section identifies the known tribal cultural resources on the project site and in the surrounding area and evaluates the potential for changes to such resources that could result from project implementation.

According to California Public Resources Code (PRC) Section 21080.3.1 and Chapter 532, Statutes 2014 (i.e., Assembly Bill [AB] 52), “tribal cultural resources” are defined as:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either: (A) included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register); or (B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1 or
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.

Information in this section is based on the Archaeological Resources Survey Study (Archaeological Report)²⁴⁴ and Built Environment Resources Evaluation (Built Environment Report)²⁴⁵ (which are included as Appendices C and D respectively), and the AB 52 Native American consultation efforts.

4.13.1 Environmental Setting

The following subsection describes the ethnography of the project area, the regulatory context related to tribal cultural resources, and the methods the County of Alameda (County) used to conduct the Native American consultation.

4.13.1.1 Historical Precontact Context

Studies and analysis of archaeological materials uncovered in the Bay Area indicate that native peoples have occupied the Bay region for more than 11,000 years. The project corridor is within the overlapping ethnographic territories of the Ohlone and Bay Miwok. Ohlone territory stretched along the coast from the San Francisco Peninsula to south of Monterey Bay and inland as far as Livermore and Soledad. Bay Miwok territory encompassed approximately 500 square miles in the upper reaches of the San Francisco Bay-Delta, primarily south of the Sacramento River and including Mount Diablo.²⁴⁶

Ohlone is a linguistic subfamily of the Penutian language stock that consisted of eight distinct language branches (researchers are unsure whether these were dialects or distinct languages). Each

²⁴⁴ LSA. 2023a. *Archaeological Resources Survey Study for the Niles Canyon Trail Project in Alameda County, California (LSA Project No. STU2001)*. April 28.

²⁴⁵ LSA. 2023b. *Built Environment Cultural Resource with Phase 1 – Niles District to Palomares Road segment of the Proposed Niles Canyon Trail Alignment, Fremont, Alameda County, California (LSA Project No.: STU2001;Phase 06)*. August 7.

²⁴⁶ California Department of Transportation (Caltrans). 2017. *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4*. Office of Cultural Resource Studies, California Department of Transportation District 4, Oakland.

of these was spoken in a particular geographic location by the resident tribelet(s).²⁴⁷ The tribelet comprised the basic unit of political organization for the Ohlone, consisting of a “territory-holding group of one or more associated villages and smaller temporary encampments... Permanent villages were established near the coast, the bay, and along river drainages, while temporary camps were located in prime resource-processing areas. Some tribelets occupied a central village, while others had several villages within a few miles of each other.”²⁴⁸

Bay Miwok belongs to the Eastern Miwok language group, which also includes the Plains Miwok and Sierran Miwok languages. As they did for the Ohlone, researchers have identified distinct tribelets for the Bay Miwok at the time of European contact, each composed of one or more villages.²⁴⁹ For both the Ohlone and Bay Miwok, subsistence activities “centered around the seasonal availability of gathered resources, such as acorns, nuts, seeds, greens and bulbs; hunting deer, pronghorn, tule elk, smaller animals, sea mammals, and waterfowl; fishing; and collecting shellfish (clams, oysters, mussels, and abalone)...the Ohlone territory included the open coast, the littoral zone of the bay, and a variety of inland settings, each with a varied range of resources available within the territorial extent of a tribelets.”²⁵⁰ “Unlike groups to the west, the Bay and [neighboring] Plains Miwok homeland was concentrated along the Sacramento and San Joaquin River delta, adjacent plains, and major tributary rivers. As such, it encompassed a wide range of micro-environments, including delta wetlands and marshes, lakes and sloughs, riparian forest, prairie grassland, and oak woodland/savanna.”²⁵¹

4.13.1.2 Project Corridor

Historic aerial photography indicates that, in 1906, the project corridor was largely undeveloped with Alameda Creek and the Western Pacific Railroad line running directly adjacent to the Phase 1 project site. In 1941, buildings are depicted near the eastern terminus of Old Canyon Road. The proximity to Alameda Creek, which would have served as a food and water source for Native American populations in the area, indicates that the project corridor (Phases 1 and 2) would be well suited to support the formation or continued presence of buried archaeological deposits or surface manifestations.

As described in Section 4.4, Cultural Resources, one archaeological resource (P-01-000025) was identified within the Phase 1 project corridor as a result of the record search, but no surficial remnants of the resource were observed during the survey. While no surficial remnants of P-01-000025 were observed during the archaeological field survey, there is still potential for subsurface archaeological deposits associated with the resource to exist within the Phase 1 project site. The project corridor, in particular Phases 1 and 2, have some sensitivity for cultural resources due to the number of prehistoric sites in the area and because Alameda Creek, which is directly adjacent to the

²⁴⁷ California Department of Transportation (Caltrans). 2017. *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4*. Office of Cultural Resource Studies, California Department of Transportation District 4, Oakland.

²⁴⁸ Ibid.

²⁴⁹ Ibid.

²⁵⁰ Ibid.

²⁵¹ Ibid.

Phase 1 and Phase 2 project corridors, would have served as a food and water source for Native American populations in the area.

4.13.1.3 Regulatory Context

The following discusses applicable laws, standards, and policies related to tribal cultural resources, including those from State and local agencies.

State Regulations. The following State regulations related to tribal cultural resources that would be applicable to the project are described below.

California Health and Safety Code Section 7050.5. California Health and Safety Code Section 7050.5 states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the Coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the Coroner's authority. If the human remains are of Native American origin, the County Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Public Resources Code Section 5097.5. PRC Section 5097.5 provides for the protection of cultural resources and prohibits the removal, destruction, injury, or defacement of archaeological features on any lands under the jurisdiction of State or local authorities.

Assembly Bill 52 Tribal Consultation. California PRC Section 21080.3.1 and Chapter 532, Statutes 2014 (i.e., AB 52), require that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. The bill requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether an EIR (among other types of environmental documents) is required for a project. The bill specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. The bill makes the above provisions applicable to projects that have a Notice of Preparation filed on or after July 1, 2015. By requiring the lead agency to consider these effects relative to tribal cultural resources and to conduct consultation with California Native American tribes, this bill imposes a State-mandated local program.

Regional and Local Regulations. The East County Area Plan and the City of Fremont General Plan and Municipal Code requirements related to cultural resources are described below.

East County Area Plan. The following goals and policies from the East County Area Plan pertaining to cultural resources would be applicable to the proposed project:

- **Cultural Resources Goal:** To protect cultural resources from development.
 - *Policy 136:* The County shall identify and preserve significant archaeological and historical resources, including structures and sites which contribute to the heritage of East County.
 - *Policy 137:* The County shall require development to be designed to avoid cultural resources or, if avoidance is determined by the County to be infeasible, to include implement appropriate mitigation measures that offset the impacts.
 - *Implementation Program 59:* The County shall require a background and records check of a project area if a project is located within an extreme or high archaeological sensitivity zone as determined by the County. If there is evidence of an archaeological site within a proposed project area, an archaeological survey by qualified professionals shall be required as a part of the environmental assessment process. If any archaeological sites are found during construction, all work in the immediate vicinity shall be suspended pending site investigation by a qualified archaeology professional. Proposed structures or roads on property that contains archaeological sites should be sited in consultation with a professional archaeologist to avoid damaging the archaeological sites. The County shall follow the California Environmental Quality Act (CEQA) Guidelines for cultural resource preservation procedures in reviewing development projects located near identified cultural resources. Appropriate measures for preserving an historic structure include renovation or moving it to another location. Proposals to remove historic structures shall be reviewed by qualified professionals.

City of Fremont General Plan. The City of Fremont General Plan Community Character Element includes the following goals and policies related to cultural resources:

- **Goal 4-6: Historic Preservation and Cultural Resources.** Conservation and enhancement of Fremont’s historic sites, buildings, structures, objects, and landscapes into the 21st Century and beyond.
 - *Policy 4-6.3: Resource Documentation and Funding:* Identify and record significant historic and archaeological resources, and maximize the use of all potential funding sources, including those available through State and federal programs, for the preservation, rehabilitation, restoration and enhancement of such resources.

The City has an ongoing program of evaluating potential historic resources. In addition, project applicants may be required to evaluate historic resources as part of the development process. Property owners and the general public may also apply for listing of historic resources on the Fremont Register.

- *Policy 4-6.10: Protection of Native American Remains:* Coordinate with representatives of local Native American organizations to ensure the protection of Native American resources and to follow appropriate mitigation, preservation, and recovery measures in the event such resources could be impacted by development.

City of Fremont Municipal Code. The following chapter of the City of Fremont Municipal Code pertaining to tribal cultural resources would be applicable to the proposed project:

Chapter 18.218. Standard Development Requirements to Address Resource Protection.
Section 18.218.010, Purpose and Intent, states that the purpose of this chapter is to ensure the universal application of standard development requirements for resource protection to development projects that have the potential to adversely disturb or impact (a) special-status species; (b) cultural resources; and (c) air quality due to construction activities such as grading, demolition, and tree and shrub removal. The California Public Resources Code and AB 52 (2014) both recognize the need for notification and evaluation procedures to protect cultural resources that may be located in areas considered sacred lands or that may be accidentally discovered during construction activities.

For all these reasons, and in the interest of the public health, safety and welfare of the people of the city of Fremont, recognizing the private rights to develop and use property in a manner that is not prejudicial to the public interest, it is the purpose of this chapter to provide standard development requirements that would reduce potential significant impacts to natural resources.

The following Standard Development Requirements related to Cultural and Tribal Cultural Resources would apply to the proposed project:

1. **Notification, Affiliated California Native American Tribes.** Within 14 days of determining that an application for a project is complete or a decision by the city is made to undertake a project, the city shall provide formal notification to the designated contact or a tribal representative of traditionally and culturally affiliated California Native American tribes that have requested to receive such notice from the city. The written notification shall include a brief description of the proposed project and its location, project contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to Cal. Pub. Res. Code Section 64352.4.
2. **Accidental Discovery of Cultural Resources.** The following requirements shall be met to address the potential for accidental discovery of cultural resources during ground disturbing excavation:
 - a. The project proponent shall include a note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.
 - b. The project proponent shall retain a professional archaeologist to provide a preconstruction briefing to supervisory personnel of any excavation contractor to alert them to the possibility of exposing buried cultural resources, including significant prehistoric archaeological resources. The briefing shall discuss any cultural resources, including archaeological objects, that could be exposed, the need to stop excavation at the discovery, and the procedures to follow regarding

discovery protection and notification of the project proponent and archaeological team.

- c. In the event that any human remains or historical, archaeological or paleontological resources are discovered during ground disturbing excavation, the provisions of CEQA Guidelines Sections 15064.5(e) and (f), and of subsection (c)(2)(D) of this section, requiring cessation of work, notification, and immediate evaluation shall be followed.
 - d. If resources are discovered during ground disturbing activities that may be classified as historical, unique archaeological, or tribal cultural resources, ground disturbing activities shall cease immediately, and the planning manager shall be notified. The resources will be evaluated by a qualified archaeologist and, in the planning manager's discretion, a tribal cultural monitor. If the resources are determined to be historical, unique archaeological, or tribal cultural resources, then a plan for avoiding the resources shall be prepared. If avoidance is infeasible, then all significant cultural materials recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards. Any plan for avoidance or mitigation shall be subject to the approval of the planning manager.
 - e. As used herein, "historical resource" means a historical as defined by CEQA Guidelines Section 15064.5(a); "unique archaeological resource" means unique archaeological resource as defined by Cal. Pub. Res. Code Section 21083.2(g); and "tribal cultural resource" means tribal cultural resource as defined by Cal. Pub. Res. Code Section 21074. Collectively, these terms describe "significant cultural materials."
3. **Archaeological Monitoring.** New development projects with the potential to impact subsurface archaeological or cultural resources through grading, demolition, and/or new construction, if so determined by a site-specific study prepared by an archaeologist that meets the Secretary of the Interior's professional qualifications standards for archaeology, shall implement the following measures prior to any grubbing, grading, or ground disturbing activities:
- a. An archaeologist shall monitor construction-related ground disturbance within the vicinity of project site features identified as having the potential to include subsurface archaeological, cultural, or tribal cultural resources that could be impacted through ground-disturbing activities related to the construction of the project. Monitoring should continue until the archaeologist determines that there is a low potential for encountering subsurface archaeological, cultural, or tribal cultural resources. An archaeologist that meets the Secretary of the Interior's professional qualifications standards for archaeology shall oversee the monitoring. Any compensation for time and expenses related to this activity shall be borne by the project proponent.

4. **Tribal Cultural Monitoring and Training.** Should the city receive a formal written request by the designated contact or a tribal representative of a traditionally and culturally affiliated California Native American tribe pursuant to Cal. Pub. Res. Code Section 64352.4 to have a tribal cultural representative present at the project site before or during construction activities to identify or monitor sites or objects of significance to Native Americans or to provide construction worker tribal cultural resources awareness training including applicable regulations and protocols for avoidance, confidentiality, and culturally appropriate treatment, the project proponent shall honor that request and include tribal cultural monitoring or training as a component of their project. The tribal cultural representative shall have the ability to request that work be stopped, diverted, or slowed if sites or objects of significance to Native Americans are encountered within the direct impact area and shall be consulted for recommendations regarding the appropriate treatment of such sites or objects. Any compensation for time and expenses related to this activity shall be borne by the project proponent.

4.13.2 Impacts and Mitigation Measures

This section discusses potential tribal cultural resources impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and identifies mitigation measures, as appropriate.

4.13.2.1 Criteria of Significance

The project would have a significant impact related to tribal cultural resources if it would:

- Threshold 4.13.1:** 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:
- (i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) or;
 - (ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

4.13.2.2 Project Impacts

The following describes the project's potential impacts to tribal cultural resources according to the significance criteria described above, with Phase 1 evaluated at the project level and Phases 2 and 3 evaluated at a programmatic level. The analysis prescribes mitigation measures that would reduce the identified impact to a less-than-significant level, if necessary.

Threshold 4.13.1: Tribal Cultural Resources. The following describes the project's potential impacts to archaeological resources for Phase 1 and Phases 2 and 3.

Phase 1. The NAHC was contacted on April 18, 2022, to conduct a Sacred Lands File (SLF) search and provide a Native American Contact List for the Phase 1 project site. The NAHC responded on May 17, 2022, stating that an SLF search was completed for the Phase 1 project site with negative results. The NAHC also provided a suggested list of Native American individuals to contact for information regarding the project site. The following tribes were contacted via a letter sent on June 6, 2022: Amah Mutsun Tribal Band of Mission San Juan Bautista, Costanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Band of Costanoan, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, Northern Valley Yokuts Tribe, the Ohlone Indian Tribe, Wuksache Indian Tribe/Eshom Valley Band, the Confederated Villages of Lisjan, and the Tamien Nation. On June 18, 2022, Ms. Katherine Perez of the Northern Valley Yokuts Tribe and Nototomne Cultural Preservation (North Valley Yokuts Tribe), responded via e-mail with a request to consult with the County pursuant to AB 52. No responses were received from the other tribal contacts.

The County responded to the North Valley Yokuts Tribe on July 15, 2022, and provided a copy of the record search results obtained from the Northwest Information Center for the proposed project. An initial tribal consultation meeting with the North Valley Yokuts Tribe was held on August 31, 2022. The tribal representatives who attended the initial consultation meeting requested an overview of the proposed project and to participate in the archaeological field survey. The tribal representatives indicated that the proposed trail alignment follows heavily utilized Native American trail routes and expressed a concern about the project site's location within a tribally sensitive area, due to the presence of two prehistoric resources (that are in and adjacent to) the proposed trail alignment. This is a **potentially significant** impact.

Impact TCR-1: Project ground disturbance associated with Phase 1 development has the potential to disturb, damage, or degrade either a tribal cultural resources, or the contextual setting of such a resource, resulting in a substantial loss of the resource's cultural value as determined in consultation with the North Valley Yokuts Tribe.

On September 9, 2022, the LSA archaeologist, along with two representatives of the North Valley Yokuts Tribe, conducted a pedestrian survey of the Phase 1 project site. Special attention was paid to rodent burrow holes and aprons as well as the vicinity of the recorded location of the previously recorded prehistoric village site (P-01-000025). During the field survey, the representatives of the North Valley Yokuts Tribe indicated that that Native American monitoring would likely be requested for portions of the trail that undergo archaeological monitoring.

In response, on August 25, 2023, the County provided the North Valley Yokuts Tribe with draft mitigation measures designed to reduce the potential impacts identified during the initial consultation meeting and subsequent field survey. These measures were developed utilizing standards implemented for other development projects within sensitive tribal areas throughout the County and tailored to the project site. On September 11, 2023, the North Valley Yokuts Tribe responded requesting 2-3 weeks' notice prior to project construction. The County responded on September 12, 2023, that notice would be provided. No further communications from the North Valley Yokuts Tribe were received.

Should significant tribal cultural resources be unearthed during project construction, a substantial adverse change in the significance could occur from its demolition, destruction, relocation, or alteration such that the significance of the resources would be materially impaired through loss of information important to the North Valley Yokuts Tribe. The proposed project would have a potentially significant impact on tribal cultural resources unless the measures prescribed under Mitigation Measure TCR-1 are implemented.

Mitigation Measure TCR-1

Native American Monitoring. Native American monitoring by a representative of the North Valley Yokuts Tribe shall be required during all ground-disturbing activities associated with project implementation within the recorded boundary of and within 25 feet of the boundary of the recorded location of resource P-01-000025, including clearing and grubbing activities.

Monitoring procedure shall follow the Cultural Resources Monitoring Plan prepared under Mitigation Measure CUL-2a as described in Section 4.4 of the EIR. Construction crews shall stop all work within 25 feet of any tribal cultural resource discovery until the find has been assessed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology and by the North Valley Yokuts Tribe. Native American archaeological materials and tribal cultural resources could include obsidian and chert flaked stone tools (such as projectile and dart points), midden (culturally derived darkened soil containing heat-affected rock, artifacts, animal bones, and/or shellfish remains), and/or groundstone implements (such as mortars and pestles).

The mitigation described under Mitigation Measure TCR-1 would ensure that a tribal monitor from the North Valley Yokuts Tribe would be present during ground-disturbing activities near the identified resource and that if tribal cultural resources are identified during these activities, these resources would be evaluated, documented, and studied in accordance with standard archaeological practice and under the supervision of the North Valley Yokuts Tribe. As such, implementation of these mitigation measures would ensure that the project's potential impacts to tribal cultural resources would be **less than significant with mitigation**.

Phases 2 and 3. As described above, the North Valley Yokuts Tribe have expressed that the project site is sensitive for tribal cultural resources due to the number of prehistoric sites in the area and because Alameda Creek, which is directly adjacent to the Phase 2 project site and portions of the Phase 3 proposed trail alignment. If encountered during future project-related ground disturbing activities, Phases 2 and 3 of the proposed project could result in the demolition, destruction, or alteration of unknown buried tribal cultural resources, which would result in a substantial adverse change in the significance of these resources. This is a **potentially significant** impact.

Impact TCR-2: Project ground disturbance associated with construction of future trail alignment Phases 2 and 3 may result in the substantial adverse change in the significance of a tribal cultural resource if uncovered during project construction.

Implementation of Mitigation Measures CUL-3a and CUL-3b, as identified in Section 4.4, Cultural Resources, and Mitigation Measure TCR-2b would ensure that impacts to unidentified tribal cultural resources are reduced to a less-than-significant level.

Mitigation Measure TCR-2a Implement Mitigation Measures CUL-3a and CUL-3b.

Mitigation Measure TCR-2b If tribal cultural resources are identified within the Phase 2 or Phase 3 project corridor, Native American monitoring by a representative of the North Valley Yokuts Tribe shall be required during all ground-disturbing activities associated with project implementation within the recorded boundary of and within 25 feet of the boundary of the recorded location of any identified resources.

Monitoring procedure shall follow the Cultural Resources Monitoring Plan prepared under Mitigation Measure CUL-2a as described in Section 4.4 of the EIR. Construction crews shall stop all work within 25 feet of any tribal cultural resource discovery until the find has been assessed by an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in archaeology and by the North Valley Yokuts Tribe. Native American archaeological materials and tribal cultural resources could include obsidian and chert flaked stone tools (such as projectile and dart points), midden (culturally derived darkened soil containing heat-affected rock, artifacts, animal bones, and/or shellfish remains), and/or groundstone implements (such as mortars and pestles).

Mitigation Measure CUL-3a requires additional archeological study to identify archaeological deposits that the proposed project may impact, Mitigation Measure CUL-3b requires diversion of construction work in the event any resources are encountered during ground disturbance, and Mitigation Measure TCR-2b requires tribal monitoring of any identified resources during

construction activities. Implementation of Mitigation Measures CUL-3a, CUL-3b, and TRC-2b would reduce potential impacts related to unknown buried tribal cultural resources to a less than significant level. Therefore, this impact would be **less than significant with mitigation**.

4.13.2.3 Cumulative Impacts

The disturbance of tribal cultural resources that underlie the project site, and potential disturbance of human remains, could have a cumulatively significant impact when considered with other past, present, or reasonably foreseeable projects in Alameda County, Fremont and Union City.

The cumulative geographic context for the project site considered as part of this analysis generally extends for a 2-mile radius around the trail alignment. Environmental documents available on the Caltrans' and City of Fremont's website were reviewed for projects identified in Table 4.A in Chapter 4.0 Setting, Impacts and Mitigation Measures, to assess the project's potential to cause a cumulatively considerable impact. Development within the immediate vicinity include transportation improvements projects along Niles Canyon Road and infill projects within the City of Fremont. The Final EIR/EA for the Arroyo de Laguna Bridge Project identified an adverse effect on one prehistoric archaeological site within the area of potential effect for the bridge project. Mitigation measures, including monitoring, and data recovery were identified in consultation with the Native American tribes in the area to mitigate impacts to this resource to a less-than-significant level. Similarly, as described under Threshold 4.5.1 above, Native American monitoring by a representative of the North Valley Yokuts Tribe shall be required during all ground-disturbing activities in proximity to resource P-01-000025, in accordance with a monitoring plan (see Mitigation Measure CUL-2a as described in Section 4.4 of the EIR).

As is the case with the proposed project, projects identified in Table 4.A have the potential to result in unanticipated discoveries of tribal cultural resources during ground disturbance. These developments could adversely affect buried cultural resources through their destruction or disturbance. Before mitigation, therefore, developments within the County's jurisdiction, as well as other local recent and current developments, have the potential to cause adverse cumulative impacts to cultural resources due to their destruction or loss of historical integrity.

However, it should be noted that each development that the County or the City oversees would undergo environmental review, consistent with the County and City's current procedures, and would be subject to the similar mitigation measures as those recommended above and the applicable lead agency's standard mitigation measures or conditions of approval. Projects under City of Fremont review generally incorporate mitigation measures for accidental discoveries of buried cultural resources. Therefore, implementation of project-specific mitigation measures described herein and appropriate County and City policies and measures and conditions would reduce any potential cumulative impacts related to tribal cultural resources to a less-than-significant level. Furthermore, because the mitigation for this project reduces impacts related to the historic integrity of identified resources to ensure the project does not cause a substantial adverse change in the significance of cultural resources, the proposed project would not result in a cumulatively considerable contribution to a significant impact to tribal cultural resources. Therefore, cumulative impacts related to cultural resources would be **less than significant**.

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4.14 UTILITIES AND SERVICE SYSTEMS

This section assesses the project's potential environmental impacts on utilities and service systems as a result of the project, including water supply, wastewater collection and treatment, solid waste, energy, and telecommunications. The related topic of stormwater drainage is evaluated in Section 4.6, Hydrology and Water Quality.

4.14.1 Setting

The following subsection describes the following utilities and service systems in the project area: water supply, wastewater treatment and collection, solid waste, natural gas and electricity, and telecommunications.

4.14.1.1 Water Supply and Treatment Facilities

Water service is provided to the cities of Union City and Fremont by Alameda County Water District (ACWD). The City of Pleasanton provides water service to the Pleasanton Ridge Regional Park and would extend to the Tyler Ranch Staging Area upon its construction by the East Bay Regional Park District (EBRPD). Water service for the Town of Sunol in unincorporated Alameda County is provided by the San Francisco Public Utilities Commission (SFPUCC).

Alameda County Water District Water Supply. The western portion of the proposed project site is primarily within the city of Fremont and would be within ACWD's service area. ACWD's service area spans 104.8 square miles and serves more than 85,000 customers and 356,000 people. Water from the ACWD is primarily used for residential purposes (71 percent) followed by business (14 percent), industrial (9 percent), and institutional (6 percent). Average daily production for the fiscal year 2020-2021 was 40 million gallons per day (mgd) and the maximum day production was 59.7 mgd.²⁵²

ACWD has three primary sources of water; approximately 40 percent is supplied by the State Water Project (SWP), 20 percent is supplied by San Francisco's Regional Water System (SFRWS), and 40 percent comes from local supplies. The SWP water supply is imported from the South Bay Aqueduct and the SFRWS water supply is imported from the Hetch Hetchy Aqueduct. Local supplies include fresh groundwater from the Niles Cone Groundwater Basin, desalinated brackish groundwater from portions of the groundwater basin previously impacted by seawater intrusion, and surface water from the Del Valle Reservoir. The Niles Cone Groundwater Basin is primarily recharged from percolation of runoff from the Alameda Creek watershed.²⁵³ Additionally, a portion of the ACWD's SWP supplies are used for supplemental groundwater recharge when Alameda Creek supplies are insufficient or if groundwater levels fall below critical thresholds.²⁵⁴

ACWD has an individual supply guarantee of 13.76 mgd or 15,400 acre-feet per year from SFRWS. The Water Supply Contract with SFRWS is set to expire in 2034 but is considered perpetual and will be extended. ACWD has a Water Supply Contract with California Department of Water Resources

²⁵² Alameda County Water District (ACWD). n.d.-a. *ACWD Fact Sheet*. Website: <https://www.acwd.org/93/Fact-Sheet> (accessed March 10, 2022).

²⁵³ ACWD. *ACWD's Water Sources & Supplies*. n.d.-b. Website: <https://www.acwd.org/100/ACWDs-Water-Sources-Supplies> (accessed March 10, 2022).

²⁵⁴ ACWD. 2021. *Urban Water Management Plan 2020-2025*. May 13.

(DWR) for DWR to provide up to a maximum annual amount of 42,000 acre-feet from the SWP. The original Water Supply Contract with DWR was set to expire in 2036 but ACWD and DWR entered into an amendment allowing continued service under the contract, which expires no earlier than December 31, 2085. ACWD has a water right that permits the diversion of up to 40,000 acre-feet per year from October 1 to June 1 through various points of diversion along Alameda Creek for storage in the Niles Cone Groundwater Basin. Additionally, ACWD has a water right to divert up to 60,000 acre-feet/year through in-stream storage at Del Valle Reservoir.²⁵⁵

ACWD's water conveyance infrastructure includes 900 miles of pipe and 13 tanks and reservoirs. The ACWD is operated and maintained by 241 full time employees.

Alameda County Water District Water Treatment Facilities. ACWD operates three treatment facilities including the Blending Facility, Newark Desalination Facility, and Water Treatment Plant No. 2.

The Blending Facility was placed in service in 1992 and uses three parallel in-line static mixers, each with a design capacity of 20 mgd, which are used to mix water from the Mowry and Peralta/Tyson Wellfields and San Francisco regional water supplies. Normal sustainable output is 45 mgd, but the system can be valved to have the capacity to produce a total of 60 mgd.²⁵⁶

The Newark Desalination Facility was placed in service in September 2003 and uses a reverse osmosis membrane filtration process to treat brackish groundwater. Chlorinated well water is combined with permeate to increase hardness and the water is treated with chlorine, ammonia, fluoride, and sodium hydroxide. The facility produces approximately 10 mgd of permeate for a total of 12.5 mgd after blending.²⁵⁷

Water Treatment Plant No. 2 was placed in service in 1993 and uses conventional ozone treatment for water delivered via the South Bay Aqueduct. Additionally, the plant uses the following chemical additions: carbon dioxide to lower the pH of the water and for bromate control; chloramines pre-ozone to maintain low bromate levels; ozone as a pre-oxidant; and ferric chloride or alum as a coagulant. There are two separate process trains consisting of six flocculation basins, four sedimentation basins, and six dual media filters with post-filter addition of chlorine, ammonia, fluoride, and sodium hydroxide. The plant has a maximum production rate of 28 mgd and a sustainable production rate of 26 mgd.²⁵⁸

ACWD is able to receive direct supplies from the SFRWS via any of eight take-offs located within the service area. The Fremont take-off is the primary source of water for the ACWD's Blending Facility

²⁵⁵ ACWD. 2021. *Urban Water Management Plan 2020-2025*. May 13.

²⁵⁶ ACWD. *Blending Facility*. n.d.-c. Website: <https://www.acwd.org/381/Blending-Facility> (accessed March 10, 2022).

²⁵⁷ ACWD. n.d.-d. *Newark Desalination Facility*. Website: <https://www.acwd.org/383/Newark-Desalination-Facility> (accessed March 10, 2022).

²⁵⁸ ACWD. *Water Treatment Plant No. 2*. n.d.-e. Website: <https://www.acwd.org/385/Water-Treatment-Plant-No-2> (accessed March 10, 2022).

and this take-off can be valved directly into the distribution system in emergencies. Water purchased from SFRWS has been treated with chloramines and has been fluoridated.²⁵⁹

City of Pleasanton Water Supply. The City of Pleasanton owns the municipal water supply main lines that traverse Pleasanton Ridge Regional Park that serve drinking fountains and park residences. Irrigation water and water for livestock within the park generally comes from on-site sources such as springs and groundwater. Municipal water service will be extended to the new service yard at the Tyler Ranch Staging Area, which the proposed trail may eventually connect to under Phase 3 of construction. The EBRPD also has an agreement with the City of Pleasanton to use water for fire suppression, including use of fire hydrants.²⁶⁰

The City of Pleasanton receives 75 to 80 percent of its water from the Zone 7 Water Agency, the Tri-Valley's water wholesaler, through seven permanent turnouts from the Zone 7 system. Zone 7 has three sources of water that include State Water Project water from the South Bay Aqueduct, surface runoff from the Del Valle Reservoir, and local groundwater. Additionally, the City of Pleasanton owns and operates three active groundwater wells and a water distribution, pumping, and storage system divided into a number of water pressure zones. The City of Pleasanton's annual groundwater entitlement is 3,500 acre-feet, which is fixed by contract with Zone 7, which acts as the regional groundwater basin manager for the Tri-Valley area. Water provided by the City of Pleasanton is primarily used for residential use, followed by landscape irrigation, commercial and institutional uses, and parks. In 2020, the City of Pleasanton's total annual water demand was 14.8 acre-feet per year. This is anticipated to increase to 18.2 acre-feet per year in 2045.²⁶¹

The City of Pleasanton's water system contains over 300 miles of water pipelines ranging from 4 to 36 inches in diameter. Pleasanton stores its water in tank reservoirs which are grouped into four main pressure zones and a number of smaller pressure zones. The City has an approximate supply capacity of 34.4 mgd through its current infrastructure system.²⁶²

City of Pleasanton Water Treatment. The groundwater from the City of Pleasanton-owned wells is disinfected using chloramines – a combination of chlorine and ammonia. Water from Zone 7 is treated at its Patterson Pass and Del Valle Water Treatment plants in Livermore and its Mocho Groundwater Demineralization Plant in northern Pleasanton.

The Patterson Pass Water Treatment Plant treats imported surface water from the South Bay Aqueduct using dual-media filtration and chlorine treatment techniques. The plant is in the process

²⁵⁹ ACWD. *Regional Water System Direct Takeoff*. n.d.-f. Website: <https://www.acwd.org/384/Regional-Water-System-Direct-Takeoff> (accessed March 10, 2022).

²⁶⁰ East Bay Regional Park District. 2021. *Initial Study and Proposed Mitigated Negative Declaration for Pleasanton Ridge Regional Park Land Use Plan, Alameda County, California*. SCH No. 2012062006. July 17.

²⁶¹ West Yost. 2021. *2020 City of Pleasanton Plan Urban Water Management Plan*. June. Website: <https://admin.cityofpleasantonca.gov/civicax/filebank/blobdload.aspx?BlobID=35449> (accessed October 25, 2023).

²⁶² Ibid.

of upgrades to include ozone treatment, which will increase the plant capacity from 12 mgd to 24 mgd.²⁶³

The Del Valle Water Treatment Plant treats surface water imported via the South Bay Aqueduct and water from Lake Del Valle. The plant was recently upgraded to add raw water ozonation to replace chlorine as the main disinfectant. Additionally, the plant treats water using a dual-media filtration system that incorporates coagulation, flocculation, sedimentation, and filtration. The Del Valle Water Treatment Plant has the capacity to treat 40 million gallons per day.²⁶⁴

The Mocho Groundwater Demineralization Plant began operating in 2009 and uses reverse osmosis membrane technology to treat up to 7.7 mgd of groundwater pumped from nearby Zone 7 wells. After the salt concentrate is removed this results in approximately 6 million gallons per day which is blended with other supplies prior to delivery to retailers.²⁶⁵

San Francisco Public Utility Commission Water Supply. SFPUC activities in Alameda County include conveyance of Hetch Hetchy water, water treatment, and capture of local runoff. Within Alameda County, SFPUC provides wholesale water to ACWD and Hayward. It provides retail water service to the unincorporated Sunol and Castlewood communities and to the Lawrence Livermore National Laboratory.²⁶⁶

The SFPUC owns and operates the domestic water system for Sunol (Public Water System No. CA0110012), which typically serves less than 0.1 mgd to approximately 120 metered and unmetered connections in unincorporated Alameda County. These connections are primarily residential customers and are supplied with potable water from the SFPUC's Regional Water System (RWS), which consists of more than 280 miles of pipelines, 60 miles of tunnels, 11 reservoirs, five pump stations, and two water treatment plants. After the RWS supply is fully treated, fluoridated, and chloraminated, the supply enters the Sunol transmission pipeline downstream of the Sunol Valley Mixing Manifold. The supply is then piped to a pump station at the SFPUC's Sunol Yard. The supply is pumped to two 130,000-gallon storage tanks. Water quality is overseen by the SFPUC.²⁶⁷

The SFPUC serves its retail and wholesale customers through the integrated operation of local Bay Area water production facilities and the Hetch Hetchy System. The local watershed facilities are operated to conserve local runoff for delivery and to maintain enough stored water to meet demands in the event of an emergency that affects the supply of water from Hetch Hetchy. Demands that are not met by local runoff are met with water diverted from the Tuolumne River through the Hetch Hetchy System. On average, the Hetch Hetchy System provides approximately 85

²⁶³ Zone 7 Water Agency. *Patterson Pass Water Treatment Plant*. n.d.-a. Website: <https://www.zone7water.com/post/patterson-pass-water-treatment-plant> (accessed March 14, 2022).

²⁶⁴ Zone 7 Water Agency. *Del Valle Water Treatment Plant*. n.d.-b. Website: <https://www.zone7water.com/post/del-valle-water-treatment-plant> (accessed March 14, 2022).

²⁶⁵ Zone 7 Water Agency. n.d.-c. *Mocho Groundwater Demineralization Plant*. Website: <https://www.zone7water.com/post/mocho-groundwater-demineralization-plant> (accessed March 14, 2022).

²⁶⁶ Alameda LAFCO. 2021. *Countywide Municipal Services Review for Utility Services*. November.

²⁶⁷ San Francisco Public Utility Commission (SFPUC). 2021. *2020 Urban Water Management Plan for the City and County of San Francisco*. June.

percent of the water delivered by the SFPUC. During dry years, the water received from the Hetch Hetchy System can amount to over 90 percent of the total water delivered.

Deliveries from the RWS to both retail and wholesale customers are limited by the Water System Improvement Program Phased Variant adopted by the SFPUC to an average annual of 265 mgd from the watersheds. It provides for 184 mgd to the Wholesale Customers consistent with the Supply Assurance and 81 mgd to the retail customers.²⁶⁸

San Francisco Public Utilities Commission Water Treatment. The Hetch Hetchy Reservoir is the largest unfiltered water supply on the West Coast and one of only a few large unfiltered municipal water supplies in the nation. The water originates from well-protected wilderness areas in Yosemite National Park and flows down the Tuolumne River to Hetch Hetchy Reservoir. This water meets or exceeds all federal and State criteria for watershed protection. Water from Hetch Hetchy Reservoir is protected in pipes and tunnels as it is conveyed to the Bay Area and requires pH adjustment to control pipeline corrosion and disinfection for bacteria control. Based on the SFPUC's disinfection treatment practice, extensive bacteriological quality monitoring, and high operational standards, the United States Environmental Protection Agency (USEPA) and the SWRCB Division of Drinking Water determined that the Hetch Hetchy water source meets federal and State drinking water quality requirements without the need for filtration.²⁶⁹

In 2012, the USEPA enacted a new regulation requiring secondary disinfection for all unfiltered drinking water systems to control the waterborne parasite cryptosporidium. To comply with this regulation, the SFPUC completed construction of a new ultraviolet treatment facility in 2011. The Tesla Treatment Facility is a key component of the Water System Improvement Program and enhances the high-quality water from the RWS. The facility has a capacity of 315 mgd, making it the third largest ultraviolet drinking water disinfection facility in the United States.

All water derived from sources other than Hetch Hetchy Reservoir is treated at one of two treatment plants: the Sunol Valley Water Treatment Plant (SVWTP) or the Harry Tracy Water Treatment Plant (HTWTP). The SVWTP primarily treats water from the Alameda System reservoirs and has both a peak capacity and sustainable capacity of 160 mgd. The HTWTP treats water from the Peninsula System reservoirs and has a peak capacity of 180 mgd and a sustainable capacity of 140 mgd.²⁷⁰

4.14.1.2 Wastewater Treatment and Collection

Wastewater collection, treatment, and disposal services are provided to the cities of Union City and Fremont by Union Sanitary District (USD). The project area that is outside of city limits in unincorporated Alameda County is served by individual septic systems or vault toilets. Upon

²⁶⁸ Ibid.

²⁶⁹ Ibid.

²⁷⁰ San Francisco Public Utility Commission (SFPUC). 2021. *2020 Urban Water Management Plan for the City and County of San Francisco*. June.

completion of construction by EBRPD, the Tyler Ranch staging area will be served by one proposed double vault toilet.²⁷¹

Union Sanitary District. The western portion of the proposed project is primarily within the city of Fremont and would be within USD's service area. USD provides wastewater collection, treatment, and disposal services to customers in urban areas of Fremont, Newark, and Union City. The USD service area covers approximately 60 square miles and provides services to a population of more than 356,000 people. The majority of customers consist of domestic/residential use (97.4 percent), followed by commercial (1.5 percent), and industrial (1.1 percent).²⁷²

USD employs 143 individuals and maintains 839 miles of underground pipeline and 7 pump stations. USD sewers use gravity and force mains. Additionally, USD operates a 33-acre wastewater treatment facility, Alvarado Treatment Plant, in Union City that provides secondary activated sludge treatment. In 2020, the average daily flow of wastewater treatment was 23.16 gallons.²⁷³ The Alvarado Treatment Plant has the capacity to treat 33 mgd but on average treats approximately 25 mgd.²⁷⁴ Once treated, water from the Alvarado Treatment Plant is recycled onsite for facility usage or passes through 7 miles of pipelines for disposal in San Francisco Bay, north of Oakland International Airport.

Septic Tank Usage. The Alameda County Department of Environmental Health is responsible for regulating on-site wastewater treatment systems (OWTS) throughout the unincorporated areas of the county. OWTS are used largely for properties outside of municipal sewer service boundaries, although there are still many isolated properties within incorporated areas that have not been connected to sewers and continue to use OWTS. More than half of the properties served by OWTS are in the eastern portions of Alameda County within the Upper Alameda Creek watershed. The largest concentrations are in the unincorporated community of Sunol and on the fringes of Pleasanton, Livermore, and Castro Valley.²⁷⁵

4.14.1.3 Solid Waste

Republic Services provides solid waste services to the cities of Union City and Fremont. Solid waste services are provided to the Pleasanton Ridge Regional Park by Pleasanton Garbage Service and service will be provided to the Tyler Ranch Staging Area upon its construction by EBRPD.

Republic Services. The existing Niles Staging Area contains garbage and recycling receptacles. This staging area is in Fremont and within the service area of Republic Services. Republic Services provides curbside collection of recycling and solid waste in Fremont and Union City through franchise contracts. Materials are transported to the Fremont Recycling and Transfer Station at

²⁷¹ East Bay Regional Park District. 2021. *Initial Study and Proposed Mitigated Negative Declaration for Pleasanton Ridge Regional Park Land Use Plan, Alameda County, California*. SCH No. 2012062006. July 17.

²⁷² USD. 2018a. *Mission, Organization, Facts, and History*. Website: <https://www.unionsanitary.com/about-us/about-us/mission-facts-history> (accessed March 11, 2022).

²⁷³ Ibid.

²⁷⁴ USD. 2018b. *Alvarado Treatment Plant*. Website: <https://www.unionsanitary.com/about-us/alvarado-treatment-plant> (accessed March 11, 2022).

²⁷⁵ Alameda LAFCO. 2021. *Countywide Municipal Services Review for Utility Services*. November.

41149 Boyce Road and later transported to Altamont Landfill, northeast of the project site in the Livermore. The Fremont Recycling and Transfer Station is 13.5 acres and has a maximum daily permitted throughput of 2,400 tons per day.²⁷⁶ The Altamont Landfill is 2,063.6 acres with 472 acres of disposal area. The landfill has an expected disposal capacity through 2049 and is permitted to receive 11,150 tons of solid waste per day; actual input averaged 3,013 tons per day, well below the allowable daily intake amount.²⁷⁷ As of 2018, the estimated remaining refuse capacity for the Altamont Landfill was 65.4 million cubic yards (60 million tons). The permitted capacity at Altamont is 87 million cubic yards.²⁷⁸

Pleasanton Garbage Service. The project corridor includes the Tyler Ranch Staging Area, which will have garbage and recycling receptacles. The Tyler Ranch Staging Area will be within the service area of Pleasanton Garbage Service. Pleasanton Garbage Service transports solid waste to the Pleasanton Garbage Service Transfer Station, a 7-acre site with a maximum daily permitted throughput of 720 tons per day.²⁷⁹ Solid waste is sorted and ultimately taken to the Altamont Landfill.

4.14.1.4 Natural Gas and Electricity

The Pacific Gas & Electric Company (PG&E) provides electricity and natural gas service to customers in Alameda County. PG&E charges connection and user fees for all new development in addition to sliding rates for electrical and natural gas service based on use. PG&E currently possess infrastructure within the public right-of-way within the project corridor.

Power is generated by fossil fuel-burning plants, hydroelectric facilities, nuclear generating plants, wind farms, and geothermal plants serving the large Northern California electrical grid. Electricity is then delivered on overhead transmission lines. The main gas transmission line parallels Interstate 880, with distribution lines branching off the main line. Refer to Table 4.13.A for the percentages of PG&E's renewable/nonrenewable energy sources. The table includes all PG&E-owned generation, plus PG&E's power purchases.

²⁷⁶ CalRecycle. 2019a. *SWIS Facility/Site Activity Details, Fremont Recycling and Transfer Station (01-AA-0297)*. Website: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/5906?siteID=4506>. (accessed March 11, 2022).

²⁷⁷ Alameda County Waste Management Authority. 2022. *Alameda County Integrated Waste Management Plan Countywide Element*. September. Website: www.stopwaste.org/resource/reports/countywide-integrated-waste-management-plan-coiwmp (accessed June 15, 2023).

²⁷⁸ Ibid.

²⁷⁹ CalRecycle. 2019c. *SWIS Facility/Site Activity Details, Pleasanton Garbage Service SW TS (01-AA-0003)*. Website: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2?siteID=2> (accessed March 14, 2022).

Table 4.13.A: PG&E’s 2020 Electricity Power Mix

Energy Source	Percentage
Renewable*	31
Nuclear*	43
Hydroelectric Operations*	10
Natural Gas	16

Source: PG&E, *Exploring Clean Energy Solutions* (n.d.). Website: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy (accessed March 11, 2022).

Notes:

* These resources are greenhouse gas-free and/or renewable.

PG&E = Pacific Gas and Electric Co.

4.14.1.5 Telecommunications

A number of telecommunications providers currently service Alameda County, including American Telephone and Telegraph (AT&T) and Comcast. AT&T and Comcast provide telephone, video, and data services. All of these service providers are privately owned and operated and recover the costs of operation, maintenance, and capital improvement through connection and user fees, which are collected from all customers. AT&T and Comcast possess infrastructure within the public right-of-way within the project corridor.

The California Public Utilities Commission, which regulates California’s telecommunication industry, requires that local phone service providers anticipate and serve new growth. To meet this requirement, local phone service providers continually upgrade facilities and infrastructure, adding new facilities and technology to remain in conformance with California Public Utilities Commission tariffs and regulations, and to serve customer demand.

AT&T provides telephone land lines, and Comcast provides cable service.

4.14.1.6 Regulatory Context

The following section describes the federal, State, and local regulatory framework related to water, solid waste management, and other utilities.

Federal Regulations. The following federal laws or regulations regarding utilities and service systems are applicable to the proposed project.

Safe Drinking Water Act. The Safe Drinking Water Act of 1974 gave the USEPA the authority to set standards for contaminants in drinking water supplies. The USEPA was required to establish primary regulations for the control of contaminants that affected public health and secondary regulations for compounds that affect the taste, odor, and aesthetics of drinking water. Under the provisions of the Safe Drinking Water Act, the California Department of Health Services has the primary enforcement responsibility. Title 22 of the California Administrative Code establishes Department of Health Services authority and stipulates State drinking water quality and monitoring standards.

Energy Policy Act of 1992. The Federal Energy Regulatory Commission (FERC) regulates the transmission and sale of electricity in interstate commerce (including interstate gas pipelines that serve California), licensing of hydroelectric projects, and oversight of related environmental matters. As part of the license application process, environmental analysis pursuant to the National Environment Policy Act must be conducted. FERC acts under the legal authority of the Federal Power Act of 1935, the Public Utility Regulatory Policies, and the Energy Act of 1992, in addition to several other federal acts. The Energy Act of 1992 addresses energy efficiency, energy conservation and energy management, natural gas imports and exports, and alternative fuels (including as used in motor vehicles). It amended parts of the Federal Power Act of 1935.

National Pollutant Discharge Elimination System. Treated wastewater is closely regulated for health and environmental concerns and is included in the National Pollutant Discharge Elimination System (NPDES) program. The San Francisco Bay Regional Water Quality Control Board regulates operations and discharges from sewage systems through the NPDES permit adopted on October 14, 2009. The permit provides a uniform standard for wastewater and stormwater discharges for the counties and agencies surrounding San Francisco Bay. State and federal laws, statutes, and regulations mandate that the County to comply with the NPDES permit.

State Regulations. The following state regulations related to utilities and service systems are applicable to the proposed project.

California Urban Water Management Planning Act. Under the California Water Code and Urban Water Management Planning Act of 1983, all California urban water suppliers are required to prepare and adopt an Urban Water Management Plan every 5 years, which promotes water conservation and efficiency measures. Urban water suppliers that serve more than 3,000 customers or supply more than 3,000 acre-feet of water annually are subject to this act. This act requires that the total project water use be compared to water supply sources over the next 20 years in 5-year increments. Planning must take place for all drought years and must include a water recycling analysis that incorporates a description of the wastewater collection and treatment system, outlining existing and potential recycled water uses. In September 2014, the act was amended by Senate Bill 1420, which now requires urban water suppliers to provide descriptions of their water demand management measures and similar information.

State Updated Model Landscape Ordinance. The State Updated Model Landscape Ordinance requires the adoption of landscape water conservation ordinances or the adoption of a different ordinance that is at least as stringent as the updated Model Ordinance.

In compliance with the State Updated Model Landscape Ordinance, the County of Alameda (County) adopted the Water Efficient Landscape Ordinance (Chapter 17.64 of the Alameda County Municipal Code), which establishes a structure for planning, designing, installing, maintaining and managing water-efficient landscapes in new construction and rehabilitated

projects and establish provisions for water management practices and water waste prevention for existing landscapes.²⁸⁰

The City Fremont has established Landscape Development Requirements & Policies, which combine the City of Fremont's adopted landscape requirements, regional and State landscape requirements and Bay-Friendly Landscape requirements.²⁸¹

Water Conservation Act of 2009. The Water Conservation Act of 2009 (Senate Bill X7-7) requires all water suppliers to increase water use efficiency by reducing per capita urban water use by 20 percent by December 31, 2020. This bill also set a goal for the state of reducing per capita water use by at least 10 percent by December 31, 2015.

California Integrated Waste Management Act (Assembly Bill [AB] 939). The State Updated Model Landscape Ordinance AB 939 established the California Integrated Waste Management Board under CalRecycle, which required all counties within California to adopt a Countywide Integrated Waste Management Plan (CoIWMP) describing local waste diversion and disposal conditions and create programs to meet State goals for diverting waste from landfills. Additionally, it changed the focus of solid waste management from landfill to diversion strategies (e.g., source reduction, recycling, and composting), and required all municipalities to divert 25 percent of their solid waste from landfill disposal by January 1, 1995, and 50 percent by the year 2000.

The County is a member agency of the Alameda County Waste Management Authority Board, a public agency that is responsible for preparation of the Alameda County CoIWMP. First adopted in 1997, the CoIWMP was most recently updated in September 2022 and established a countywide goal of 75 percent waste diversion from landfills compared to 1990 and a 75 percent reduction in organics from landfills compared to 2014.²⁸²

California Mandatory Commercial Recycling Law. The State Updated Model Landscape Ordinance AB 341 was enacted to help meet California's recycling goal of 75 percent by the year 2020. AB 341 requires all commercial businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. In addition, multi-family apartments with five or more units are also required to form a recycling program. Also, each local government jurisdiction must implement a commercial solid waste recycling program that consists of education, outreach and monitoring of businesses, designed to divert commercial solid waste from businesses. Each jurisdiction will report the progress achieved in implementing its commercial recycling program, including education, outreach and monitoring, and if applicable, enforcement efforts and exemptions, by providing updates in its electronic annual

²⁸⁰ County of Alameda. 2022. Alameda County Code of Ordinances, Chapter 17.64 - WATER EFFICIENT LANDSCAPE ORDINANCE. Website: https://library.municode.com/ca/alameda_county/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.64WAEFLAOR_17.64.010AU (accessed March 23, 2022).

²⁸¹ City of Fremont. 2014. Landscape Development Requirements & Policies. October.

²⁸² Alameda County Waste Management Authority. 2022. *Alameda County Integrated Waste Management Plan Countywide Element*. September. Website: www.stopwaste.org/resource/reports/countywide-integrated-waste-management-plan-coiwmp (accessed June 15, 2023).

report. The California Department of Resources Recycling and Recovery (CalRecycle) will review each jurisdiction's commercial recycling program that consists of education, outreach and monitoring.²⁸³

Mandatory Organics Recycling Law (AB 1826). In October 2014, Governor Jerry Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.²⁸⁴

CALGreen Building Code. CALGreen requires mandatory green standards that all buildings in California must abide by, including: reducing indoor water use, reducing wastewater, recycling and/or salvaging nonhazardous construction and demolition debris, and providing readily accessible areas for recycling by the occupant. The code includes different categories such as energy, water, material, and resource efficiency. These standards include a mandatory set of minimum guidelines and more stringent voluntary measures for new construction projects that local communities can opt into.

As stated in Section 460, Green Building Program, of the Alameda County Municipal Code, the County has adopted a Green Building Ordinance for residential and commercial properties in unincorporated communities of the county. The Green Building Ordinance applies to all new or rebuilt residential construction greater than 1,000 square feet and all new or rebuilt non-residential construction greater than 3,000 square feet in the unincorporated areas of Alameda County. Certain industrial or agricultural uses and qualified historical buildings are exempt.²⁸⁵

The City of Fremont has adopted the residential mandatory measures and non-residential mandatory measures of the California Green Building Standards Code (CALGreen) (2016 edition). In addition, all developments are required to comply with City of Fremont landscape and stormwater development requirements. The City of Fremont adopted an electric vehicle (EV) reach code that goes beyond the CALGreen mandatory measures, requiring residential and non-residential construction project where additional parking spaces are provided to include

²⁸³ California Department of Resources Recycling and Recovery (CalRecycle). 2020a. Mandatory Commercial Recycling. Website: www.calrecycle.ca.gov/Recycle/Commercial/ (accessed September 15, 2020).

²⁸⁴ CalRecycle. 2020b. Mandatory Commercial Organics Recycling. Website: www.calrecycle.ca.gov/recycle/commercial/organics (accessed September 15, 2020).

²⁸⁵ County of Alameda. 2021. *Green Building Ordinance-Unincorporated Communities*. Website: <https://www.acgov.org/sustain/what/greenbuilding/gbouc.htm> (accessed March 23, 2022).

“EV Ready” parking spaces equipped with the electrical raceway, wiring, and electrical circuit. All “EV Ready” parking spaces must also be equipped with the EV charging unit.

Regional and Local Regulations.*East County Area Plan.* The East County Area Plan includes the following goals and policies that are applicable to the proposed project:

- **Public Services and Facilities Water Goal.** To provide an adequate, reliable, efficient, safe, and cost-effective water supply to the residents, businesses, institutions, and agricultural uses in East County.
 - *Policy 253:* The County shall approve new development only upon verification that an adequate, long term, sustainable, clearly identified water supply will be provided to serve the development, including in times of drought.
 - *Policy 259:* The County shall include water conservation measures as conditions of approval for subdivisions and other new development.
 - *Policy 261:* The County shall encourage the efficient use of water for landscape irrigation, vineyards, and other cultivated agriculture.
- **Public Services and Facilities Sewer Goal.** To provide efficient and cost-effective sewer facilities and services.
 - *Policy 275:* The County shall condition the approval of new development on verification that adequate wastewater treatment and export and/or reclamation capacity exists to serve the development.
 - *Policy 276:* The County shall require new development to pay its fair share of the costs of East County planned sewer system improvements including treatment, distribution, and export.

City of Fremont General Plan. The City of Fremont General Plan includes the following policies related to utilities and service systems.

- *Policy 9-3.1: Long Range Planning.* Work with the Alameda County Water District, Union Sanitary District, and Alameda County Flood Control District to ensure their long-range plans are consistent with the Fremont General Plan.
 - **Implementation 9-3.1.D: ACWD Development Requirements.** Individual development projects shall conform to Alameda County Water District’s development specifications and standard specifications for water main installation and applicable ACWD policies related to development and redevelopment.

4.14.2 Impacts and Mitigation Measures

The following describes the potential impacts of the proposed project related to utilities and service systems. This section begins with the criteria of significance that establish the thresholds for determining whether an impact is significant. The latter part of this section presents the impacts associated with the proposed project and identifies mitigation measures, as necessary.

4.14.2.1 Criteria of Significance

Development of the proposed project would result in a significant impact related to utilities and service systems if it would:

- Threshold 4.14.1:** Require or result in the relocation or construction of new or expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- Threshold 4.14.2:** Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- Threshold 4.14.3:** Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Threshold 4.14.4:** Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- Threshold 4.15.1:** Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.14.2.2 Project Impacts

The following section provides an evaluation and analysis of the potential impacts of the proposed project for each of the criteria of significance listed above and potential cumulative impacts. Impacts that would occur with implementation of Phase 1 and Phases 2 and 3 would not differ by phase and therefore are not differentiated in this section.

Threshold 4.14.1: Utility Infrastructure. The proposed project would construct a 6-mile, multi-use trail for bicycle, pedestrian, and equestrian use. Associated facilities would be associated with passive use of the trail. Therefore, the proposed project would not create additional demand for natural gas, electricity or telecommunications facilities. Operation of the project would not require water or wastewater treatment, as no potable water and/or toilets would be provided as part of the project. Implementation of the proposed project would not require or result in construction of new water or wastewater treatment facilities or require the expansion of existing facilities, which could cause significant environmental effects.

As described in Section 4.8, Hydrology and Water Quality, the proposed trail would consist of a 10-foot-wide, all-weather surface trail with 2-foot shoulders on either side composed of decomposed granite or aggregate. The trail surface would likely consist of 4 inches of asphalt concrete atop 6 inches of class II aggregate base. The trail would meet accessibility guidelines, meaning that the grade in the direction of travel would be less than 5 percent and the cross slope would be no more than 2 percent. Stormwater runoff would be directed to the trail shoulders. In addition, the proposed project would include retaining walls that would range in height from less than 2 feet to 16 feet to accommodate slope cuts. Phase 1 of the proposed project would increase the impervious area in the project by 3.7 acres compared to the existing condition, which is unpaved and vegetated. Phases 2 and 3 of the proposed project would also include impervious area within the project corridor. Increased stormwater runoff associated with project construction and operation is addressed in Section 4.7, Hydrology and Water Quality. As described in Section 4.7, Hydrology and Water Quality, because the proposed project would be required to comply with existing regulations including the Construction General Permit; the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008, adopted July 1, 2022; and Alameda County Municipal Code requirements impacts related to stormwater would be **less than significant**.

Threshold 4.14.2: Water Supply. Construction of the proposed project would temporarily require small amounts of water for cleanup activities. During trail construction, water would be provided via a water truck, as no utility lines exist along the proposed trail alignment. Use of water would cease when construction is complete. Sufficient water supplies are available to provide for the project's minimal water needs during the construction phase of the project. Water would not be required for long-term operation of the project, as no potable or non-potable water facilities are proposed. The proposed project would not include any new structures or facilities that would generate water demand, and there would be **no impact** to existing or future water supplies.

Threshold 4.14.3: Wastewater Treatment Capacity. The proposed project would construct a 6-mile, multi-use trail for bicycle, pedestrian, and equestrian use. The proposed project would not include the use of septic systems or alternative wastewater disposal systems; therefore, the proposed project is not anticipated to generate a need for new or altered sewer systems facilities.

As discussed in Section 4.13, Transportation, it is estimated that the proposed trail would generate similar trail use as the existing Alameda Creek Trail, which generates approximately 145 average weekday trail users and 180 average weekend daily trail users with approximately 60 percent of users originating in Niles/City of Fremont and 40 percent originating in Sunol. Users of the proposed trail would access the site via the Niles Staging Area, Vallejo Mills Park, and the Tyler Ranch Staging Area. Restrooms at the Niles Staging Area and the Tyler Ranch Staging Area are both waterless vault toilets and would not connect to existing water infrastructure, and therefore would not impact wastewater treatment capacity. No recreational facilities such as restrooms or drinking fountains are currently available at Vallejo Mill Historical Park, nor are any proposed as part of the trail project. Therefore, there would be **no impact** to wastewater treatment services.

Threshold 4.14.4: Solid Waste Generation. Construction of the proposed project could generate a small amount of solid waste. The majority of the construction waste would be organic materials such as cleared vegetation and dirt, as well as waste generated by construction workers. The

generation of such solid waste would be temporary, and non-hazardous waste would be hauled to the Altamont Landfill east of Livermore. As described in Section 4.14.3, the Altamont Landfill is permitted to receive 11,150 tons of solid waste per day; actual input averaged 3,013 tons per day, well below the allowable daily intake amount.²⁸⁶ As of 2018, the estimated remaining refuse capacity for the Altamont Landfill was 65.4 million cubic yards (60 million tons). Therefore, this facility has the capacity to handle the amount of waste that would be generated by construction of the proposed project.

Users of the proposed trail would dispose of garbage, but not in amounts that would exceed average per capita garbage generation rates. Solid waste generated by using the trail would be limited to trash and recycling materials deposited in the waste receptacles provided at Niles Staging Area, Vallejo Mills Park, and the Tyler Ranch Staging Area. Both waste and recycling receptacles are currently provided at these staging areas. Trash and recycling receptacles would also be provided at locations along the trail alignment and collected by existing service providers (e.g., Republic Services and Pleasanton Garbage Service) who are required to be in full compliance with waste diversion goals mandated by the California Integrated Waste Management Act of 1989.

The amount of solid waste generated by both users of the proposed trail and construction of trail facilities would be negligible in relation to the capacity of the Altamont Landfill. Solid waste disposal off-site would comply with all local, State, and federal requirements. Therefore, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and this impact would be **less than significant**.

Threshold 4.14.5: Solid Waste Regulations. The proposed project would comply with all regulations outlined in the ColWMP, as well as any other federal, State, and local statutes and regulations related to solid wastes, including waste diversion programs. As described above, waste and recycling receptacles are currently provided at existing staging areas and would be provided at locations along the trail alignment. Waste from these receptacles are collected by existing service providers who are required to be in full compliance with waste diversion goals mandated by the California Integrated Waste Management Act of 1989. **No impact** related to this topic would occur as a result of implementation of the proposed project.

4.14.2.3 Cumulative Impacts

The cumulative impact area for utility and service systems includes the project area and the service areas of the local utility providers for wastewater, solid waste and stormwater drainage facilities. Buildout of cumulative projects in the ACWD, City of Pleasanton and SFPUC service areas and elsewhere in Alameda County would increase demands on water, wastewater, and solid waste infrastructure. However, this demand has been anticipated as part of planning efforts by these service providers. Although on-site infrastructure improvements could be required to provide a range of utilities to cumulative projects in Alameda County, associated impacts would generally be site-specific. Implementation of the proposed project would not require the extension of water

²⁸⁶ Alameda County Waste Management Authority. 2022. *Alameda County Integrated Waste Management Plan Countywide Element*. September. Website: www.stopwaste.org/resource/reports/countywide-integrated-waste-management-plan-coiwmp (accessed June 15, 2023).

supply or wastewater conveyance infrastructure into the project site, nor would it increase demand for water, wastewater treatment, or solid waste disposal. Therefore, the proposed project's incremental contribution to public services and utilities impacts would not be cumulatively considerable and the cumulative impact would be **less than significant**.

5.0 ALTERNATIVES

In accordance with the California Environmental Quality Act (CEQA) and Section 15126.6 of the *State CEQA Guidelines*, an Environmental Impact Report (EIR) must describe a reasonable range of alternatives to the project, or to the location of the project, that could attain most of the project's basic objectives, while avoiding or substantially lessening any of the significantly adverse environmental effects of the project. An EIR does not need to consider every conceivable alternative to a project; rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

As an EIR identifies ways to mitigate or avoid significant effects that a project may have on the environment, the discussion of alternatives should focus on alternatives to the project or its location that are capable of avoiding or substantially lessening significant effects of the project. The EIR needs to include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project, the significant effects of the alternative should be discussed, but in less detail than the significant effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative" or which are infeasible.

As described in more detail in Chapter 3.0, Project Description, the proposed project would construct a 6-mile, Class I,²⁸⁷ multi-use trail for pedestrians, bicyclists, and equestrians through Niles Canyon and between the unincorporated community of Sunol and the Niles District of the City of Fremont, both of which are in Alameda County. In addition, the project would provide a critical link to Palomares Road, bypassing State Route (SR-) 84, and would expand the Alameda Creek Trail, which provides a direct connection to the 500-mile San Francisco Bay Trail. The trail is proposed to be developed in three phases. Each phase would be independent in service and function. The phases are:

- **Phase 1—Vallejo Mill to Palomares Road.** The first phase would complete the connection from Vallejo Mill to Palomares Road. To provide independent utility, the project would create a new crossing of SR-84 parallel to the Farwell Bridge.
- **Phase 2—Palomares Road to Old Highway 84/Union Pacific Railroad (UPRR) Access Road.** The second phase would begin at Palomares Road and end at Old Highway 84/UPRR Access Road on the south side of SR-84.

²⁸⁷ Class I Bikeways (Bike Paths) are paved rights-of-way completely separated from streets. Bike paths are often located along waterfronts, creeks, railroad rights-of-way, or freeways with a limited number of cross-streets and driveways. These paths are typically shared with pedestrians and often called mixed-use paths.

- **Phase 3—Old Highway 84/UPRR Access Road to Sunol.** The final phase would complete the trail between Niles and Sunol, extending from the UPRR Access Road to the community of Sunol, along the north side of SR 84 through the Brightside Rail Yard.

As described in Chapter 3.0, Project Description, Niles Canyon is currently bisected by three developed pathways, including the UPRR and Niles Canyon Railway tracks and SR-84. No sidewalks or pathways are currently available for pedestrians and bicyclists traveling between the communities of Niles and Sunol. Nonmotorized travelers must use the narrow shoulder of SR-84. These deficiencies create safety concerns for users seeking active transportation options through Niles Canyon. The proposed project would construct a 6-mile, Class I, multi-use trail for pedestrians and bicyclists through Niles Canyon in order to achieve the following objectives:

- Establish a safe and functional Class I trail to provide recreation and multimodal transportation opportunities for pedestrians, bicyclists, and equestrians
- Provide a connection to Palomares Road that allows off-SR-84 travel for pedestrians and bicyclists
- Minimize impacts to environmental resources
- Enhance or maintain stakeholder access to infrastructure
- Develop a proposed trail alignment with a realistic cost that can be implemented in a reasonable timeframe
- Serve nonmotorized commuters and remain open 24 hours each day

The potential environmental effects of implementing the proposed project are analyzed in Chapter 4.0, Setting, Impacts, and Mitigation Measures. Table 5.A, at the end of this chapter, summarizes the impacts of the proposed project. The proposed project has been described and analyzed in the previous chapter of this EIR, with an emphasis on evaluating significant impacts resulting from the project and identifying mitigation measures to avoid or reduce these impacts to a less than significant level.

The five alternatives to the proposed project that are discussed and evaluated in this chapter are:

- **No Project Alternative.** Under the No Project Alternative, the project site would remain in its current state and no non-motorized access improvements would take place.
- **Alternate Trail Alignment 1 – Tyler Ranch Staging Area.** Under the Tyler Ranch Staging Area Alternative, the final phase of the proposed trail alignment would terminate at the existing Tyler Ranch Staging Area, rather than extending along Foothill Road to the train station in Sunol.
- **Alternate Trail Alignment 2 – Modified Foothill Road Alternative.** Under the Modified Foothill Road Alternative, the final phase of the proposed trail alignment would extend along Foothill Road from the Tyler Ranch Staging Area to Kilcare Road at the train station in Sunol, similar to

the proposed project. However, rather than providing a Class I facility, this trail extension along Foothill Road would consist of either a multi-purpose trail serving pedestrians, bicyclists, and equestrians that does not meet the Class I standard but minimizes tree removal or a Class III²⁸⁸ bike route.

- **Alternate Trail Alignment 3 – South Canyon Alternative.** Under the South Canyon Alternative, the final phase of the proposed trail alignment would extend from the UPRR Access Road along the south side of SR-84 to an existing nursery within the SFPUC property at the Sunol Water Temple. The trail would not extend into downtown Sunol. This alternative would require construction of a pedestrian bridge to cross over the UPRR tracks and Alameda Creek to connect the trail from the UPRR Access Road to the nursery property.
- **New Bridge 2 Alternate Location Alternative.** Under the New Bridge 2 Alternate Location Alternative, the location of the second pedestrian bridge to connect the trail from the south side of SR-84 to the north would be shifted further to the east.

These alternatives represent a reasonable range of potential alternatives to the proposed project in light of the objective of avoiding or reducing the severity of impacts identified as less than significant with mitigation, as discussed in Chapter 4.0 of this EIR or to address public comments received during the scoping process. A few other potential alternatives were also considered, as discussed later in this chapter; however, none of these alternatives would substantially reduce or avoid the environmental impacts of the proposed project and/or would not meet many of the basic project objectives and were therefore ultimately not selected for further analysis.

The purpose of this discussion of alternatives to the proposed project is to enable decision-makers and the public to evaluate the project by considering how alternatives to the project as proposed might reduce or avoid the project's impacts on the physical environment. The analysis in this chapter provides a qualitative evaluation of the environmental impacts that could be associated with each alternative and compares those potential impacts to those identified for the proposed project as described in Chapter 4.0, Setting, Impacts, and Mitigation Measures, of this EIR. The analysis focuses on the topics addressed in Chapter 4.0. Topics not addressed in Chapter 4.0 but that were determined to have no impacts or less than significant impacts in Section 6.0, Other CEQA Considerations, include agricultural and forestry resources, energy, greenhouse gas emissions, mineral resources, population and housing, and wildfire. These topics are not further addressed in this chapter.

5.1 NO PROJECT ALTERNATIVE

The following provides a description of the No Project Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the No Project Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the No Project Alternative would reduce,

²⁸⁸ Class III bike route is shared with motor vehicle traffic.

eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.1.1 Principal Characteristics

The No Project Alternative assumes that the proposed project would not be developed and that the project site would generally remain in its current condition, which consists largely of undeveloped, open space land owned by public agencies, including the East Bay Regional Park District (EBRPD) and San Francisco Public Utilities Commission (SFPUC), as well as Caltrans right-of-way and UPRR right-of-way. The proposed trail would not be constructed, and no trail connection to Palomares Road would be provided. The No Project Alternative would fail to implement a trail corridor through Niles Canyon as identified in several planning documents, including the EBRPD East Bay Regional Park District's 2013 Master Plan,²⁸⁹ 2020 Alameda County Transportation Commission's Countywide Transportation Plan,²⁹⁰ the 2019 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Alameda County,²⁹¹ and the City of Fremont's 2018 Bike Plan.²⁹²

5.1.2 Analysis of the No Project Alternative

The potential impacts associated with the No Project Alternative are described below. As discussed, the No Project Alternative would avoid all the potential impacts of the proposed project and no mitigation measures would be required. However, the No Project Alternative would also not achieve any of the proposed project's objectives.

5.1.2.1 Aesthetics

Implementation of the No Project Alternative would not result in any new construction on the project site and therefore would not introduce any new facilities (e.g., trail, overcrossings, staging areas) that could have substantial adverse effects on scenic vistas or resources within view of a scenic highway, conflict with applicable regulations governing scenic quality, or create any new light or glare. Therefore, compared to the less than significant impacts of the proposed project, there would be **no impact** related to aesthetics.

5.1.2.2 Air Quality

Implementation of the No Project Alternative would not result in any demolition or ground disturbance activities or include any new construction. Therefore, the No Project Alternative would not result in any impacts associated with construction period emissions (including fugitive dust and

²⁸⁹ East Bay Regional Park District (EBRPD). 2013. East Bay Regional Park District Master Plan 2013. Website: https://www.ebparks.org/sites/default/files/master_plan_2013_final.pdf (accessed September 2023).

²⁹⁰ Alameda County Transportation Commission. 2020. *Alameda Countywide Transportation Plan 2020*. Website: https://www.alamedactc.org/wp-content/uploads/2021/02/2020_CTP_Final.pdf (accessed September 2023).

²⁹¹ Alameda County Public Works Agency. 2019. *Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Alameda County*. October. Website: <https://www.acpwa.org/programs-services/transportation/bike.page?> (accessed September 2023).

²⁹² City of Fremont. 2018. *City of Fremont 2018 Bicycle Master Plan*. Website: <https://www.fremont.gov/government/departments/transportation-engineering/walking-bicycling/bicycle-master-plan> (accessed September 2023).

ozone precursors) and implementation of Mitigation Measure AIR-1, which is required for the proposed project, would not be required to reduce potentially significant construction-period impacts to a less than significant level. Also, compared to the less than significant project impacts related to operation period emissions, including criteria air pollutants, exposure of sensitive receptors to pollutant concentrations and other emissions such as odors, and associated conflicts with the Clean Air Plan, there would be **no impact** under the No Project Alternative.

5.1.2.3 Biological Resources

Implementation of the No Project Alternative would not result in any ground-disturbance activities or include any new construction. Therefore, the No Project Alternative would not result in any impacts to special-status species and implementation of Mitigation Measures BIO-1 through BIO-9, which are required for the proposed project, would not be required to reduce potentially significant impacts to special-status species to a less than significant level. In addition, since there would be no construction associated with the proposed overcrossings, implementation of Mitigation Measures BIO-10 and BIO-11, which are required for the proposed project, would not be required to reduce potentially significant impacts to riparian habitat and federally protected wetlands associated with construction of the proposed overcrossings to a less than significant level.

Since there would be no new construction, including retaining walls or trail fencing, Mitigation Measure BIO-12, which is required for the proposed project, would not be required to reduce potentially significant impacts to wildlife corridors to a less than significant level. In addition, the No Project Alternative would not require any tree trimming or tree removal; therefore, Mitigation Measure BIO-13, which is required for the proposed project, would not be required to ensure that the proposed project is consistent with policies to protect biological resources. Like the proposed project, the No Project Alternative would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to biological resources.

5.1.2.4 Cultural Resources

Implementation of the No Project Alternative would not result in any ground disturbance activities or include any new construction. Similar to the proposed project, the No Project Alternative would not disturb any human remains and this less than significant project impact would result in no impact under the No Project Alternative. Since there would be no new construction, implementation of Mitigation Measure CUL-1, which is required for the proposed project (Phases 2 and 3 only), would not be required to reduce potentially significant impacts to built environment resources. Further, since there would be no ground disturbance, Mitigation Measures CUL-2a through CUL-2c and CUL-3a through CUL-3b, which are required for Phase 1 and Phases 2 and 3 of the proposed project, respectively, would not be required to reduce potentially significant impacts to archaeological resources during the construction period a less than significant level. Therefore, compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to cultural resources.

5.1.2.5 Geology and Soils

Implementation of the No Project Alternative would not result in any ground disturbance activities or include any new construction. Therefore, the No Project Alternative would not result in any impacts associated with fault rupture or other seismic events. Since there would be no ground disturbance or new construction, implementation of Mitigation Measures GEO-1a and GEO-1b, which are required for the proposed project, would not be required to reduce potentially significant impacts related to landslide to a less than significant level. In addition, because no ground disturbance would take place, implementation of the No Project Alternative would not potentially destroy or substantially damage a unique paleontological resource or geologic feature, and proposed project Mitigation Measure GEO-2 would also not be required. Therefore, compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to geology and soils.

5.1.2.6 Hazards and Hazardous Materials

Under this alternative, changes in land use would not occur and the existing conditions related to the accidental release of, or exposure to, hazardous materials would remain the same. Existing agricultural grazing operations would continue; however, the use of solvents or fuels related to maintenance operations as proposed by the project would not occur. Therefore, this alternative would result in fewer impacts when compared to the proposed project.

Implementation of the No Project Alternative would not result in any demolition or ground disturbance activities or include any new construction. Therefore, the No Project Alternative would not result in any impacts associated with the potential release of contaminants into the environment as a result of ground-disturbing activities and implementation of Mitigation Measures HAZ-1a and HAZ-1b, which are required for the proposed project, would not be required to reduce potentially significant construction-period impacts associated with exposure of construction workers to contaminated material present in soil and groundwater to a less than significant level. Similarly, Mitigation Measure HAZ-2 would not be required to reduce potentially significant construction-period impacts associated with the risk of wildland fire to a less than significant level. The less than significant project impacts related to the routine transport, use, disposal, and management of hazardous materials during construction and operation; accidental release of hazardous materials due to spills, leaks, or improper disposal of such materials; hazardous emissions near schools; listing on databases compiled for the purposes of documenting hazardous materials sites; and aviation hazards would not occur. Additionally, no modifications to existing site access or infrastructure would take place, and therefore no impacts related to emergency evacuation plans would occur. Therefore, compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to hazards and hazardous materials.

5.1.2.7 Hydrology and Water Quality

Implementation of the No Project Alternative would not result in any ground disturbance activities, changes to impervious surface conditions, or new construction on the project site. Therefore, the No Project Alternative would not result in any impacts associated with construction period water quality standards, and implementation of Mitigation Measure HYD-1, which is required for the proposed project, would not be required to reduce potentially significant construction-period

impacts related to contaminants from construction staging to affect surface and groundwater quality to a less than significant level. Similarly, Mitigation Measure HYD-2 would not be required to ensure that proposed overcrossings do not alter drainage patterns or redirect flood flows in Alameda Creek. The less than significant project impacts related to operation period water quality standards, alteration of pervious surfaces, erosion and siltation, and potential release of pollutants due to project inundation due to flooding or dam failure also would not occur. Therefore, compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to hydrology and water quality.

5.1.2.8 Land Use and Planning

Implementation of the No Project Alternative would result in the continuation of existing conditions on the project site. Therefore, the No Project Alternative would not result in the physical division of an established community and would not result in any conflicts with any plans, policies, or ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to land use and planning.

5.1.2.9 Noise

Implementation of the No Project Alternative would not result in any construction activities on the site or introduction of new recreational uses on the project site. Therefore, compared to the less than significant impacts of the proposed project, there would be no impact related to exposure of off-site sensitive receptors to operation-period noise or increases in roadway traffic noise in excess of established standards during project operation. Similar to the proposed project, there also would be no impact related to aircraft-related noise. Given that there would be no construction activities on the site, short-term increases in ambient noise levels would not occur and implementation of Mitigation Measure NOI-1, requiring implementation of noise-reducing measures during construction, would not be required to reduce exposure of noise sensitive land uses to construction noise. Similarly, Mitigation Measure NOI-2, would not be required to reduce construction-related ground-borne vibration to a less than significant level. Compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to noise.

5.1.2.10 Public Services and Recreation

Implementation of the No Project Alternative would result in the continuation of existing conditions on the project site. Therefore, the No Project Alternative would not result in the need for additional fire or police staffing or services, or the need for any new or physically altered governmental facilities, including parks and recreational facilities. Compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to public services and recreation.

5.1.2.11 Transportation

Implementation of the No Project Alternative would not result in any construction activities on the site; any changes to site circulation or access; and automobile, transit, bicycle, or pedestrian travel to and from the project site would be the same as the existing condition. Therefore, compared to the less than significant impacts of the proposed project, there would be no impact related to

conflicts with applicable transportation-related plans, policies and ordinances and vehicle miles traveled. Given that there would be no construction activities on the site, Mitigation Measure TRA-1, which applies to the proposed project, would not be required to reduce potentially significant impacts related to roadway hazards associated with project construction to a less than significant level. Similarly, Mitigation Measure TRA-2, requiring coordination with local emergency service providers as part of preparation of the Traffic Control Plan, would not be required to reduce potentially significant impacts related to inadequate emergency access to a less than significant level. Compared to the less than significant impacts of the proposed project, there would be **no impact** related to transportation. It should also be noted that implementation of the No Project Alternative would not result in the provision of bicycle and pedestrian access between Fremont and Sunol compared to the proposed project.

5.1.2.12 Tribal Cultural Resources

Implementation of the No Project Alternative would not result in any ground disturbance and would result in the continuation of existing conditions on the project site. Therefore, since there would be no ground disturbance, implementation of Mitigation Measures TCR-1 and TCR-2, which are required for the proposed project, would not be required to reduce potentially significant impacts to tribal cultural resources during the construction period to a less than significant level. The No Project Alternative would not disturb, damage, or degrade any tribal cultural resources. Therefore, compared to the less than significant impacts of the proposed project, the No Project Alternative would have **no impact** related to tribal cultural resources.

5.1.2.13 Utilities and Service Systems

Under this alternative, no land uses or physical changes would occur within the project site, and therefore, no increased demand for utilities and service systems, including water supply, wastewater, stormwater, and electricity, natural gas, and telecommunications would occur. Restrooms at the Niles Staging Area and the Tyler Ranch Staging Area are both waterless vault toilets and would not connect to existing water or wastewater infrastructure, and therefore would not impact wastewater treatment capacity. No recreational facilities such as restrooms or drinking fountains are currently available at Vallejo Mill Historical Park, nor are any proposed as part of the trail project. Therefore, the proposed project would not increase demand for services compared to the No Project Alternative. This alternative would result in the same impacts when compared to the proposed project.

Implementation of the No Project Alternative would result in the continuation of existing conditions on the project site. Therefore, the No Project Alternative would not require the relocation or construction of any new utilities and would not result in the generation of solid waste. Similar to the proposed project, there would be no impact related to water supply or generation of wastewater. Compared to the less than significant impacts and no impacts of the proposed project, the No Project Alternative would have **no impact** related to utilities and service systems.

5.1.3 Overview of Potential Impact/Comparison to Proposed Project

Under the No Project Alternative, no development would take place on the project site. As discussed in Chapter 4.0, the project would result in potential impacts to air quality, biological resources,

cultural resources, geology and soils, hazards and hazardous materials, noise, transportation, and tribal cultural resources. These impacts would be fully mitigated. Under the No Project Alternative, these potential impacts would not occur, and the mitigation measures included in the EIR would not be required. Overall, potential impacts under the No Project Alternative would be entirely avoided compared to the proposed project, as no physical impacts would occur.

5.2 TYLER RANCH STAGING AREA ALTERNATIVE (ALTERNATE 1)

The following provides a description of the Tyler Ranch Staging Area Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the Tyler Ranch Staging Area Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether the Tyler Ranch Staging Area Alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.2.1 Principal Characteristics

The Tyler Ranch Staging Area Alternative would reduce the length of the Phase 3 trail alignment by terminating the trail at the existing Tyler Ranch Staging Area rather than extending it to Killkare Road near the train station in Sunol, as shown on Figure 5-1. All other components of the proposed project would remain the same under this alternative.

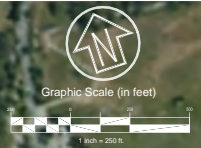
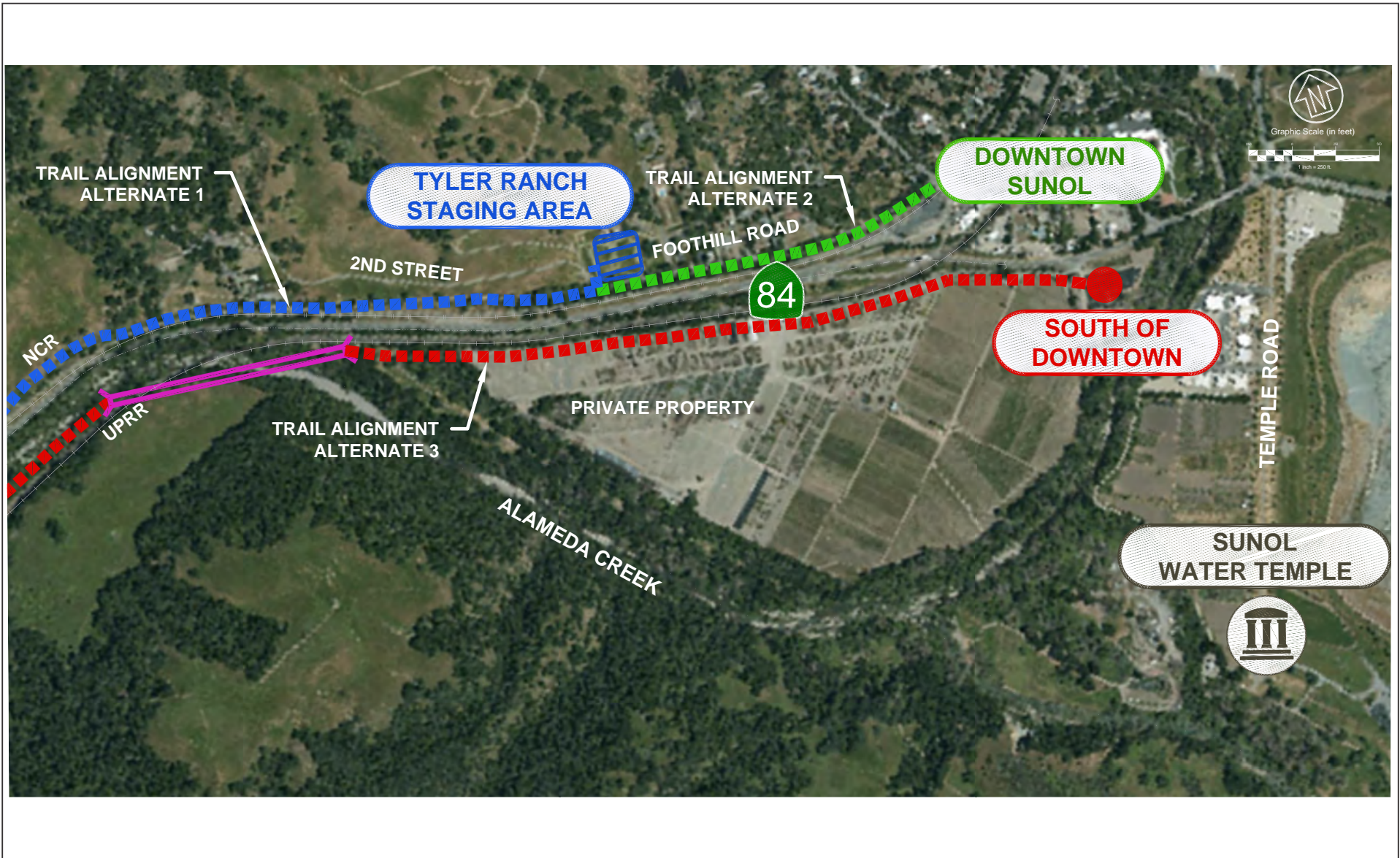
5.2.2 Analysis of the Tyler Ranch Staging Area Alternative

The potential impacts associated with the Tyler Ranch Staging Area Alternative are described below. As discussed, the Tyler Ranch Staging Area Alternative would result in similar environmental impacts as the proposed project. The Tyler Ranch Staging Area Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.2.2.1 Aesthetics

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Killkare Road. Other portions of the trail, including proposed overcrossings would be in the same location and would be the same size and height as the proposed project. Therefore, the Tyler Ranch Staging Area Alternative would not substantially or completely block public views of identified scenic resources, impact scenic resources, or substantially alter the existing visual character of the existing site or surroundings. Similar to the proposed project, construction of the Tyler Ranch Staging Area Alternative would require very limited night work to install the proposed overcrossings; however, no additional nighttime work requiring nighttime lighting would be required under the Tyler Ranch Staging Area Alternative. Therefore, similar to the proposed project, impacts to visual resources would be **less than significant**.

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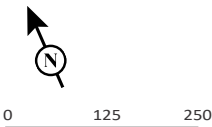


LSA

LEGEND:

	HIGHWAY 84		BRIDGE
	ALAMEDA CREEK		
	UNION PACIFIC RAILROAD (UPRR)		
	NILES CANYON RAILROAD (NCR)		
	TRAIL ALIGNMENT ALTERNATE 1		
	TRAIL ALIGNMENT ALTERNATE 2		
	TRAIL ALIGNMENT ALTERNATE 3		
	EXTENSION TO VALLEJO MILL HISTORICAL PARK		
	EXTENSION TO DOWNTOWN NILES		

FIGURE 5-1



SOURCE: CSW/Stuber-Stroeh Engineering Group, Inc.

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Niles Canyon Trail
Alternative Trail Alignments

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5.2.2.2 Air Quality

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but the trail would terminate at the Tyler Ranch Staging Area. As a result, grading and construction activities would slightly decrease compared to the proposed project and therefore pollutant and odor concentrations would nominally decrease and, dust, exhaust, and organic emissions related to construction would also be slightly reduced. Although construction-related emissions would be slightly reduced, implementation of Mitigation Measure AIR-1 would still be required to reduce construction-period air quality impacts. Overall, impacts related to Clean Air Plan implementation, exposure of sensitive receptors to substantial pollutant concentrations and odors would be generally the same compared to the proposed project but would also be less than significant. Therefore, similar to the proposed project, impacts to air quality would be **less than significant with mitigation**.

5.2.2.3 Biological Resources

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Kilkare Road. Since all other components of the proposed project, including proposed overcrossings, would remain the same, impacts to special-status species, riparian areas, jurisdictional waters, and wildlife movement would be the same as the proposed project. Mitigation Measures BIO-1 through BIO-12, which are required for the proposed project, would also apply to the Tyler Ranch Staging Area Alternative. The Tyler Ranch Staging Area Alternative may require less tree removal compared to the proposed project. However, similar to the proposed project, implementation of Mitigation Measure BIO-13 would still be required to reduce this impact to less than significant. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would not conflict with an adopted Habitat Conservation Plan. Therefore, similar to the proposed project, impacts to biological resources would be **less than significant with mitigation**.

5.2.2.4 Cultural Resources

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less ground disturbance because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Kilkare Road. Similar to the proposed project, portions of Tyler Ranch Staging Area Alternative would be near identified historical built environment resources. Mitigation Measure CUL-1 would be required to avoid potential impacts to built environment resources. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would have the potential to impact archaeological deposits or resources due to the number of prehistoric sites in the area and the proximity of the alignment to Alameda Creek. Implementation of Mitigation Measures CUL-3a and CUL-3b would still be required to reduce construction-period impacts to archaeological resources. Finally, similar to the proposed project, the Tyler Ranch Staging area alternative would be required to comply with Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98. Therefore, similar to the proposed project, impacts to cultural resources would be **less than significant with mitigation**.

5.2.2.5 Geology and Soils

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Kilkare Road. Similar to the proposed project, the Kilkare Road Extension alternative would not result in any impacts associated with proximity to an Alquist-Priolo Earthquake Fault Zone. The Tyler Ranch Staging Area Alternative would be required to be designed and constructed in accordance with the recommendations of the California Building Code and therefore would have the same less-than-significant impacts related to ground shaking. The Tyler Ranch Staging Area Alternative would be located on the same site, though slightly reduced, as the proposed project, and therefore would result in the same less-than-significant impacts related to liquefaction, seismic settlement, lateral spreading, expansive soils, and unstable soils. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would also be susceptible to impacts from landslides. Implementation of Mitigation Measures GEO-1a and GEO-1b would be required. Additionally, similar to the proposed project, the Tyler Ranch Staging Area Alternative could result in impacts to previously undiscovered paleontological resources. Implementation of Mitigation Measure GEO-2 would be required. Therefore, similar to the proposed project, impacts to geology and soils would be **less than significant with mitigation**.

5.2.2.6 Hazards and Hazardous Materials

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Kilkare Road. Operation of this alternative would be the same as the proposed project. Therefore, the Tyler Ranch Staging Area Alternative would result in the same less-than-significant impacts related to the routine use of hazardous materials. The Tyler Ranch Staging Area Alternative would be in the same area, though with a slightly reduced project footprint, as the proposed project and would result in the same potentially significant impacts related to subsurface hazardous materials. Therefore, Mitigation Measure HAZ-1 would be required. Likewise, the Tyler Ranch Staging Area Alternative would require construction in undeveloped, wildland areas and would result in similar impacts related to wildland fire. Therefore, Mitigation Measure HAZ-2 would be required. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would not result in any impacts related to hazardous material use or release near schools, sites listed pursuant to Government Code Section 65962.5, or aviation hazards. Therefore, similar to the proposed project, impacts to hazards and hazardous materials would be **less than significant with mitigation**.

5.2.2.7 Hydrology and Water Quality

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Kilkare Road. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would require ground disturbance and exposure of soils to runoff and could result in release of sediment and hazardous materials into nearby surface waters. Adherence with the Construction General Permit (CGP) and implementation of Mitigation Measure HYD-1 would be

required. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would be required to treat stormwater runoff consistent with the Municipal Regional Permit (MRP), which would ensure less-than-significant operational impacts related to water quality. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would be required to treat stormwater runoff consistent with the CGP and the MRP, which would ensure less-than-significant impacts related to erosion and siltation, flooding on- or off-site, stormwater runoff, and discharge of pollutants. Like the proposed project, the Tyler Ranch Staging Area Alternative would result in less than significant impacts related to groundwater supplies. Like the proposed project, the Tyler Ranch Staging Area Alternative would include construction of bridges, which could impact flood flows. Therefore, implementation of Mitigation Measure HYD-2 would be required. Therefore, similar to the proposed project, impacts to hydrology and water quality would be **less than significant with mitigation**.

5.2.2.8 Land Use and Planning

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but would shorten the length of the proposed trail alignment, terminating the trail at the Tyler Ranch Staging Area. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would not result in the physical division of an established community. However, in contrast to the proposed project, the Tyler Ranch Staging Area Alternative would not provide a new trail connection from the Tyler Ranch Staging area to the train station in Sunol. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would not result in any conflicts with any land use-related plans, policies, or ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, similar to the proposed project, impacts to land use and planning would be **less than significant**.

5.2.2.9 Noise

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Kilkare Road. Therefore, compared to the proposed project, this alternative would slightly reduce the exposure of off-site sensitive receptors to operation-period noise as sensitive receptors along Foothill Road between the Tyler Ranch Staging Area and the train station in Sunol would no longer be exposed to noise from trail use. However, this reduction would be small and these impacts would be less than significant, the same as the proposed project. Similar to the proposed project, there also would be no impact related to aircraft-related noise. Although construction and grading activities would be slightly reduced, short-term increases in ambient noise levels associated with construction would still occur and implementation of Mitigation Measure NOI-1, requiring the implementation of best management practices, would continue to be required to reduce exposure of noise sensitive land uses to construction noise. Similar to the proposed project, construction of the Tyler Ranch Staging Area Alternative would still require use of heavy construction equipment near existing residences, which would result in short-term vibration impacts, and Mitigation Measure NOI-2 would be required. Therefore, similar to the proposed project, impacts related to noise would be **less than significant with mitigation**.

5.2.2.10 Public Services and Recreation

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but would shorten the length of the proposed trail alignment, terminating the trail at the Tyler Ranch Staging Area. Compared to the proposed project, the Tyler Ranch Staging Area Alternative would not change the use of the proposed trail. As a result, implementation of this alternative would generate the same demand for public services and recreation facilities as the proposed project. Therefore, similar to the proposed project, impacts related to public services and recreation would be **less than significant**.

5.2.2.11 Transportation

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but would shorten the length of the proposed trail alignment, terminating the trail at the Tyler Ranch Staging Area. As the Tyler Ranch Staging Area Alternative would not include any additional trail staging facilities or parking compared to the proposed project, implementation of this alternative would generate the same vehicle trips to and from the project site during operation and construction. Therefore, similar to the proposed project, the Tyler Ranch Staging Area Alternative would not conflict with applicable transportation-related plans, policies and ordinances; vehicle miles traveled; design hazards; and emergency access. Similar to the proposed project, construction activities associated with the Tyler Ranch Staging Area Alternative would require work within the public roadway right-of-way, requiring temporary closure of travel lanes, operation of construction vehicles within and deterioration of pavement conditions, which would result in potentially significant design hazards and inadequate emergency access. Mitigation Measure TRA-1 and TRA-2, requiring development and implement of a Traffic Control Plan and coordination with emergency service providers would continue to be required. With implementation of Mitigation Measures TRA-1 and TRA-2, similar to the proposed project, impacts to transportation would be **less than significant with mitigation**.

5.2.2.12 Tribal Cultural Resources

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail but would require slightly less ground disturbance because it would eliminate the portion of the trail alignment extending from the Tyler Ranch Staging Area along Foothill Road to Killkare Road. Similar to the proposed project, the Tyler Ranch Staging Area Alternative would have the potential to impact tribal cultural resources, as it would be in the same project area, though with a slightly reduced project footprint, and would include ground-disturbing activities. Implementation of Mitigation Measures TCR-2a and TCR-2b would be required to reduce construction-period impacts to tribal cultural resources. Therefore, similar to the proposed project, impacts to tribal cultural resources would be **less than significant with mitigation**.

5.2.2.13 Utilities and Service Systems

Under the Tyler Ranch Staging Area Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but would shorten the length of the proposed trail alignment, terminating the trail at the Tyler Ranch Staging Area. As operation and construction of the Tyler Ranch Staging Area Alternative would be essentially the same as the proposed project, implementation of this alternative would generate the same demand for utilities and service

systems as the proposed project. Therefore, similar to the proposed project, impacts to utilities and service systems would be **less than significant**.

5.2.3 Overview of Potential Impact/Comparison to Proposed Project

The Tyler Ranch Staging Area Alternative would result in less than significant impacts that would be similar to the proposed project. As described above, although the Tyler Ranch Staging Area Alternative may require slightly less grading and construction activities due to the shorter trail alignment, all of the mitigation measures identified for the proposed project would still be required. Therefore, environmental impacts associated with this alternative would be essentially the same as the proposed project. The Tyler Ranch Staging Area Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.3 MODIFIED FOOTHILL ROAD ALTERNATIVE (ALTERNATE 2)

The following provides a description of the Modified Foothill Road Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the Modified Foothill Road Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether the Modified Foothill Road Alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.3.1 Principal Characteristics

Under the Modified Foothill Road Alternative, the final phase of the proposed trail alignment would extend along Foothill Road from the Tyler Ranch Staging Area to Kilkare Road near the train station in Sunol, similar to the proposed project. However, rather than providing a Class I facility, this trail extension along Foothill Road would consist of either 1) a multi-purpose trail serving pedestrians, bicyclists, and equestrians that does not meet the Class I standard but minimizes tree removal, or 2) a Class III²⁹³ bike route. All other components of the proposed project would remain the same under this alternative.

5.3.2 Analysis of the Modified Foothill Road Alternative

The potential impacts associated with the Modified Foothill Road Alternative are described below. As discussed, the Modified Foothill Road Alternative would result in similar environmental impacts as the proposed project. The Modified Foothill Road Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.3.2.1 Aesthetics

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Other portions of the trail, including proposed overcrossings would be in the same location and would be the same size and

²⁹³ Class III bike route is shared with motor vehicle traffic.

height as the proposed project. Therefore, the Modified Foothill Road Alternative would not substantially or completely block public views of identified scenic resources, impact scenic resources, or substantially alter the existing visual character of the existing site or surroundings. Similar to the proposed project, construction of the Modified Foothill Road Alternative would require very limited night work to install the proposed overcrossings; however, no additional nighttime work requiring nighttime lighting would be required under the Modified Foothill Road Alternative. Therefore, similar to the proposed project, impacts to visual resources would be **less than significant**.

5.3.2.2 Air Quality

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. As a result, grading and construction activities would slightly decrease compared to the proposed project and therefore pollutant and odor concentrations would nominally decrease and, dust, exhaust, and organic emissions related to construction would also be slightly reduced. Although construction-related emissions would be slightly reduced, implementation of Mitigation Measure AIR-1 would still be required to reduce construction-period air quality impacts. Overall, impacts related to Clean Air Plan implementation, exposure of sensitive receptors to substantial pollutant concentrations and odors would be generally the same compared to the proposed project but would also be less than significant. Therefore, similar to the proposed project, impacts to air quality would be **less than significant with mitigation**.

5.3.2.3 Biological Resources

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Since all other components of the proposed project, including proposed overcrossings, would remain the same, impacts to special-status species, riparian areas, jurisdictional waters, and wildlife movement would be the same as the proposed project. Mitigation Measures BIO-1 through BIO-12, which are required for the proposed project, would also apply to the Modified Foothill Road Alternative. The Modified Foothill Road Alternative may require less tree removal compared to the proposed project. However, similar to the proposed project, implementation of Mitigation Measure BIO-13 would still be required to reduce this impact to less than significant. Similar to the proposed project, the Modified Foothill Road Alternative would not conflict with an adopted Habitat Conservation Plan. Therefore, similar to the proposed project, impacts to biological resources would be **less than significant with mitigation**.

5.3.2.4 Cultural Resources

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less ground disturbance because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Similar to the proposed project, portions of Modified Foothill Road Alternative would be near identified historical built environment resources.

Mitigation Measure CUL-1 would be required to avoid potential impacts to built environment resources. Similar to the proposed project, the Modified Foothill Road Alternative would have the potential to impact archaeological deposits or resources due to the number of prehistoric sites in the area and the proximity of the alignment to Alameda Creek. Implementation of Mitigation Measures CUL-3a and CUL-3b would still be required to reduce construction-period impacts to archaeological resources. Finally, similar to the proposed project, the Modified Foothill Road Alternative would be required to comply with Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98. Therefore, similar to the proposed project, impacts to cultural resources would be **less than significant with mitigation**.

5.3.2.5 Geology and Soils

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Similar to the proposed project, the Modified Foothill Road Alternative would not result in any impacts associated with proximity to an Alquist-Priolo Earthquake Fault Zone. The Modified Foothill Road Alternative would be required to be designed and constructed in accordance with the recommendations of the California Building Code and therefore would have the same less-than-significant impacts related to ground shaking. The Modified Foothill Road Alternative would be located on the same site, though slightly reduced, as the proposed project, and therefore would result in the same less-than-significant impacts related to liquefaction, seismic settlement, lateral spreading, expansive soils, and unstable soils. Similar to the proposed project, the Modified Foothill Road Alternative would also be susceptible to impacts from landslides. Implementation of Mitigation Measures GEO-1a and GEO-1b would be required. Additionally, similar to the proposed project, the Modified Foothill Road Alternative could result in impacts to previously undiscovered paleontological resources. Implementation of Mitigation Measure GEO-2 would be required. Therefore, similar to the proposed project, impacts to geology and soils would be **less than significant with mitigation**.

5.3.2.6 Hazards and Hazardous Materials

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Operation of this alternative would be the same as the proposed project. Therefore, the Modified Foothill Road Alternative would result in the same less-than-significant impacts related to the routine use of hazardous materials. The Modified Foothill Road Alternative would be in the same area, though with a slightly reduced project footprint, as the proposed project and would result in the same potentially significant impacts related to subsurface hazardous materials. Therefore, Mitigation Measure HAZ-1 would be required. Likewise, the Modified Foothill Road Alternative would require construction in undeveloped, wildland areas and would result in similar impacts related to wildland fire. Therefore, Mitigation Measure HAZ-2 would be required. Similar to the proposed project, the Modified Foothill Road Alternative would not result in any impacts related to hazardous material use or release near schools, sites listed pursuant to Government Code Section 65962.5, or aviation hazards. Therefore,

similar to the proposed project, impacts to hazards and hazardous materials would be **less than significant with mitigation**.

5.3.2.7 Hydrology and Water Quality

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Similar to the proposed project, the Modified Foothill Road Alternative would require ground disturbance and exposure of soils to runoff and could result in release of sediment and hazardous materials into nearby surface waters. Adherence with the CGP and implementation of Mitigation Measure HYD-1 would be required. Similar to the proposed project, the Modified Foothill Road Alternative would be required to treat stormwater runoff consistent with the MRP, which would ensure less-than-significant operational impacts related to water quality. Similar to the proposed project, the Modified Foothill Road Alternative would be required to treat stormwater runoff consistent with the CGP and the MRP, which would ensure less-than-significant impacts related to erosion and siltation, flooding on- or off-site, stormwater runoff, and discharge of pollutants. Like the proposed project, the Modified Foothill Road Alternative would result in less than significant impacts related to groundwater supplies. Like the proposed project, the Modified Foothill Road Alternative would include construction of bridges, which could impact flood flows. Therefore, implementation of Mitigation Measure HYD-2 would be required. Therefore, similar to the proposed project, impacts to hydrology and water quality would be **less than significant with mitigation**.

5.3.2.8 Land Use and Planning

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the scale of proposed improvements along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road would be minimized. Similar to the proposed project, the Modified Foothill Road Alternative would not result in the physical division of an established community. Similar to the proposed project, the Modified Foothill Road Alternative would not result in any conflicts with any land use-related plans, policies, or ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, similar to the proposed project, impacts to land use and planning would be **less than significant**.

5.3.2.9 Noise

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less grading and construction activities because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Operation of this alternative would be the same as the proposed project; therefore, the exposure of off-site sensitive receptors to operation-period noise would be less than significant, the same as the proposed project. Similar to the proposed project, there also would be no impact related to aircraft-related noise. Although construction and grading activities would be slightly reduced, short-term increases in ambient noise levels associated with construction would still occur and implementation of Mitigation Measure NOI-1, requiring the implementation of best management practices, would continue to be required

to reduce exposure of noise sensitive land uses to construction noise. Similar to the proposed project, construction of the Modified Foothill Road Alternative would still require use of heavy construction equipment near existing residences, which would result in short-term vibration impacts, and Mitigation Measure NOI-2 would be required. Therefore, similar to the proposed project, impacts related to noise would be **less than significant with mitigation**.

5.3.2.10 Public Services and Recreation

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the scale of proposed improvements along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road would be limited. Compared to the proposed project, the Modified Foothill Road Alternative would not change the use of the proposed trail. As a result, implementation of this alternative would generate the same demand for public services and recreation facilities as the proposed project. Therefore, similar to the proposed project, impacts related to public services and recreation would be **less than significant**.

5.3.2.11 Transportation

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the scale of proposed improvements along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road would be limited. As the Modified Foothill Road Alternative would not include any additional trail staging facilities or parking compared to the proposed project, implementation of this alternative would generate the same vehicle trips to and from the project site during operation and construction. Therefore, similar to the proposed project, the Modified Foothill Road Alternative would not conflict with applicable transportation-related plans, policies and ordinances; vehicle miles traveled; design hazards; and emergency access. Similar to the proposed project, construction activities associated with the Modified Foothill Road Alternative would require work within the public roadway right-of-way, requiring temporary closure of travel lanes, operation of construction vehicles within and deterioration of pavement conditions, which would result in potentially significant design hazards and inadequate emergency access. Mitigation Measure TRA-1 and TRA-2, requiring development and implement of a Traffic Control Plan and coordination with emergency service providers would continue to be required. With implementation of Mitigation Measures TRA-1 and TRA-2, similar to the proposed project, impacts to transportation would be **less than significant with mitigation**.

5.3.2.12 Tribal Cultural Resources

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail but would require slightly less ground disturbance because the scale of the proposed trail improvements would be limited (e.g., limited pavement widening, re-striping) along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road. Similar to the proposed project, the Modified Foothill Road Alternative would have the potential to impact tribal cultural resources, as it would be in the same project area, though with a slightly reduced project footprint, and would include ground-disturbing activities. Implementation of Mitigation Measures TCR-2a and TCR-2b would be required to reduce construction-period impacts to tribal cultural resources. Therefore, similar to the proposed project, impacts to tribal cultural resources would be **less than significant with mitigation**.

5.3.2.13 Utilities and Service Systems

Under the Modified Foothill Road Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the scale of proposed improvements along Foothill Road between the Tyler Ranch Staging Area and Kilkare Road would be limited. As operation and construction of the Modified Foothill Road Alternative would be essentially the same as the proposed project, implementation of this alternative would generate the same demand for utilities and service systems as the proposed project. Therefore, similar to the proposed project, impacts to utilities and service systems would be **less than significant**.

5.3.3 Overview of Potential Impact/Comparison to Proposed Project

The Modified Foothill Road Alternative would result in less than significant impacts that would be similar to the proposed project. As described above, although the Modified Foothill Road Alternative may require slightly less grading and construction activities due to the reduction in the scale of proposed trail improvements (e.g., limited repaving/widening, striping), all of the mitigation measures identified for the proposed project would still be required. Therefore, environmental impacts associated with this alternative would be essentially the same as the proposed project. The Modified Foothill Road Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.4 SOUTH CANYON ALTERNATIVE (ALTERNATE 3)

The following provides a description of the South Canyon Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the South Canyon Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the South Canyon Alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.4.1 Principal Characteristics

During the public scoping process for the proposed project, members of the public expressed a desire to relocate the final phase of the proposed trail alignment from the north side of SR-84 to the south side. As a result, the County has developed the South Canyon Alternative to address these public comments.

Under the South Canyon Alternative, the proposed trail would extend from the UPRR Access Road along the south side of SR-84, to an existing nursery with the SFPUC property at the Sunol Water Temple. The trail alignment would continue through the SFPUC property, running roughly parallel to and south of the UPRR tracks and SR-84 and terminate near the existing access driveway for the nursery at SR-84. A small staging area would be constructed at the proposed terminus to accommodate trail users. This alternative would not extend to the train station in Sunol, but would terminate south of Sunol, as shown on Figure 5-1.

To continue the trail on the south side of Niles Canyon, a second bridge crossing would be required over the UPRR tracks and Alameda Creek to connect the trail from the UPRR access road to the nursery property. Due to limited sight distance as well as high train volume and speed, a grade

separation to cross the tracks would be required. To provide for the necessary railroad clearance and account for topography in this area, the crossing would require extensive grading on both ends of the bridge. This bridge would be longer and require more earthwork than the north-south bridge construction as described in the proposed project. The bridge installation would need to be coordinated with UPRR, which may require nightwork. All other components of the proposed project would remain the same under this alternative. The South Canyon Alternative would all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.4.2 Analysis of the South Canyon Alternative

The potential impacts associated with the South Canyon Alternative are described below. As discussed, The South Canyon Alternative would result in less-than-significant impacts that would be similar to the proposed project. The South Canyon Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.4.2.1 Aesthetics

Under the South Canyon Alternative, Phase 3 of the proposed trail would be on the south side of SR-84, rather than the north side of SR-84 as identified for the proposed project. The trail would be within SFPUC property, south of the existing UPRR tracks. Similar to the proposed project, the South Canyon Alternative would not include tall structures that include massing or substantial expanses of façades that might obscure views of the surrounding open space environment. Similar to the proposed project, the South Canyon Alternative would include construction of the Palomares Road overcrossing; however, because the trail would remain on the south side of SR-84, the additional overcrossing would not cross over SR-84 but would instead cross over the UPRR tracks and Alameda Creek. Although this change may slightly reduce impacts to views for motorists on SR-84, impacts to scenic resources would be similar overall to the less than significant impacts of the proposed project.

Similar to the proposed project, the South Canyon Alternative would be along SR-84, which is a designated State Scenic Highway, but would not be any more visible to motorists on SR-84 than the proposed project. Similar to the proposed project, any tree removal associated with implementation of this alternative would have local visual effects but would not substantially modify the existing visual characteristics of the roadway setting. Additionally, this alternative would not remove or alter any of historic built environment resources along SR-84. Therefore, similar to the proposed project, impacts to scenic resources would be less than significant.

Visual changes associated with implementation of this alternative would be similar to the proposed project. As described above, the South Canyon Alternative would require construction of an overcrossing of the UPRR tracks and Alameda Creek on the south side of SR-84, which would require additional grading in this location. However, impacts related to the visual quality and character of the site and its surroundings would be similar overall to the less than significant impacts of the proposed project. Therefore, similar to the proposed project, impacts to visual resources would be **less than significant**.

5.4.2.2 Agricultural Resources

Under this alternative, Phase 3 of the proposed trail alignment would run through an existing nursery on SFPUC property on the south side of SR-84. This area is classified as “Unique Farmland” by the State Department of Conservation.²⁹⁴ Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. Construction of this alternative would require removal of a small portion of the existing nursery from agricultural use to accommodate trail development. Therefore, this alternative would result in the conversion of Important Farmland to another use, resulting in a new environmental impact as compared to the proposed project. Given the limited extent of agricultural land that would be converted with implementation of this alternative, the conversion of Unique Farmland would not be substantial and is not anticipated to create a financial hardship resulting in the loss of the entire nursery operation. Therefore, this impact would be **less than significant**.

5.4.2.3 Air Quality

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84, as identified for the proposed project. Similar to the proposed project, a second pedestrian bridge would be required; however, it would extend over the UPRR tracks and Alameda Creek rather than SR-84. Grading and construction activities would be similar to, or slightly more than, the proposed project due to the grading required to meet UPRR clearance requirement; therefore, pollutant and odor concentrations would be essentially the same as the proposed project, and dust, exhaust, and organic emissions would be generated due to construction activities. Therefore, implementation of Mitigation Measure AIR-1 would still be required to reduce construction-period air quality impacts. Overall, impacts related to Clean Air Plan implementation, would be generally the same compared to the proposed project and would also be less than significant. Therefore, similar to the proposed project, impacts to air quality would be **less than significant with mitigation**.

5.4.2.4 Biological Resources

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84, as identified for the proposed project. Since all other components of the proposed project would remain the same, impacts to terrestrial special-status species and wildlife movement would be the same as the proposed project. Mitigation Measures BIO-1 through BIO-9 and BIO-13, which are required for the proposed project, would also apply to the South Canyon Alternative. Because the South Canyon Alternative would still require overcrossings of Alameda Creek, impacts to Alameda Creek, its associated riparian habitat, and aquatic species would be the same as the proposed project and Mitigation Measures BIO-10 and BIO-11 would still be required. Because the South Canyon Alternative would extend along the south side of SR-84 through the nursery property and not along Foothill Road, tree removal associated with this alternative may be slightly reduced. However, similar to the proposed project, implementation of Mitigation Measure BIO-13 would still be required to reduce this impact to less than significant. Similar to the proposed project, the South

²⁹⁴ California Department of Conservation, 2022. Division of Land Use Resource Protection. California Important Farmland Finder. Website: maps.conservation.ca.gov/dlrp/ciff (accessed February 2024).

Canyon Alternative would not conflict with an adopted Habitat Conservation Plan. Therefore, similar to the proposed project, impacts to biological resources would be **less than significant with mitigation**.

5.4.2.5 Cultural Resources

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84. Similar to the proposed project, portions of the South Canyon Alternative would be near identified historical built environment resources. Mitigation Measure CUL-1 would be required to avoid potential impacts to built environment resources. Similar to the proposed project, the South Canyon Alternative would have the potential to impact archaeological deposits or resources due to the number of prehistoric sites in the area and the proximity of the alignment to Alameda Creek. Implementation of Mitigation Measures CUL-3a and CUL-3b would be required to reduce construction-period impacts to archaeological resources. Finally, similar to the proposed project, the South Canyon Alternative would be required to comply with Section 7050.5 of the California Health and Safety Code and Public Resources Code (PRC) Section 5097.98. Therefore, similar to the proposed project, impacts to cultural resources would be **less than significant with mitigation**.

5.4.2.6 Geology and Soils

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84. Similar to the proposed project, the South Canyon Alternative would not result in any impacts associated with proximity to an Alquist-Priolo Earthquake Fault Zone. The South Canyon Alternative would be required to be designed and constructed in accordance with the recommendations of the California Building Code and therefore would have the same less-than-significant impacts related to ground shaking. The South Canyon Alternative would be in the same project area, though on the opposite side of SR-84, as the proposed project, and therefore would result in the same less-than-significant impacts related to liquefaction, seismic settlement, lateral spreading, expansive soils, and unstable soils. Similar to the proposed project, the South Canyon Alternative would also be susceptible to impacts from landslides. Implementation of Mitigation Measures GEO-1a and GEO-1b would be required. Additionally, similar to the proposed project, the South Canyon Alternative could result in impacts to previously undiscovered paleontological resources. Implementation of Mitigation Measure GEO-2 would be required. Therefore, similar to the proposed project, impacts to geology and soils would be **less than significant with mitigation**.

5.4.2.7 Hazards and Hazardous Materials

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84. Operation of this alternative would be the same as the proposed project. Therefore, the South Canyon Alternative would result in the same less than significant impacts related to the routine use of hazardous materials. The South Canyon Alternative would be in the same area as the proposed project and would result in the same potentially significant impacts related to subsurface hazardous materials. Therefore, Mitigation Measure HAZ-1 would be required. Likewise, the South Canyon Alternative would require construction in undeveloped, wildland areas and would result in

similar impacts related to wildland fire. Therefore, Mitigation Measure HAZ-2 would be required. Similar to the proposed project, the South Canyon Alternative would not result in any impacts related to hazardous material use or release near schools, sites listed pursuant to Government Code Section 65962.5, or aviation hazards. Therefore, similar to the proposed project, impacts to hazards and hazardous materials would be **less than significant with mitigation**.

5.4.2.8 Hydrology and Water Quality

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84. Similar to the proposed project, the South Canyon Alternative would require ground disturbance and exposure of soils to runoff and could result in release of sediment and hazardous materials into nearby surface waters. Adherence with the CGP and implementation of Mitigation Measure HYD-1 would be required. Similar to the proposed project, the South Canyon Alternative would be required to treat stormwater runoff consistent with the MRP, which would ensure less than significant operational impacts related to water quality. Similar to the proposed project, the South Canyon Alternative would be required to treat stormwater runoff consistent with the CGP and the MRP, which would ensure less than significant impacts related to erosion and siltation, flooding on- or off-site, stormwater runoff, and discharge of pollutants. Like the proposed project, the South Canyon Alternative would result in less than significant impacts related to groundwater supplies. Similar to the proposed project, the South Canyon Alternative would include construction of the Palomares Road Overcrossing and a second overcrossing of Alameda Creek, which could impact flood flows. Therefore, implementation of Mitigation Measure HYD-2 would be required. Therefore, similar to the proposed project, impacts to hydrology and water quality would be **less than significant with mitigation**.

5.4.2.9 Land Use and Planning

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84 as identified for the proposed project. Similar to the proposed project, the South Canyon Alternative would not result in the physical division of an established community, but would provide new pedestrian, bicycle, and equestrian connections through Niles Canyon to the community of Sunol and Fremont. However, unlike the proposed project, it would not provide a connection to the train station in Sunol. Similar to the proposed project, the South Canyon Alternative would not result in any conflicts with any land use-related plans, policies, or ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, similar to the proposed project, impacts to land use and planning would be **less than significant**.

5.4.2.10 Noise

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84 as identified for the proposed project. Grading and construction activities would be the same as, or slightly increased, compared to the proposed project. Given that construction activities associated with this alternative would still take place near residential uses, short-term increases in ambient noise levels would occur and implementation of Mitigation Measure NOI-1, requiring the

implementation of best management practices, would continue to be required to reduce exposure of noise sensitive land uses to construction noise. Similarly, like the proposed project, construction of the South Canyon Alternative would require use of heavy construction equipment near existing residences, which would result in short-term vibration impacts, and Mitigation Measure NOI-2 would be required. Compared to the proposed project, this alternative would move the Phase 3 alignment farther from off-site sensitive receptors (e.g., residential uses along Foothill Road) than the proposed project; therefore, this alternative would slightly decrease the less than significant impacts related to exposure of off-site sensitive receptors to operation-period noise. Similar to the proposed project, there would be no impact related to aircraft-related noise. Therefore, similar to the proposed project, impacts related to noise would be **less than significant with mitigation**.

5.4.2.11 Public Services and Recreation

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84 as identified for the proposed project. As operation and construction of the South Canyon Alternative would be essentially the same as the proposed project, implementation of this alternative would generate the same demand for public services and recreation facilities as the proposed project. Therefore, similar to the proposed project, impacts related to public services and recreation would be **less than significant**.

5.4.2.12 Transportation

Under the South Canyon Alternative, the project site would be developed with a multi-use trail as identified for the proposed project, but the entirety of the Phase 3 trail alignment would be on the south side of SR-84. The South Canyon Alternative would also include construction of an additional trail staging area with parking. Therefore, implementation of this alternative could generate slightly more vehicle trips to and from the project site during operation and construction. However, this increase is not anticipated to result in a significant VMT impact. Similar to the proposed project, the South Canyon Alternative would not conflict with applicable transportation-related plans, policies and ordinances; vehicle miles traveled; design hazards; and emergency access and impacts would be less than significant. Similar to the proposed project, construction activities associated with the South Canyon Alternative would require work within the public roadway right-of-way, requiring temporary closure of travel lanes, operation of construction vehicles within and deterioration of pavement conditions, which would result in potentially significant design hazards and inadequate emergency access. Mitigation Measure TRA-1 and TRA-2, requiring development and implement of a Traffic Control Plan and coordination with emergency service providers, would continue to be required. With implementation of Mitigation Measures TRA-1 and TRA-2, similar to the proposed project, impacts to transportation would be **less than significant with mitigation**.

5.4.2.13 Tribal Cultural Resources

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84. Similar to the proposed project, the South Canyon Alternative would have the potential to impact tribal cultural resources as it would be in the same project area and would include ground disturbing activities. Implementation of Mitigation Measures TCR-2a and TCR-2b would be required

to reduce construction-period impacts to tribal cultural resources. Therefore, similar to the proposed project, impacts to tribal cultural resources would be **less than significant with mitigation**.

5.4.2.14 Utilities and Service Systems

The South Canyon Alternative would result in development of a multi-use trail, but the entirety of the Phase 3 trail alignment would be constructed on the south side, rather than the north side of SR-84. As operation and construction of the South Canyon Alternative would be essentially the same as the proposed project, implementation of this alternative would generate the same demand for utilities and service systems as the proposed project. Therefore, similar to the proposed project, impacts to utilities and service systems would be **less than significant**.

5.4.3 Overview of Potential Impact/Comparison to Proposed Project

The South Canyon Alternative would result in less-than-significant impacts that would be similar to the proposed project. As described above, the South Canyon Alternative would slightly reduce the less than significant impact related to operational noise for the proposed project due to relocation of the trail further from existing sensitive receptors but would not eliminate any of the required construction-period mitigation measures. Additionally, the South Canyon Alternative would also slightly decrease impacts related to tree removal but would not reduce those impacts to less than significant levels without implementation of Mitigation Measure BIO-13. The South Canyon Alternative would result in greater impacts to agricultural resources than the proposed project as it would traverse Unique Farmland associated with the existing nursery. In addition, this alternative may result in slightly more vehicle trips to the project site due to the construction of an additional trail staging area at the nursery site. The South Canyon Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.5 NEW BRIDGE 2 ALTERNATE LOCATION ALTERNATIVE

The following provides a description of the New Bridge 2 Alternate Location Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the New Bridge 2 Alternate Location Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether the New Bridge 2 Alternate Location Alternative would reduce, eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.5.1 Principal Characteristics

As outlined in Section 3.0, Project Description, from the UPRR access road, a pedestrian bridge is proposed to cross over Alameda Creek, SR-84, and the Niles Canyon Railway (New Bridge 2). Under the New Bridge 2 Alternate Location Alternative, two additional bridge crossing options are proposed, as shown on Figure 5-2. Both options would extend the trail further on the south side of Niles Canyon and then cross Alameda Creek, SR-84, and the Niles Canyon Railway at two different sites to bring the trail to the north side of the canyon. Option 2 would shift the crossing to the east of the adjacent private properties (Bridge Location Option 2), while Bridge Location Option 3 would shift the crossing even further to the east, landing on the east side of the Brightside Rail Yard. Both bridge options would require a similar span length (approximately 800 feet) and grading at the

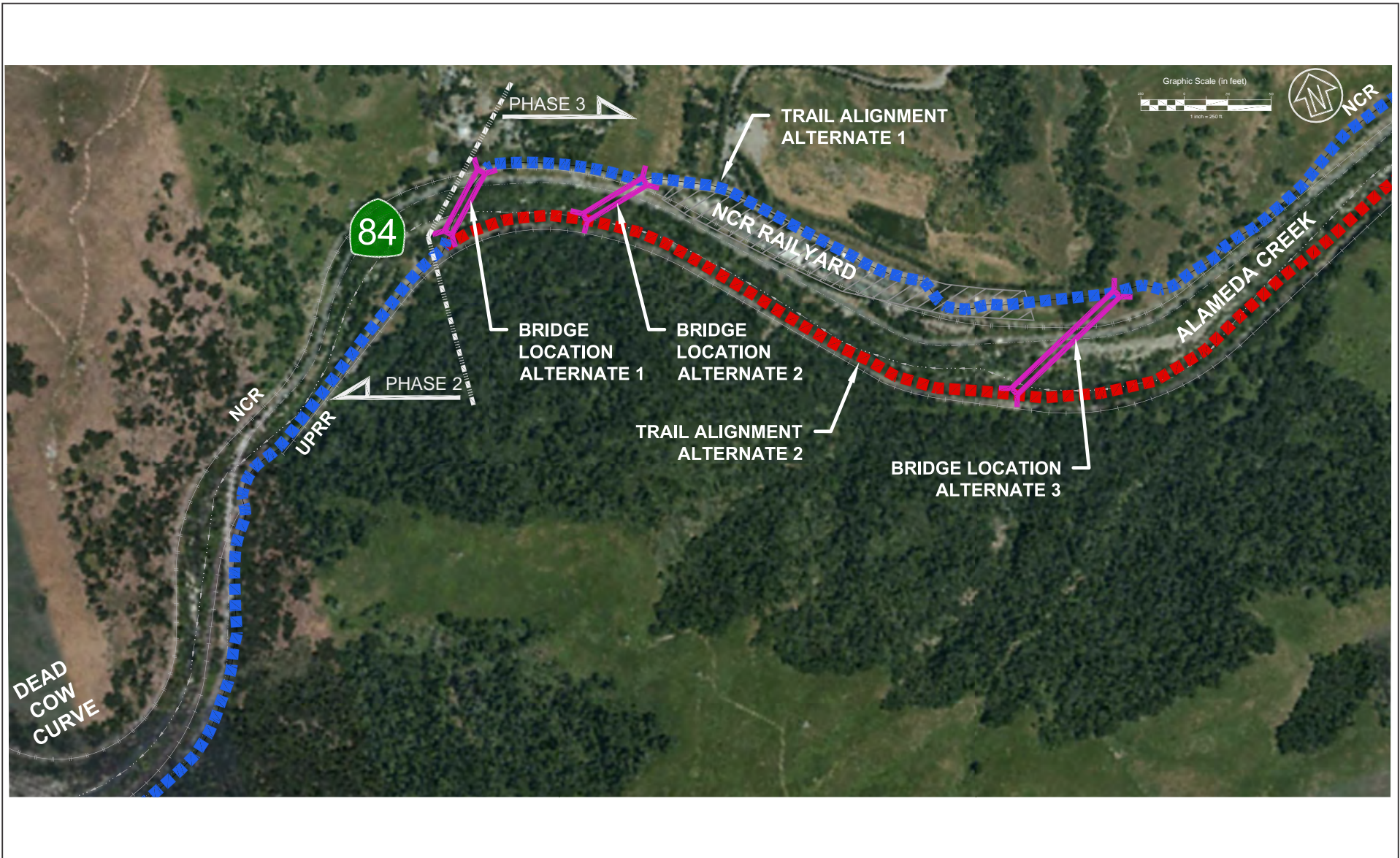


FIGURE 5-2

LSA

LEGEND:

- HIGHWAY 84
- ALAMEDA CREEK
- UNION PACIFIC RAILROAD (UPRR)
- NILES CANYON RAILROAD (NCR)
- TRAIL ALIGNMENT ALTERNATE 1
- TRAIL ALIGNMENT ALTERNATE 2
- TRAIL ALIGNMENT ALTERNATE 3
- EXTENSION TO VALLEJO MILL HISTORICAL PARK
- EXTENSION TO DOWNTOWN NILES
- BRIDGE

0 125 250
FEET

SOURCE: CSW/Stuber-Stroeh Engineering Group, Inc.

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Niles Canyon Trail
New Bridge 2 Alternate Locations

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southern abutment, as the proposed project. All other elements of the proposed project would remain the same.

5.5.2 Analysis of the New Bridge 2 Alternate Location Alternative

The potential impacts associated with the New Bridge 2 Alternate Location Alternative are described below. As discussed, the New Bridge 2 Alternate Location Alternative would result in similar environmental impacts as the proposed project. The New Bridge 2 Alternate Location Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.5.2.1 Aesthetics

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Other portions of the trail, including the Palomares Road Overcrossing would be in the same location and would be the same size and height as the proposed project. Under this alternative the location of New Bridge 2 would be shifted further to the east, but the new bridge would be of similar size and scale to the proposed project. Therefore, like the proposed project, the New Bridge 2 Alternate Location Alternative would not substantially or completely block public views of identified scenic resources, impact scenic resources, or substantially alter the existing visual character of the existing site or surroundings. Similar to the proposed project, construction of the New Bridge 2 Alternate Location Alternative would require very limited night work to install the proposed overcrossings; however, no additional nighttime work requiring nighttime lighting would be required under the New Bridge 2 Alternate Location Alternative. Therefore, similar to the proposed project, impacts to visual resources would be **less than significant**.

5.5.2.2 Air Quality

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Grading and construction activities would be essentially the same as the proposed project and therefore pollutant and odor concentrations and, dust, exhaust, and organic emissions related to construction would also be the same. Implementation of Mitigation Measure AIR-1 would still be required to reduce construction-period air quality impacts. Overall, impacts related to Clean Air Plan implementation, exposure of sensitive receptors to substantial pollutant concentrations and odors would be generally the same compared to the proposed project but would also be less than significant. Therefore, similar to the proposed project, impacts to air quality would be **less than significant with mitigation**.

5.5.2.3 Biological Resources

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Since all other components of the proposed project, including the size and scale of New Bridge 2, would remain the same, impacts to special-status species, riparian areas, jurisdictional waters, and wildlife movement would be the same as the proposed project. Mitigation Measures BIO-1 through BIO-12, which are required for the proposed project, would also apply to the New Bridge 2 Alternate Location Alternative. The New Bridge 2 Alternate Location Alternative would require tree removal, similar to

the proposed project. Therefore, implementation of Mitigation Measure BIO-13 would still be required to reduce this impact to less than significant. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would not conflict with an adopted Habitat Conservation Plan. Therefore, similar to the proposed project, impacts to biological resources would be **less than significant with mitigation**.

5.5.2.4 Cultural Resources

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Similar to the proposed project, portions of the New Bridge 2 Alternate Location Alternative would be near identified historical built environment resources. Mitigation Measure CUL-1 would be required to avoid potential impacts to built environment resources. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would have the potential to impact archaeological deposits or resources due to the number of prehistoric sites in the area and the proximity of the alignment to Alameda Creek. Implementation of Mitigation Measures CUL-3a and CUL-3b would still be required to reduce construction-period impacts to archaeological resources. Finally, similar to the proposed project, the New Bridge 2 Alternate Location Alternative would be required to comply with Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98. Therefore, similar to the proposed project, impacts to cultural resources would be **less than significant with mitigation**.

5.5.2.5 Geology and Soils

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would not result in any impacts associated with proximity to an Alquist-Priolo Earthquake Fault Zone. The New Bridge 2 Alternate Location Alternative would be required to be designed and constructed in accordance with the recommendations of the California Building Code and therefore would have the same less-than-significant impacts related to ground shaking. The New Bridge 2 Alternate Location Alternative would be located on the same site, though shifted slightly to the east, as the proposed project, and therefore would result in the same less-than-significant impacts related to liquefaction, seismic settlement, lateral spreading, expansive soils, and unstable soils. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would also be susceptible to impacts from landslides. Implementation of Mitigation Measures GEO-1a and GEO-1b would be required. Additionally, similar to the proposed project, the New Bridge 2 Alternate Location Alternative could result in impacts to previously undiscovered paleontological resources. Implementation of Mitigation Measure GEO-2 would be required. Therefore, similar to the proposed project, impacts to geology and soils would be **less than significant with mitigation**.

5.5.2.6 Hazards and Hazardous Materials

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Operation of this alternative would be the same as the proposed project. Therefore, the New Bridge 2 Alternate Location Alternative would result in the same less-than-significant impacts related to the routine use of hazardous materials. The New Bridge 2 Alternate Location Alternative would be in the same area,

though shifted slightly to the east, as the proposed project and would result in the same potentially significant impacts related to subsurface hazardous materials. Therefore, Mitigation Measure HAZ-1 would be required. Likewise, the New Bridge 2 Alternate Location Alternative would require construction in undeveloped, wildland areas and would result in similar impacts related to wildland fire. Therefore, Mitigation Measure HAZ-2 would be required. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would not result in any impacts related to hazardous material use or release near schools, sites listed pursuant to Government Code Section 65962.5, or aviation hazards. Therefore, similar to the proposed project, impacts to hazards and hazardous materials would be **less than significant with mitigation**.

5.5.2.7 Hydrology and Water Quality

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would require ground disturbance and exposure of soils to runoff and could result in release of sediment and hazardous materials into nearby surface waters. Adherence with the CGP and implementation of Mitigation Measure HYD-1 would be required. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would be required to treat stormwater runoff consistent with the MRP, which would ensure less-than-significant operational impacts related to water quality. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would be required to treat stormwater runoff consistent with the CGP and the MRP, which would ensure less-than-significant impacts related to erosion and siltation, flooding on- or off-site, stormwater runoff, and discharge of pollutants. Like the proposed project, the New Bridge 2 Alternate Location Alternative would result in less than significant impacts related to groundwater supplies. Like the proposed project, the New Bridge 2 Alternate Location Alternative would include construction of bridges, which could impact flood flows. Therefore, implementation of Mitigation Measure HYD-2 would be required. Therefore, similar to the proposed project, impacts to hydrology and water quality would be **less than significant with mitigation**.

5.5.2.8 Land Use and Planning

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the location of New Bridge 2 would be shifted further to the east. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would not result in the physical division of an established community. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would not result in any conflicts with any land use-related plans, policies, or ordinances adopted for the purposes of avoiding or mitigating an environmental effect. Therefore, similar to the proposed project, impacts to land use and planning would be **less than significant**.

5.5.2.9 Noise

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted further to the east. Operation of this alternative would be the same as the proposed project; therefore, the exposure of off-site sensitive receptors to operation-period noise would be less than significant, the same as the

proposed project. Similar to the proposed project, there also would be no impact related to aircraft-related noise. Construction and grading activities would essentially be the same; therefore, short-term increases in ambient noise levels associated with construction would still occur and implementation of Mitigation Measure NOI-1, requiring the implementation of best management practices, would continue to be required to reduce exposure of noise sensitive land uses to construction noise. Similar to the proposed project, construction of the New Bridge 2 Alternate Location Alternative would still require use of heavy construction equipment near existing residences, which would result in short-term vibration impacts, and Mitigation Measure NOI-2 would be required. Therefore, similar to the proposed project, impacts related to noise would be **less than significant with mitigation**.

5.5.2.10 Public Services and Recreation

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the location of New Bridge 2 would be shifted to the east. Compared to the proposed project, the New Bridge 2 Alternate Location Alternative would not change the use of the proposed trail. As a result, implementation of this alternative would generate the same demand for public services and recreation facilities as the proposed project. Therefore, similar to the proposed project, impacts related to public services and recreation would be **less than significant**.

5.5.2.11 Transportation

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the location of New Bridge 2 would be shifted to the east. As the New Bridge 2 Alternate Location Alternative would not include any additional trail staging facilities or parking compared to the proposed project, implementation of this alternative would generate the same vehicle trips to and from the project site during operation and construction. Therefore, similar to the proposed project, the New Bridge 2 Alternate Location Alternative would not conflict with applicable transportation-related plans, policies and ordinances; vehicle miles traveled; design hazards; and emergency access. Similar to the proposed project, construction activities associated with the New Bridge 2 Alternate Location Alternative would require work within the public roadway right-of-way, requiring temporary closure of travel lanes, operation of construction vehicles within and deterioration of pavement conditions, which would result in potentially significant design hazards and inadequate emergency access. Mitigation Measure TRA-1 and TRA-2, requiring development and implement of a Traffic Control Plan and coordination with emergency service providers would continue to be required. With implementation of Mitigation Measures TRA-1 and TRA-2, similar to the proposed project, impacts to transportation would be **less than significant with mitigation**.

5.5.2.12 Tribal Cultural Resources

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail but the location of New Bridge 2 would be shifted to the east. Similar to the proposed project, the New Bridge 2 Alternate Location Alternative would have the potential to impact tribal cultural resources, as it would be in the same project area, though shifted slightly to the east, and would include ground-disturbing activities. Implementation of Mitigation Measures TCR-2a and TCR-

2b would be required to reduce construction-period impacts to tribal cultural resources. Therefore, similar to the proposed project, impacts to tribal cultural resources would be **less than significant with mitigation**.

5.5.2.13 Utilities and Service Systems

Under the New Bridge 2 Alternate Location Alternative, the project site would be developed with a multi-use trail as identified for the proposed project but the location of New Bridge 2 would be shifted to the east. As operation and construction of the New Bridge 2 Alternate Location Alternative would be essentially the same as the proposed project, implementation of this alternative would generate the same demand for utilities and service systems as the proposed project. Therefore, similar to the proposed project, impacts to utilities and service systems would be **less than significant**.

5.5.3 Overview of Potential Impact/Comparison to Proposed Project

The New Bridge 2 Alternate Location Alternative would result in less than significant impacts that would be similar to the proposed project. As described above, construction and operation of this alternative would be essentially the same as the proposed project and all of the mitigation measures identified for the proposed project would still be required. Therefore, environmental impacts associated with this alternative would be essentially the same as the proposed project. The New Bridge 2 Alternate Location Alternative would meet all of the identified project objectives detailed in Chapter 3.0, Project Description.

5.6 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

The following provides a description of various potential alternatives that were identified and considered, and the reasons why they were ultimately not selected for further evaluation in this EIR.

5.6.1 Background

As outlined in Chapter 3.0, Project Description, planning for a trail through Niles Canyon originated in the 1970s and became popular in the 1990s. EBRPD defined the goal of establishing a trail through Niles Canyon, known as Segment 8A, in its 2013 Master Plan.²⁹⁵ EBRPD, working in collaboration with its project partners, including the County, the Alameda County Water District, and the SFPUC, embarked on a feasibility study to evaluate options to improve access within Niles Canyon.

The 2015 study²⁹⁶, entitled “Expanding Regional Trail Connectivity Trail Options in Niles Canyon”, evaluated several alternatives to develop a Class I trail to connect Niles and Sunol. Stakeholders and the community evaluated the options and selected a preferred trail alignment. The County

²⁹⁵ East Bay Regional Park District (EBRPD). 2013. East Bay Regional Park District Master Plan 2013. Website: https://www.ebparks.org/sites/default/files/master_plan_2013_final.pdf (accessed September 2023).

²⁹⁶ East Bay Regional Park District (EBRPD). 2015. *Expanding Regional Trail Connectivity Trail Options in Niles Canyon Feasibility Study*. December.

Department of Public Works further refined the analysis in the *Expanding Regional Trail Connectivity in Niles Canyon Project Study Report*, dated April 2017²⁹⁷ (Project Study Report).

In December 2020, the County, with its design team, prepared the Niles Canyon Trail Preliminary Engineering Report (Preliminary Engineering Report),²⁹⁸ which provides an update to the design effort, as well as preliminary plans that refine the trail’s alignment. The proposed project, as defined herein, is based on the preliminary plans as refined in the Preliminary Engineering Report.

The following section summarizes those alternatives evaluated in the previous studies that were rejected from further consideration.

5.6.2 Alternative Alignments

The following alternative trail alignments were considered but rejected from further consideration:

- **Off-Site Alternative.** The proposed project is planned to provide a multi-use trail facility through Niles Canyon to connect Sunol to Fremont. The proposed project is heavily oriented toward closing this important regional gap for trail users. Therefore, no feasible alternative locations exist for the proposed project. As such, an alternative location was ultimately rejected from further analysis in the EIR.
- **Sunol Water Temple Trail Alignment.** The Sunol Water Temple alternative, as defined in the Project Study Report, would travel along the south side of Niles Canyon from the existing UPRR access road to the Sunol Water Temple located at the terminus of Temple Road. To continue the trail on the south side of Niles Canyon, the trail would cross under the UPRR tracks near the location of the existing grade crossing panel. Due to limited sight distance as well as high train volume and speed, a grade separation to cross the tracks would be required. To provide for 23 feet of clearance, this would require extensive grading on both ends of the bridge. The trail would then extend through generally undisturbed terrain for approximately 7,500 feet. This area is characterized by steep topography and dense vegetation. This option would require installation of two additional bridges to cross Alameda Creek. It was determined that this South Canyon Trail alternative would result in greater environmental impacts due to the extent of tree removal and grading within generally undisturbed and densely vegetated terrain and the construction of an additional bridge crossings over Alameda Creek. Therefore, the County considered this alternative to be unacceptable and set it aside from further consideration.
- **Rail with Trail.** The Rail with Trail alternative, as defined in the Project Study Report, would run parallel to the Niles Canyon Railway and within the railroad right-of-way from the Palomares Road overcrossing to Kilkare Road in Sunol. The proposed trail alignment would be designed to maximize the horizontal separation between the trail and the railroad within the limits of the railroad right-of-way, create a vertical separation where possible and install a fence to separate the proposed trail use from the existing railroad operations. Under this alternative, portions of the tracks would need to be relocated and the curve radii of the tracks would need to be

²⁹⁷ BKF Engineers. 2017. *Expanding Regional Trail Connectivity in Niles Canyon Project Study Report*. April.

²⁹⁸ CSW|ST2 and Alameda County. 2020. *Niles Canyon Trail Preliminary Engineering Report*. December.

tightened in constrained sections to provide sufficient width to accommodate the proposed trail alignment. Since the tracks are in their historical alignment, relocation of the tracks could constitute an adverse change to a historical resource, thereby resulting in greater environmental impacts than the proposed project. Additionally, implementation of this alternative would require coordination and approval by the Pacific Locomotive Association. Because this alternative would result in greater environmental impacts than the proposed project and could affect operations of the Niles Canyon Railway, the County considered this alternative to be unacceptable and set it aside from further consideration.

- **Sunol Aqueduct.** The Preliminary Engineering Report²⁹⁹ evaluated several alternative to transform the Sunol Aqueduct into a Class I trail by widening and adding barriers. Due to its age and unknown structural capacity, several options were considered to strengthen and widen the existing structure so that the trail could “bridge” over the existing aqueduct. These alternatives included: 1) installation of concrete pile and soldier pile walls on either side of the aqueduct to provide abutments for the trail deck; 2) installation of a pile-supported structure that would span the aqueduct; and 3) installation of fiber reinforcement of the existing aqueduct to allow for placement of the trail atop the aqueduct. Due to the additional infrastructure required to retrofit the existing aqueduct, this alternative would be significantly more costly than the proposed project. Therefore, the County considered this alternative to be unacceptable and set it aside from further consideration.

5.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based on the above analysis, the No Project Alternative would have the fewest impacts and would be the environmentally superior alternative. Under CEQA, if the No Project Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (*State CEQA Guidelines* Section 15126.6(e)(2)). Although the No Project Alternative would be environmentally superior in the technical sense in that contribution to the aforementioned impacts would not occur, it would also fail to achieve any of the project’s objectives.

As discussed above and shown in Table 5.A, below, both the Tyler Ranch Staging Area Alternative and the Modified Foothill Road Alternative would slightly reduce some of the potentially significant impacts of the proposed project through reduced construction intensities, particularly the elimination or modification of the trail segment from the Tyler Ranch Staging Area to Kilkare Road, although all project mitigation measures would still be required. These alternatives would also achieve all of the project objectives. Because the Tyler Ranch Staging Area Alternative would result in a greater reduction (albeit slight) in some environmental impacts, the Tyler Ranch Staging Area Alternative is considered the environmentally superior alternative.

²⁹⁹ CSW|ST2. 2020. op. cit.

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
4.1 Aesthetics						
Threshold 4.1.1: The proposed project would not result in a substantial adverse effect on a scenic vista.	LTS	NI	<LTS	<LTS	~LTS	~LTS
Threshold 4.1.2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.1.3: The proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.	LTS	NI	<LTS	<LTS	~LTS	~LTS
Threshold 4.1.4: 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.	LTS	NI	~LTS	~LTS	~LTS	~LTS
4.2 Air Quality						
Threshold 4.2.1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.2.2: The proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard (Impact AIR-1)	S LTS/M	NI	<S LTS/M	<S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.2.3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations.	LTS	NI	<LTS	<LTS	~LTS	~LTS
Threshold 4.2.4: The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS	NI	<LTS	<LTS	~LTS	~LTS

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
4.3 Biological Resources						
Threshold 4.3.1: The proposed project would 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 CDFW or USFWS (Impacts BIO-1 through BIO-9)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.3.2: The proposed project would 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. (Impact BIO-10)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.3.3: The proposed project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act or State-protected wetlands as defined through the Porter-Cologne Water Quality Control Act through direct removal, filling, hydrological interruption, or other means. (Impact BIO-11)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.3.4: The proposed project would 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. (Impact BIO-12)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.3.5: The proposed project would conflict with local policies or ordinances protecting biological resources, including tree preservation ordinances. (Impact BIO-13)	S LTS/M	NI	<S LTS/M	<S LTS/M	<S LTS/M	~S LTS/M

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
Threshold 4.3.6: 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 plans.	NI	NI	~NI	~NI	~NI	~NI
4.4 Cultural Resources						
Threshold 4.4.1: The proposed project would cause a substantial adverse change in the significance of a historical resource as defined in <i>State CEQA Guidelines</i> Section 15064.5 (Impact CUL-1)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.4.2: The proposed project would cause a substantial adverse change in the significance of a unique archaeological resources pursuant to <i>State CEQA Guidelines</i> Section 15064.5. (Impacts CUL-2 and CUL-3)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.4.3: The proposed project would not disturb any human remains, including those interred outside of formal cemeteries.	LTS	NI	~LTS	~LTS	~LTS	~LTS
4.5 Geology and Soils						
Threshold 4.5.1: The proposed project would directly or indirectly cause a 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; (2) strong seismic ground shaking; (3) seismic-related ground failure (including liquefaction); and/or (4) landslides. (Impact GEO-1)	S LTS/M I	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
Threshold 4.5.2: The proposed project would not result in substantial soil erosion or loss of topsoil.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.5.3: The proposed project would not 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.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.5.4: The proposed project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.5.4: The proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewer is not available for the disposal of wastewater.	NI	NI	~NI	~NI	~NI	~NI
Threshold 4.6.5: The project would directly or indirectly destroy a unique paleontological resource or site (Impact GEO-2).	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
4.6 Hazards and Hazardous Materials						
Threshold 4.6.1: 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.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.6.2: The proposed project would 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. (Impact HAZ-1).	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
Threshold 4.6.3: The proposed project would not create a public health hazard due to hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.6.4: The proposed project would not create a significant hazard to the public or the environment as the result of locating the proposed project or related infrastructure on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.6.5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area.	NI	NI	~NI	~NI	~NI	~NI
Threshold 4.6.6: The proposed project would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.6.7: The proposed project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires. (Impact HAZ-2)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
4.7 Hydrology and Water Quality						
Threshold 4.7.1: The proposed project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Impact HYD-1).	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
Threshold 4.7.2: 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.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.7.3: The proposed project would 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 that would result in flooding on or off site; (iii) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or (iv) Impede or redirect flood flows. (Impact HYD-2)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.7.4: In flood hazard, tsunami, or seiche zones, the proposed project would not risk release of pollutants due to project inundation.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.7.5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	NI	~LTS	~LTS	~LTS	~LTS
4.8 Land Use and Planning						
Threshold 4.8.1: The proposed project would not conflict physically divide an established community.	LTS	NI	~LTS	~LTS	~LTS	~LTS

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
Threshold 4.8.2: The proposed project would not 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.	LTS	NI	~LTS	~LTS	~LTS	~LTS
4.9 Noise						
Threshold 4.9.1: The proposed project would 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.(Impact NOI-1)	S LTS/M	NI	<S LTS/M	<S LTS/M	<S LTS/M	~S LTS/M
Threshold 4.9.2: The proposed project would generate excessive groundborne vibration or groundborne noise levels (Impact NOI-2)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.9.3: 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 2 miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels.	NI	NI	~NI	~NI	~NI	~NI
4.10 Public Services						
Threshold 4.10.1: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public	LTS	NI	~LTS	~LTS	~LTS	~LTS

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
services: fire protection; police protection; schools; parks; or, other public facilities.						
4.11 Recreation						
Threshold 4.11.1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.11.2: The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment	LTS	NI	~LTS	~LTS	~LTS	~LTS
4.12 Transportation						
Threshold 4.12.1: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.12.2: The proposed project would not conflict with or be inconsistent with <i>State CEQA Guidelines</i> Section 15064.3, subdivision (b)	LTS	NI	~LTS	~LTS	>LTS	~LTS
Threshold 4.12.3: Project construction activities could increase roadway hazards during the construction period due to the temporary closure of roadways/travel lanes, the presence of construction vehicles, and pavement damage created by construction traffic. (Impact TRA-1)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.12.4: Project construction activities could result in temporary inadequate emergency access. (Impact TRA-2)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
4.13 Tribal Cultural Resources						
Threshold 4.13.1: Project ground disturbance associated with Phase 1 development has the potential to disturb, damage, or degrade either tribal cultural resources, or the contextual setting of such a resource, resulting in a substantial loss of the resource’s cultural value as determined in consultation with the North Valley Yokuts Tribe. (Impacts TCR-1).	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
Threshold 4.13.1: Project ground disturbance associated with construction of future trail alignment Phases 2 and 3 may result in the substantial adverse change in the significance of a tribal cultural resource if uncovered during project construction. (Impact TCR-2)	S LTS/M	NI	~S LTS/M	~S LTS/M	~S LTS/M	~S LTS/M
4.14 Utilities and Service Systems						
Threshold 4.14.1: The proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.14.2: The proposed project would not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	LTS	NI	~LTS	~LTS	~LTS	~LTS

Table 5.A: Proposed Project and Project Alternatives Impact Comparison

Environmental Impacts	Proposed Project (Without/With Mitigation)	No Project Alternative (Without/With Mitigation)	Tyler Ranch Standing Area Alternative (Without/With Mitigation)	Modified Foothill Road Alternative (Without/With Mitigation)	South Canyon Trail Alternative (Without/With Mitigation)	New Bridge 2 Alternate Location Alternative (Without/With Mitigation)
Threshold 4.14.3: The proposed project would not result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.14.4: The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	LTS	NI	~LTS	~LTS	~LTS	~LTS
Threshold 4.14.5: The proposed project would not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	LTS	NI	~LTS	~LTS	~LTS	~LTS

Source: Compiled by LSA (2023).
 ~ = Similar to proposed project
 < = Incrementally less than proposed project
 > = Incrementally greater than proposed project
 LTS = Less than significant
 LTS/M = Less than significant with mitigation
 NI = No Impact
 S = Significant
 SU = Significant unavoidable
 SU/M = Significant unavoidable with mitigation
 CDFW = California Department of Fish and Wildlife
 USFWS = United States Fish and Wildlife Service

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6.0 CEQA-REQUIRED CONCLUSIONS

As required by the California Environmental Quality Act (CEQA), this chapter discusses the following types of impacts that could result from implementation of the proposed project: growth-inducing impacts, significant irreversible changes, effects found not to be significant, and significant unavoidable effects.

6.1 GROWTH INDUCEMENT

This section summarizes the proposed project's potential growth-inducing impacts on the surrounding community. A project is considered growth-inducing if it would directly or indirectly foster substantial economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand and development of new residential subdivisions or industrial parks in areas that are only sparsely developed or are underdeveloped. Typically, development projects on sites that are designated for development and surrounded by existing suburban uses are not considered adversely growth-inducing because growth in areas that already have development and infrastructure available to serve new development are generally considered environmentally beneficial.

The proposed project would construct a 6-mile, Class I, multi-use trail between the Niles District in the City of Fremont and the unincorporated community of Sunol through Niles Canyon in Alameda County. The multi-use trail would be open to hikers, bicyclists, and equestrians and would be operated and maintained by Alameda County staff as part of their existing operations. The trail would primarily be developed on undeveloped, open space land, owned by public agencies including the East Bay Regional Park District, and the San Francisco Public Utilities Commission, as well as within California Department of Transportation (Caltrans), Union Pacific Railroad, and City of Fremont right-of-way. Development of the proposed project would not directly or indirectly result in population growth within the City of Fremont, unincorporated community of Sunol, or Alameda County, as it does not propose new housing and would not facilitate the development of any commercial or industrial structures. The majority of the land along the proposed trail alignment is either publicly-owned or already developed, and the existing zoning is incompatible with residential or commercial development.

The proposed trail would provide a new multi-modal connection between the Niles District and Sunol through Niles Canyon, which may attract additional visitors from the region to the area for recreational use. Although the proposed project would rely primarily on existing/planned parking and staging areas to accommodate trail users, approximately 43 additional parking stalls are proposed, which could increase visitation to the project area. It is possible that increased visitation would generate additional economic activity for businesses along the project corridor; however, visitors would likely come from various communities throughout the Bay Area, and the increased activity associated with the proposed trail would not facilitate new development.

Overall, although the project would likely result in additional visitors to the project area, the proposed project would not foster substantial economic or population growth or require expansions of infrastructure systems beyond what is needed to serve project-specific demand.

6.2 SIGNIFICANT IRREVERSIBLE CHANGES

CEQA requires an assessment of whether the proposed project would result in significant irreversible changes to the physical environment. The *State CEQA Guidelines* discuss three categories of significant irreversible changes that should be considered. Each is addressed below.

6.2.1 Changes in Land Use Which Commit Future Generations

The proposed project consists of a multi-use trail that spans a variety of existing land uses including urban development, undeveloped open space, and public right-of-way/transportation facilities. The project is intended to provide recreational and multi-modal transportation opportunities for Alameda County residents. Because the proposed project would not result in the development of a new land use which could not later be redeveloped with a different use (or converted back to open space), it would not commit future generations to a significant change in land use.

6.2.2 Irreversible Damage from Environmental Accidents

No significant environmental damage, such as accidental spills or explosion of a hazardous material, is anticipated with development of the proposed project. As discussed in Section 4.5, Hazards and Hazardous Materials of this EIR, compliance with federal, State and local regulations would ensure that the use of hazardous substances within the project site would not cause significant environmental damage. No irreversible changes—such as those which might result from construction of a large-scale mining project, a hydroelectric dam project, or other institutional project—would result from development of the proposed project.

6.2.3 Consumption of Non-Renewable Resources

Consumption of nonrenewable resources includes an increase in energy consumption, conversion of agricultural lands, and lost access to mining reserves. As discussed in Section 6.3.1 below, the State Department of Conservation designates the project site as “Grazing Land” and “Urban and Built-Up Land.” Therefore, no agricultural lands would be converted to non-agricultural uses. In addition, the project site does not contain known mineral resources and does not serve as a mining reserve; thus, development of the proposed project would not result in the loss of access to mining reserves. Please refer to Sections 6.3.1 and 6.3.4 below for a discussion of impacts related to agricultural and mining resources, respectively.

Construction of the proposed project would require the use of energy, including energy produced from non-renewable resources. Energy consumption would occur during the operational period of the proposed project due to the use of automobiles to access the proposed trail. However, as described further in Section 6.3.2, below, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State’s available energy sources. Additionally, the proposed project would not result in a substantial number of new trips to the surrounding roadways, as the project would provide a new trail connection. Energy use consumed by the proposed project would primarily be associated with minimal electricity

consumption associated with new lighting proposed at the Palomares Road staging area and on the proposed overcrossing. Additionally, the proposed project would not require the construction of major new lines to deliver energy or natural gas as these services would not be required for the proposed project. Therefore, the proposed project would not result in a significant impact associated with the consumption of nonrenewable resources.

6.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

The environmental topics analyzed in Chapter 4.0, Setting, Impacts, and Mitigation Measures, represent those topics that generated the greatest potential controversy and expectation of adverse impacts associated with development of the proposed project. The following topics are not addressed in Chapter 4.0 of this EIR because impacts related to these topics either would not occur or would be less than significant with implementation of applicable mitigation measures.

6.3.1 Agricultural and Forestry Resources

The project site and vicinity are classified as “Grazing Land” and “Urban and Built-Up Land” by the State Department of Conservation.³⁰⁰ Therefore, the project site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (collectively known as “Important Farmland”). As such, the proposed project would not result in the conversion of Important Farmland to another use and **no impact** to Important Farmland would occur.

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. No portion of the proposed trail would cross a parcel under a Williamson Act contract. The trail alignment is proposed on lands zoned for a variety of uses, including residential and commercial uses and open space. Much of the land in unincorporated Alameda County through which the trail is proposed is zoned for agriculture; however, this land is not currently used for agricultural production and implementation of the proposed trail would not prevent the land from being used for agricultural purposes. Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract and there would be **no impact**.

The project site is not currently used for timberland production, nor is it zoned for forest land or timberland. No forest lands or timberland are on the project site. Therefore, the proposed project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland nor would the proposed project result in the loss of any forest land or convert forestland to non-forest use. Therefore, there would be **no impact** to agricultural and forestry resources.

6.3.2 Energy

Construction of the proposed project would require the use of energy to fuel grading vehicles, trucks, and other construction vehicles. All or most of this energy would be derived from non-renewable resources. Construction activities are not anticipated to result in an inefficient use of

³⁰⁰ California Department of Conservation, 2022. Division of Land Use Resource Protection. California Important Farmland Finder. Website: maps.conservation.ca.gov/dlrp/ciff (accessed October 2023).

energy, as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. As such, construction energy usage would be less than significant. In addition, implementation of Mitigation Measure AIR-1 (refer to Section 4.2, Air Quality) would restrict equipment idling times to 5 minutes or less, and construction workers would be required to shut off idle equipment, which would increase energy efficiency on the site during project construction.

Typically, energy consumption is associated with fuel used for vehicle trips and electricity and natural gas use. However, the proposed project would result in the construction of approximately 6 miles of new non-motorized, multi-use recreational trail, linking open spaces, parks, downtown Fremont and the unincorporated community of Sunol. Implementation of the proposed project would not significantly alter public roadways or access to proposed trail from public roadways, except to provide safer connections to the proposed trail. The proposed project would not result in a substantial number of new trips to the surrounding roadways, as the project would provide a new trail connection. Therefore, the project would not result in a significant increase in gasoline consumption. Operation of the proposed project would not require the consumption of natural gas. Therefore, energy use consumed by the proposed project would primarily be associated with minimal electricity consumption associated with new lighting proposed at the Palomares Road staging area and on the proposed overcrossing. Implementation of the project would not result in a long-term substantial demand for electricity or natural gas nor would the project require new service connections or construction of new off-site service lines or substations to serve the project. The nature of proposed improvements would not require substantial amounts of energy for either construction or maintenance purposes. Therefore, the proposed project would not use non-renewable resources in a wasteful or inefficient manner. Energy impacts would be **less than significant**.

6.3.3 Greenhouse Gas Emissions

Construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the proposed project, greenhouse gases (GHG) would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Furthermore, CH₄ is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. The Bay Area Air Quality Management District does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. According to the results of the California Emissions Estimator Model analysis (Appendix B), the project would generate 1,357.1 metric tons of CO₂ equivalents during project construction. Implementation of Mitigation Measure AIR-1, as discussed in Section 4.2, would further reduce construction GHG emissions by limiting construction idling emissions.

The proposed project would result in the development of approximately 6 miles of multi-use trail, to be implemented over time by individual project proponents. Once completed, the proposed project would not generate substantial GHG emissions or result in substantial new vehicle trips that would contribute to an increase in GHG emissions. Therefore, GHG emissions generated by the proposed project would be **less than significant**.

6.3.4 Mineral Resources

The State Mining Reclamation Act of 1975 identifies and protects California's mineral resources. According to mapping conducted by the California Department of Conservation, several State-designated mineral resource sectors are in the vicinity of the proposed trail alignment, containing regionally significant mineral resources. Sector H, a State-designated mineral resource sector containing construction aggregate, is northwest of the western terminus of the proposed trail alignment.³⁰¹ Sector F is west of the Niles District in the City of Fremont. Material from this deposit is suitable for use as Portland cement concrete aggregate. Sector E, consisting of Quaternary sand and gravel is in unincorporated Alameda County, southeast of Sunol.³⁰² No active mining or extraction operations currently occur in the area of the proposed trail alignment and the project would not impact any non-operational quarry sites or State-designated mineral resource sectors. Implementation of the project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. There would be **no impact** related to this topic.

6.3.5 Population and Housing

The project does not propose new housing and therefore would not directly result in population growth within the City of Fremont, the unincorporated community of Sunol, or Alameda County. Some segments of the proposed trail would be located within residential areas and private land; however, project development would not result in the displacement of housing or people. Maintenance and patrol of the proposed trail would be provided by Alameda County Department of Public Works staff as part of their existing operations; therefore, no additional staff would be required. The project may attract additional visitors to the area for recreational use, facilitating additional economic activity for businesses in Sunol and Niles; however, visitors would likely come from various communities throughout the Bay Area, and it is not anticipated that increased activity would be significant enough to result in additional residential development. The project would not induce substantial population growth or result in the displacement of housing or people. Therefore, there would be **no impact** related to population and housing.

6.3.6 Wildfire

The portion of the proposed trail alignment east of Dead Cow Curve (e.g., the easternmost segment of Phase 2 and most of Phase 3) is in a State Responsibility Area for fire hazards, as mapped by the

³⁰¹ California Department of Conservation, Division of Mines and Geology. 1987. Mineral Resource Zones and Resource Sectors, Alameda County. Website: ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_146-2/SR-146_Plate_2.55.pdf (accessed September 5, 2023).

³⁰² California Department of Conservation, Division of Mines and Geology, 1987. Mineral Resource Zones and Resource Sectors, Alameda County. Website: ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_146-2/SR-146_Plate_2.55.pdf (accessed September 5, 2023).

California Department of Forestry and Fire Protection (CAL FIRE).³⁰³ Most of this area is designated as a Very High Hazard Severity Zone. The western portion of the trail alignment (e.g., Niles District Extension, Phase 1 and the westernmost portion of Phase 2) is in a Local Responsibility Area for fire hazards but is not designated as a Very High Hazard Severity Zone. As outlined in Chapter 3.0, Project Description, the trail would feature marker posts at frequent intervals along the route to provide a reference for fire, police, or other personnel in the event of an emergency. The proposed project would not include any buildings and therefore would not require fuel breaks, emergency water sources, power lines, or other utilities to be installed that may exacerbate fire risk or result in impacts to the environment. Construction of the trail would follow the County of Alameda's best management practices to minimize fire danger in fire-prone wildlands (e.g., prohibiting work on red flag days, warning the public of fire danger on high fire days, establishing pump truck requirements). Therefore, there would be **no impact** to wildfire.

6.4 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would not result in any significant unavoidable impacts.

³⁰³ California Board of Forestry and Fire Protection. 2020. State Responsibility Area Viewer. Website: bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer (accessed June 23, 2020).

7.0 REPORT PREPARATION

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7.3 COMMUNICATION

[To be included in the Screencheck Draft]

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