INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

EAST BAY GREENWAY: LAKE MERRITT BART TO SOUTH HAYWARD BART

ALAMEDA CTC PROJECT: 1457.001

PREPARED FOR:

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Acronyms and Abbreviations

AB	Assembly Bill
AC Transit	Alameda-Contra Costa Transit District
ACM	asbestos-containing materials
ADL	aerially deposited lead
Alameda CTC	Alameda County Transportation Commission
APE	Area of Potential Effects
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Basin Plan	San Francisco Bay Basin
Bike/Ped	Bicycle/Pedestrian Use
BMPs	best management practices
BP	before present
BRT	Bus Rapid Transit
BRWL	blue-rich white light
C&D	Construction and Demolition
CAA	federal Clean Air Act
CAAQS	California ambient air quality standards
CalEMA	California Emergency Management Agency
CalEPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	climate action plan
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDPs	Concept Design Plans
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	methane
CHRIS	California Historical Resources Information System
CII	Commercial, Industrial, and Institutional
Class I	Class I Multi-Use Path
Class IV	Class IV Separated Bikeway
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	Alameda County
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CWA	Clean Water Act

dB	decibel
dBA	A-weighted decibel
DBH	diameter at breast height
DHS	Department of Health Services
DPM	diesel particulate matter
DWR	California Department of Water Resources
ECAP	Oakland Energy and Climate Action Plan
EIR	Environmental Impact Report
EOs	executive orders
EPA	U.S. Environmental Protection Agency
ESA	environmentally sensitive area
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FEMA	Federal Emergency Management Agency
FEMA Zone A	FEMA-designated 100-year flood hazard zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
GHG	greenhouse gas
gsf	gross square feet
HFCs	hydrofluorocarbons
HUC	Hydrologic Unit Code
I-238	Interstate 238
I-880	Interstate 880
IPaC	Information for Planning and Conservation
JUE	Joint Use Easement
K	Kelvin
kWh	kilowatt hours
LBP	lead-based paint
L_{dn}	day-night sound level
LED	light-emitting diode
L_{eq}	equivalent sound level
L_{min} and L_{max}	minimum and maximum sound levels
LOS	level of service
MS4s	municipal separate storm sewer systems
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NES	Natural Environmental Study
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOA	naturally occurring asbestos
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System

NPL	National Priorities List
NPS	National Park Service
NWIC	Northwest Information Center
OSHA	Occupational Safety and Health Administration
OUSD	Oakland Unified School District
Pb	lead
PCB	polychlorinated biphenyl
PFCs	perfluorinated carbons
PM10 and PM2.5	particulate matter
PPV	peak particle velocity
PRC	Public Resources Code
project	East Bay Greenway
R2T	Rail-to-Trail
RACR	Remedial Action Completion Report
RCEM	Road Construction Emissions Model
RCRA	Resource Conservation and Recovery Act
Regional Water Boards	Regional Water Quality Control Boards
ROG	reactive organic gases
ROW	right-of-way, rights-of-way
RwT	Rail-with-Trail
SB	Senate Bill
SCA	Standard Conditions of Approval
SDWA	Safe Drinking Water Act
SF_6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District's
SO_2	sulfur dioxide
State Water Board	State Water Resources Control Board
SVP	Society of Vertebrate Paleontology
SWPPP	stormwater pollution prevention plan
TACs	toxic air contaminants
TIS	Traffic Impact Study
TPH	total petroleum hydrocarbons
Transit District	San Francisco Bay Area Rapid Transit District
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOCs	volatile organic compounds
WEAT	worker environmental awareness training
WSA	Water Supply Assessment

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Chapter 1
Project Description

Proposed Project

The East Bay Greenway: Lake Merritt BART to South Hayward BART Project (project) would construct a regional trail facility using the Bay Area Rapid Transit (BART) and Union Pacific Railroad (UPRR) Oakland Subdivision corridor rights-of-way (ROW), and public streets, consisting of Class I Multi-Use Path (Class I) and Class IV Separated Bikeway (Class IV) facilities.[1] The project would provide physical separation and protection between vehicles and trail users by providing a facility that is safe and comfortable for bicyclists and pedestrians of all ages and abilities.[2] The project would also include crossings at intersections and midblock locations including traffic control (stop signs and signals) and other modifications to ensure safe and accessible operation; connections to existing and planned sidewalks and multi-use pathways along the project corridor; lighting, fencing, barrier railings, and other features needed to ensure safety and security; bridge structures and retaining walls; and landscaping. The project would not preclude future development opportunities in areas adjacent to the proposed path. Portions of the project would be adjacent to or within the BART corridor but work on BART facilities such as columns and aerial alignments is not proposed as part of this project.

Project Objectives

The objectives of the project are to:

- Improve bicycle and pedestrian network connectivity between Downtown Oakland and South Hayward in Alameda County
- Improve access to regional transit, schools, downtown areas, and major activity centers
- Create a regional trail transportation facility that is accessible and comfortable to bicyclists and pedestrians of all ages and abilities
- Improve safety for bicyclists and pedestrians by providing a facility that is physically separated from high speed, high volume vehicular traffic, and minimizes conflicts between trail users to the maximum extent feasible
- Support promotion of a multimodal transportation system and reduction of greenhouse gas emissions

Project Need

The project is needed to address the:

- Lack of or discontinuous bicycle and pedestrian routes between Downtown Oakland and South Hayward in Alameda County

[1] For the purposes of this document, Class I facilities are referred to as a Multi-Use Path (Shared Use or Separated Bicycle/Pedestrian Use [Bike/Ped]), which are completely separated ROW for exclusive use of bicycles and pedestrians with crossflow minimized). Class IV facilities are referred to as a Separated Bikeway, which is an on-street path for the exclusive use of bicycles separated by a physical obstruction.

[2] The project would comply with Americans with Disabilities (ADA) Act standards.

- Limited mobility and lack of connectivity (convenient access) for students/elderly/socioeconomically disadvantaged, in the region separate from vehicular traffic
- Lack of public recreational facilities/non-vehicular travel modes in region

There are no extended linear bicycle routes that connect the urbanized areas of Oakland, San Leandro, and Hayward. Existing bicycle routes in the project area are non-existent or discontinuous. Bicyclists and pedestrians (where there are no sidewalks) must use traffic lanes to complete their journey, and the traffic lanes frequently have limited space for shared vehicle-bicycle use.

Facilities are needed to improve non-motorized modes of transportation, connectivity, access, and safety for bicyclists and pedestrians between Oakland and Hayward. Furthermore, the urban area in the vicinity of the project is underserved by other public facilities. There are only a few small neighborhood park and recreation areas within ½ mile of the BART corridor between Oakland and Hayward. Providing a designed route, and where feasible, facilities or improvements that encourage walking and bicycle riding can enhance the appearance of an area and be more inviting to potential users.

Project Corridor

The project spans the cities of Oakland, San Leandro, and Hayward and unincorporated portions of Alameda County (County) (Figures 1-1 and 1-2, Project Vicinity and Project Location Maps). The San Francisco Bay borders the County on the west, and the project is within the East Bay coastal plain that is highly developed and one of the most populous regions of the County. The project area is an approximately 16-mile-long corridor that primarily parallels the BART corridor, surface streets, and portions of the UPRR Oakland Subdivision corridor.

The project corridor's northern limit is the Lake Merritt BART Station at Oak Street and E. 9th Street in Oakland. From this point to the Fruitvale BART Station, the project corridor would run east of and generally parallel to the BART corridor via city streets (E. 9th Street, Fallon Street, E. 10th Street, E. 8th Street, and E. 12th Street) as Class IV facilities. Between Fruitvale BART Station (35th Avenue) and 47th Avenue, a Class I is proposed within UPRR ROW.

South of 47th Avenue, where the UPRR connection from the Niles Subdivision crosses San Leandro Street beneath the aerial BART tracks and becomes the Oakland Subdivision, the project corridor remains within or adjacent to the UPRR/BART corridor, to the southern project limit at Tennyson Road and the South Hayward BART Station (approximately 12 miles). Between 47th Avenue and Tennyson Road the project corridor connects to the Coliseum-Oakland International Airport, San Leandro, Bay Fair, and Hayward BART Stations.

Project Design Options

From Lake Merritt BART Station to 47th Avenue Class IV facilities are being considered on the public streets. South of 47th Avenue, two design options are being considered that would bookend the final project alignment. The placement of final alignment would fit within this envelope and is dependent on the amount of UPRR ROW available.

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Figure 1-1
Project Vicinity

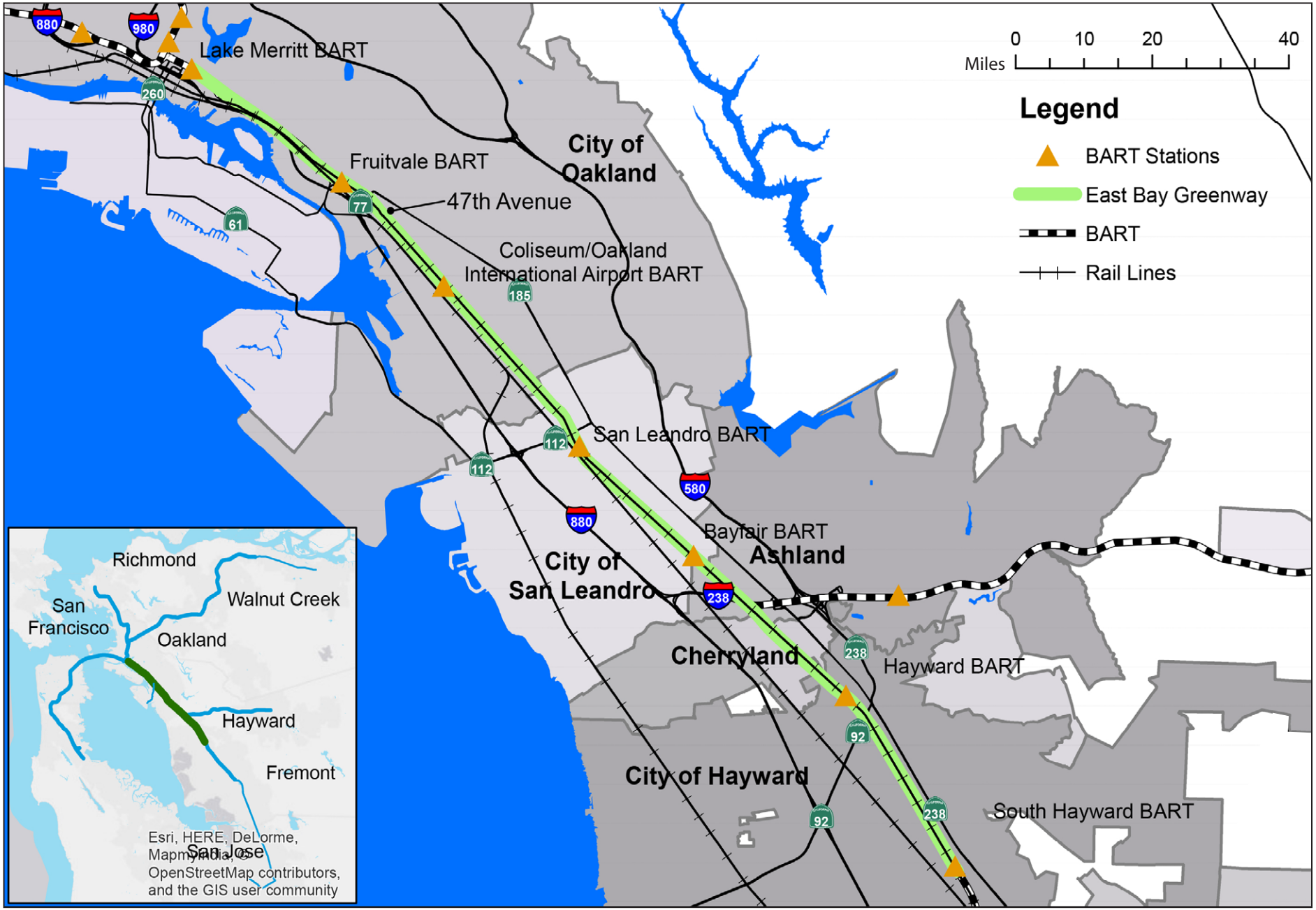

Figure 1-2
Project Location

The design options are:

- R2T: Rail-to-Trail (assumes full UPRR ROW)
- RwT: Rail-with-Trail (assumes minimal UPRR ROW)

Two Concept Design Plans (CDPs) provide detailed information on project structures, intersection improvements, facility class, and pathway/bikeway widths (Appendix A)

Tables 1-1 through 1-3 provide reference tables to the CDPs that summarize project corridor details by the two bookend options and list the project's structural elements.

Table 1-1. Project Corridor Illustrative Cross-Section Details by Option

Project Cross-Section Details by Option			
Map Page[a]	**Location**	**Facility Class**	**Description**
All Design Options			
1-3	Lake Merritt BART Station (Oak Street and E. 9th Street) to 9th Avenue	Class IV (two-way)	8 to13 feet wide bikeway on City streets
4-5	9th Avenue to 14th Avenue	Class IV (two-way)	10 feet-wide bikeway on City streets
5-10	14th Avenue to Fruitvale Avenue	Class IV (one-way)	7 to 8-feet wide bikeway on City streets
10	Fruitvale Avenue to 33rd Avenue	Class IV (two-way)	10-foot wide bikeway on city streets
10-13	35th Avenue to 47th Avenue	Class I (multi-use path)	12 to 14-feet wide path on UPRR ROW
Rail-to-Trail			
13-27	47th Avenue to Davis Street	Class I (separated bike/pedestrian path)	25 to 34-feet wide path on UPRR ROW
27-28	San Leandro Tech Campus: Paseo		
28-44	Thornton Street to Sunset Boulevard	Class I (multi-use path)	18-feet wide path on UPRR ROW
44-52	Sunset Boulevard to Berry Avenue; Harder Road to Sorenson Road	Class I (separated bike/pedestrian path)	30 to 32-feet wide path on UPRR ROW
50-55	Berry Avenue to Harder Road; Sorenson Road to South Hayward BART	Class I (multi-use path)	21-feet wide path on UPRR ROW
Rail-with-Trail			
13-17	47th Avenue to 71st Avenue	Class I (multi-use path)	12 to 14-feet wide path on City streets
17	71st Avenue to 73rd Avenue	Class IV (two-way)	14-feet wide bikeway on City streets (10 feet at spot locations at BART columns)
17-18	73rd Avenue to Hegenberger Road	Class I (multi-use path)	10 feet wide path on City streets due to be consistent with the existing Class I
18-19	Hegenberger Road to 85th Avenue (Existing Class I)		
19-27	85th Avenue to Davis Street	Class I (multi-use path)	10 to 14 feet wide path on City streets/UPRR ROW
27-28	San Leandro Tech Campus: Paseo		
28-55	Thornton Street to Tennyson Road (South Hayward BART)	Class I (multi-use path)	11 to 14 feet wide path on City streets/UPRR ROW

Source: HNTB 2017.
[a] Refer to CDP Maps.

Table 1-2. Project Structural Elements

Project Structural Elements by Option			
Map Page[a]	**Element Name**	**Location**	**Project Element Discussion**
Structural Elements Common to Both Design Options [b]			
11	State Highway 77 (42nd Avenue) Bridge	Oakland	Project would construct a new approach approximately 18 feet wide and 10 foot long, as well as improve an existing railroad bridge within the City of Oakland ROW.
36	Estudillo Canal/ Thornally Drive Bridge	San Leandro	Project would widen or construct a new clear span bridge to 18-feet wide and 40-feet in length, within UPRR ROW to the west.
40	San Lorenzo Creek Bridge	Alameda County	Project would construct a new clear span bridge, 18-feet wide and 190-feet in length, within UPRR ROW to the west.
46	D Street Retaining Walls	Hayward	Project would construct two new retaining walls, approximately 16-feet in height and 400-feet in length, for access to D Street within the City of Hayward ROW.
47	Jackson Street Retaining Walls	Hayward	Project would construct two new retaining walls, approximately 16-feet in height and 400-feet in length, for access to Jackson Street within the City of Hayward ROW.
49	Orchard Avenue Retaining Walls	Hayward	Project would construct two new retaining walls, approximately 16-feet in height and 400-feet in length, for access to Orchard Street within the City of Hayward ROW.
54	Jefferson Street Underpass	Mason Street and Jefferson Street, Hayward	There is an existing pedestrian underpass (tunnel that runs perpendicular beneath the UPRR line) from Mason Drive to the Bowman Elementary School parking lot in the City of Hayward. A new underpass would be constructed 200-feet south of the existing underpass, to connect the project trail with Jefferson Street. The new underpass would be approximately 20-feet wide and 96-feet in length, with an improved clearance of 16-feet.
Rail-to-Trail			
55	Tennyson Road Retaining Walls	Hayward	Project would construct two new retaining walls, approximately 16-feet in height and 400-feet in length, for access to Tennyson Road within the City of Hayward and UPRR ROW.
Rail-with-Trail			
26	San Leandro Creek Bridge	San Leandro	Project would construct a new clear span bridge, 18-feet wide and 140-feet in length, within the BART JUE/UPRR ROW to the west.
31	Washington Avenue Bridge	San Leandro	Project would construct a new clear span bridge, 18-feet wide and 190-feet in length, within the BART JUE/City of San Leandro ROW to the east.

Project Structural Elements by Option			
Map Page[a]	**Element Name**	**Location**	**Project Element Discussion**
31	Washington Avenue Retaining Walls	San Leandro	Project would construct four retaining walls, approximately 8-feet in height and 150-feet in length. Retaining walls north of Washington Avenue are being constructed to avoid a transmission tower within the City of San Leandro ROW.
36	Bay Fair BART Station Retaining Walls	San Leandro	Project would construct two new retaining walls up to 10-ft in height and up to 125-feet in length, to provide ramps from the trail to the pedestrian undercrossing for access to the BART station concourse, fare gates, and parking lots.
38	Ashland Avenue Bridge	Alameda County	Project would construct a new clear span bridge, 18-feet wide and 105-feet long, within Alameda County ROW to the west.
46	D Street Bridge	Hayward	Project would construct a new clear span bridge, 18-feet wide and 195-feet long, within City of Hayward ROW to the west.
47	Jackson Street Bridge	Hayward	Project would construct a new clear span bridge, 18-feet wide and 270-feet long, within City of Hayward ROW to the west.
50	Whitman Street Retaining Wall	Hayward	Project would construct a new retaining wall, approximately 4-feet in height and 1,300-feet in length, due to a UPRR embankment within the City of Hayward ROW.
55	Tennyson Road Retaining Wall	Hayward	Project would construct a new retaining wall, up to 16-feet in height and approximately 400-feet in length, for access to Tennyson Road, within the City of Hayward ROW.
55	Tennyson Road Bridge	Hayward	Project would construct a new clear span bridge, 18-ft wide and 200-ft in length, north of the South Hayward BART station and east of the UPRR, within the City of Hayward ROW.

Source: HNTB 2017.

[a] Refer to CDP Maps.

[b] Where the project would use an existing bridge, it would construct a new trail, including surficial treatments such as scraping for striping, treatment, paint, and temporary construction activity at and around the bridge supports.

Table 1-3. Project Creek and Waterbody Crossings

Project Creek and Waterbody Crossings				
Map Page[a]	**Water Feature Name (Bridge)**	**Location/City at Crossing**	**Description of Waterbody**	**Construction at or Encroaching on Waterbody[b]**
2	Lake Merritt Channel	E.10th Street near 2nd Avenue/City of Oakland	Open channel; surface exposure. Brackish, tidal, wide channel. Natural substrate (i.e. mud) with no vegetation.	Project to use existing E. 10th Street bridge over waterbody.
9 (not shown)	Sausal Creek	E. 12th Street, near 30th Avenue/City of Oakland	Culverted and underground in ROW; no surface exposure. Nearest daylight 750 feet NW of project corridor.	None. Waterbody located underground.
10 (not shown)	Peralta Creek	E. 12th Street, near 34th Avenue/City of Oakland	Culverted and underground in ROW; no surface exposure. Nearest daylight 2,950 feet NW of project corridor.	None. Waterbody located underground.
17 (not shown)	Lion Creek	San Leandro Street, near 69th Avenue/City of Oakland	Culverted and underground in ROW; no surface exposure. Brackish, tidal, wide, channel. Concrete-lined with no vegetation.	None. Waterbody located underground.
18 (not shown)	Arroyo Viejo	San Leandro Street, south, near Hegenberger Road/City of Oakland	Culverted and underground in ROW; no surface exposure. Brackish, tidal, wide channel. Concrete-lined with no vegetation.	None. Waterbody located underground.
19	Elmhurst Creek	San Leandro Street, near 85th Avenue/City of Oakland	Open channel in UPRR ROW; surface exposure. Freshwater, channel with no vegetation in UPRR ROW. Culverted and underground in BART ROW; no surface exposure. Concrete-lined with no vegetation in BART ROW.	Project to use existing UPRR bridge.
26	San Leandro Creek	San Leandro Boulevard, between Lille Avenue and Antonio Street/ City of San Leandro	Culverted and underground in UPRR ROW; no surface exposure. Freshwater, vegetated, narrow, channel outside ROW.	None. Waterbody located underground.

Project Creek and Waterbody Crossings				
Map Page[a]	**Water Feature Name (Bridge)**	**Location/City at Crossing**	**Description of Waterbody**	**Construction at or Encroaching on Waterbody[b]**
36	Estudillo Canal	West of Thornally Drive/City of San Leandro	Open channel in UPRR ROW; surface exposure. Freshwater, wide channel. Concrete-lined with no vegetation.	Project to widen or construct a new clear span bridge.
40	San Lorenzo Creek	North of Hampton Road and Western Boulevard intersection/ City of Hayward	Open channel in UPRR ROW; surface exposure. Freshwater wide channel. Concrete-lined with no vegetation.	Project to construct a new clear span bridge.
47	Ward Creek	West of Pinedale Court (West end)/Hayward	Culverted and underground in BART ROW; no surface exposure, concrete-lined with no vegetation. Open channel in UPRR ROW; surface exposure, freshwater, shallow channel with no vegetation. Outside of UPRR/ BART ROW channel is vegetated.	Project to use existing UPRR bridge.
50	Unnamed drainage	Whitman Street near Culp Avenue/ City of Hayward	Culverted and underground in ROW; no surface exposure. Nearest daylight 180ft SW of project.	None. Waterbody located underground.
51	Zeile Creek	Whitman Street near Ainslee Court/City of Hayward	Open channel in ROW; surface exposure. Freshwater channel. Concrete-lined with no vegetation.	Use of existing UPRR bridges or sidewalk.

Source: 2012 IS/MND, 2016 PES, February 2017 CDPs, ICF Site Visits 2017.

[a] Refer to CDP Maps.

[b] Note: All bridge widening or expansion proposed by the project will be clear span, and all work conducted and installation of all bridge components (including foundations) would be done outside of banks.

Rail-to-Trail (R2T) Option

The R2T option could use the full width of the UPRR Oakland Subdivision ROW (80 to 100 feet) and would require abandonment of rail service for the length of the project corridor. Under this option, all railroad tracks, appurtenances, facilities, and crossing gate assemblies in the project area would be removed or salvaged.

The Class I facility under the R2T option would range from 18 to 34 feet, including separate pathways for bicyclists and pedestrians in many sections. Deviations from these preferences are based on physical constraints, including bridges and other structures as well as topographic

constraints. Under the R2T option, additional ROW not used for project trail facilities could form opportunity areas for landscaping, programmed recreation uses, or redeveloped over time.[3]

The R2T option has been designed to avoid conflict with existing BART structures. All existing UPRR crossings would be replaced by the trail and no private ROW acquisition would be needed. Existing rail structures at grade-separated crossings would be retrofitted and repurposed as trail crossings.

The final R2T alignment could be different from which was illustrated in the CDPs. The R2T option assumed for environmental analysis purposes captures similar potential environmental impacts of any R2T final alignment.

Rail-with-Trail (RwT) Option

The RwT option would maintain the Oakland Subdivision as an active rail line for the length of the project corridor. This option would encroach into UPRR ROW only in sections where there is no feasible way to implement a Class I facility in public ROW or where a Class I facility wholly outside of UPRR ROW would require tradeoffs such as parking loss, tree removal, private ROW takes, or construction of the trail facility immediately adjacent to residential areas. Trail facility placement and configuration under the RwT option takes requirements related to active rail line setbacks into consideration.[4]

The RwT option would provide Class I facilities for bicyclists and pedestrians that range in width from 10 to 14 feet. Where there is sufficient ROW the project includes opportunities for landscaping and placemaking amenities.

The RwT option has been designed to avoid conflict with existing BART structures. All existing UPRR crossings would remain unchanged under the RwT option and there would be one private ROW acquisition.[5] At existing grade-separated crossings and creek crossings, construction of new bridges adjacent to existing bridges would be required for the RwT option. Furthermore, in portions of the corridor where the rail is on an embankment, retaining walls would be required.

To the extent ROW is determined to be available during subsequent project development phases, the final project alignment would be located within the envelope bookended by the two design options illustrated in the CDPs. The RwT may encroach further into UPRR ROW and would require less narrowing of roadways, relocation of trees, or removal of parking. Therefore, the RwT option assumed for environmental analysis purposes depicts minimum usage of UPRR ROW so as to capture the maximum potential environmental impacts.

[3] The project includes landscaped areas such as landscaped buffers, medians, and islands. Opportunity areas for landscaping, hardscape improvements, programmed open space/recreation uses, and redevelopment areas are illustrated in project figures, described as “opportunity” or “flex” features, and would be provided by others (refer to CDPs on the project website).

[4] Project trail setbacks would comply to the extent possible with UPRR requirements (25 feet from rail centerline) and would comply in all cases with California Public Utilities Commission (CPUC) requirements (10 feet from rail centerline).

[5] One private ROW acquisition would be necessary under only the RwT option that would consist of 65 square feet on Assessor Parcel Number #431-4-90.

Project Construction

Construction activities are generally anticipated to include, but not be limited to, retaining walls (foundations up to 6 feet in depth), clear-span bridge modification and/or construction (piers/foundations up to 15 feet in depth), concrete and/or asphalt paving (2 feet in depth), restriping roadways, construction of median islands and bulb outs, reconstruction of sidewalk, curb extension and ramps, bus platform extension, earthwork, relocating and/or resetting utilities and drainage facilities (4 feet in depth), relocating and new roadside signs, installing or modifying electrical facilities such as lighting (6 feet in depth) and signals (9 feet in depth), relocating trees, installing landscaping/hardscaping, installing signs (3 feet in depth), narrowing travel lanes, fencing, hand-railing, and providing intersection crossing controls treatments.

For R2T, grading would be required south of 47th Avenue to lower rail embankments or reduce side slope. Under RwT, grading would be required to provide the trail within the UPRR (or a joint-use easement [JUE] with BART) or on street ROW, adjacent to the active rail line, to new structure approaches, or to conform to existing grade.

The project could use up to seven potential staging areas located throughout the corridor. The proposed staging areas comprise existing parking lots or vacant lots, which are either paved or dominated by ruderal vegetation, except for Whitman Street and Sorenson Road, which is a triangular open space area.

Due to the length of the project and determination of UPRR ROW availability, and in order to open portions of the project to the public in the near term, the project could be implemented in phases.

Utilities Relocation

Relocation of existing underground utilities, including but not limited to water, wastewater, electric/gas, and telephone/cable/internet may be required. The project would be located within or adjacent to existing road ROWs and thus utility relocation would be integrated into the existing systems. Maximum excavation for underground utilities is not anticipated to exceed depths of 15 feet with a diameter of 54 inches.

Site Restoration

This project is not anticipated to encroach upon any existing sensitive biological resources habitat. The project could remove or relocate trees (relocating trees in the same general area [i.e., the same block]) along the project corridor, however, existing trees would be avoided or preserved to the extent possible.

Chapter 2
Environmental Checklist

1.	**Project Title:**	East Bay Greenway: Lake Merritt BART to South Hayward BART
2.	**Lead Agency Name and Address:**	Alameda County Transportation Commission (Alameda CTC), 1111 Broadway, Suite 800 Oakland, CA 94607
3.	**Contact Person and Phone Number:**	Minyoung Kim, P.E., Project Manager
4.	**Project Location:**	Spans the cities of Oakland, San Leandro, Hayward, and unincorporated portions of Alameda County from the Lake Merritt BART Station at Oak Street and E. 9th Street to the Hayward BART Station
5.	**Project Sponsor's Name and Address:**	Alameda CTC, 1111 Broadway, Suite 800, Oakland, CA 94607
6.	**General Plan Designation:**	Varies by location and jurisdiction
7.	**Zoning:**	Varies by location and jurisdiction
8.	**Description of Project:**	Regional trail facility. Refer to Chapter 1.
9.	**Surrounding Land Uses and Setting:**	Land uses and setting vary by location and jurisdiction. Refer to Chapter 1.
10.	**Other Public Agencies Whose Approval May Be Required:**	Cities of Oakland, San Leandro, and Hayward; Alameda County, Bay Area Rapid Transit (BART), Department of Transportation (Caltrans), East Bay Regional Parks District (EBRPD), and California Public Utilities Commission (CPUC).

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, has consultation begun?

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code Section 21082.3(c) contains provisions specific to confidentiality.

No California Native American tribes traditionally and culturally affiliated with the project area have requested consultation. However, consultation pursuant to Public Resources Code Section 21080.3.1 has occurred.

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is "Less-Than-Significant with Mitigation Incorporated"), as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because mitigation measures are included in the project and therefore, this MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	10/16/2017
	Date
Trinity Nguyen, Director of Project Delivery	Alameda County Transportation Commission
Printed Name	For

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the proposed project falls outside a fault rupture zone). A "No Impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the proposed project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact". The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, "Earlier Analyses", is cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the proposed project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

Important Note to Readers

The California Supreme Court in a December 2015 opinion [California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal. 4th 369 (No. S 213478)] confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project on the environment, including whether a project may exacerbate existing environmental hazards.

Jurisdictions within the project area have policies and programs that address existing conditions (e.g., air quality, noise, and hazards) that may affect a project. This is consistent with one of the objectives of CEQA and this document, which is to provide information to decision-makers and the public regarding the project as a whole. The CEQA Guidelines and courts are clear that CEQA document, such as this Initial Study, can include information of interest, even if such information is not an "environmental impact" as defined by CEQA. Therefore, as applicable this Initial Study discusses planning considerations that relate to policies pertaining to existing conditions, such as locating a project near sources of air emissions that can pose a health risk, in a floodplain, in a geologic hazard zone, in a high noise environment, or on or near sites involving hazardous substances.

I. Aesthetics	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☒	☐	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☒	☐	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Visual Impact Assessment for the East Bay Greenway Project, Alameda County, California* (ICF 2017a).

Generally, the project corridor is urban in character with views dominated by transportation infrastructure (commuter rail, rail freight, highways, and roadway arterials), commercial areas, industrial areas, and moderately dense residential neighborhoods. Urbanized development limits most views to the project corridor and prevents expansive, scenic vista views.

The most northerly portion of the project, near the Lake Merritt BART Station, follows urbanized surface streets with three- to four-story mixed-use residential and commercial buildings on both sides of street. This area offers scenic views to Lake Merritt and associated open space at the outflow of the lake. This area also provides views to landmark buildings such as the Alameda County Court House, Oakland Museum of California, Henry J. Kaiser Convention Center, and the Oakland Unified School District Building. These tall structures create a dense urbanized experience at the northern end of the project corridor.

At the intersection of 9th Avenue and E. 8th Street, the project corridor parallels the UPRR ROW and remains adjacent to rail infrastructure until the intersection of 19th Avenue and E. 12th Street. From the intersection of 19th Avenue and E. 12th Street, the project corridor aligns with and falls within the UPRR ROW to the project's southern terminus at Tennyson Street. The BART and UPRR heavily influence the visual character of the project corridor, with views of rail infrastructure, chain-link fence, graffiti, unmaintained landscape areas, exposed concrete surfaces, and ruderal vegetation often dominating the visual experience. The BART rail line is elevated on a viaduct throughout the majority of the project length and towers over pedestrians and motorists obscuring the skyline. The elevated BART track provides a consistent visual element through the length of the project that unifies the project corridor (URS 2012). However, heavy commuter train traffic attracts viewers' attentions towards the BART viaduct structure, which is utilitarian looking and made of unadorned concrete. Additionally, the area beneath the BART viaduct is often unmaintained as previously described. Both of these conditions detract from the viewing experience in the project corridor.

Commercial and industrial scenes bordering the BART tracks also typify the project corridor between the Fruitvale BART Station and just north of the San Leandro BART Station. Residential areas do exist in this area, but views are predominantly of large warehouses, factories, unmaintained lots, large surface parking lots, and shipping container storage. The Coliseum/Oakland Airport BART Station is bordered to the south by industrial land uses and the Oakland Coliseum and to the north by newer residential areas and parking lots. The Oakland Coliseum is visible to the south from the project corridor and is noticeable as a point of interest in the distant foreground. However, views of street trees, fenced industrial areas, large parking lots with trees, residential areas, and traffic-filled surface streets dominate the immediate foreground.

Starting at the San Leandro BART Station, the project corridor transitions into a residential mixed-use area. Further south, at the Bay Fair BART Station, the project corridor is primarily residential with some views to open space (URS 2012). Views to the coastal foothills are also more frequent south of the San Leandro BART Station. The scenic quality of the project corridor tends to improve towards the southern extent of the project, where orderly views of residential areas provide some relief from the heavy industrial areas along the northern and central portions

The most notable and aesthetic waterway within the project corridor is the outlet for Lake Merritt. Three other waterways that cross the project corridor are also notable from an aesthetic standpoint. San Leandro Creek is a vegetated channel that is visible from the project corridor just north of the San Leandro BART Station. San Lorenzo Creek is a concrete channel that has adjacent riparian vegetation that can be seen from the project corridor near the intersection of Hampton Road and Western Boulevard. Finally, the Estudillo Canal is a trapezoidal concrete canal located just north of the Bay Fair BART Station. Aside from the Lake Merritt outlet, none of these waterways provide an aesthetic viewing experience, but do offer some visual interest along the project corridor.

Parks and open space areas along the project corridor provide some visual relief from views of commercial and industrial areas. At the northern extent of the project corridor, Peralta Park and Frank Youell Athletic Field are notable open space areas. Further south, small parks, open space areas, and schools with landscaped areas provide visual interest.

These areas include the following:

- Vantage Point Park at 13th Avenue and 12th Street
- Siempre Verde at Park Street and San Leandro Boulevard
- Halcyon at 147th Avenue and Julietta Street
- Halcyon Greenbelt along Halcyon Drive
- Stonehurst Recreation Area at 105th Avenue and San Leandro Street
- Siempre Verde Park at Park Street and San Leandro Boulevard
- Hayward Community Gardens near Whitman Street and Berry Avenue
- Harder Elementary School at Harder Road and Whitman Street
- Cherryland Elementary School at Sunset Boulevard and Western Boulevard
- Brenkwitz High School at Sunset Boulevard and Western Boulevard
- Meek Park at Hampton Road and Wickman Court
- Sunset Park at Western Boulevard and Sunset Boulevard
- Bechtel Park at Beale Drive and Ingram Place
- Nuestro Parquecito paralleling E. 10th Street, just north of the Hayward BART Station

In addition to trees present in parks and open space areas, street trees provide some visual relief along the project corridor. Street trees are most dense in residential areas and where the project corridor follows surface streets. Trees provide less of a visual presence in heavily developed commercial and industrial areas and below the BART viaduct. Street trees do provide visual relief in

the heavily urbanized project corridor, but are not enough of a presence to define the users experience anywhere within the project corridor.

No eligible or designated state scenic highways are within view of the project corridor. I-580, approximately 1 mile north of the project corridor, is an official state scenic highway but does not have views of the project corridor due to dense urban and suburban development and intervening vegetation. I-80 is approximately 2.8 miles northwest of the project corridor and is an eligible state scenic highway, but is not officially designated (California Department of Transportation 2017).

While I-580 is also known as the MacArthur Freeway, the segment of I-80 within the project area is also a part of the MacArthur Freeway, which is a City of Oakland designated scenic route from its intersection with I-580 to the San Francisco-Oakland Bay Bridge approach (refer to Map 2 in the Scenic Highways Element) (City of Oakland 1974). Like the state designate portion of I-580, this state eligible and City of Oakland designated segment of I-80 does not have views of the project corridor due to dense urban and suburban development and intervening vegetation.

The Scenic Route Element of the Alameda County General Plan (1966) designates several existing scenic routes near or adjacent to the project corridor. These routes have very limited, brief views of the project corridor as roadway travelers cross or pass by the corridor and are as follows:

- Grand Avenue is approximately 0.82 miles north of the project near the Lake Merritt BART Station
- Lakeshore Avenue and Lakeside Drive follow Lake Merritt's shoreline and are approximately 0.2 miles from the project near the Lake Merritt BART Station
- I-880 or the Nimitz Freeway parallels the project to the south and, at its closest point, is 275 feet from the project near the intersection of E. 8th Street and 14th Avenue
- 98th Avenue crosses the project 1.5 miles south of the Coliseum/Oakland Airport BART Station
- I-238 crosses the project corridor 0.86 miles south of the Bay Fair BART Station
- Mission Boulevard is within 0.25 miles of the project near the Hayward BART Station

In addition to these routes, SR 92/Jackson Street is identified as a future Alameda County scenic route. The City of Hayward identifies that portions of I-580, I-880, and SR 92 are officially designated as having unique or outstanding scenic qualities (City of Hayward 2014). San Leandro General Plan designates Nimitz (I-880) and MacArthur (1-580) freeways as city scenic highways (City of San Leandro 2016). These routes do not cross the project corridor. Davis Street, Marina Boulevard, and E. 14th Street are not formally designated but are considered City of San Leandro gateways and remain priorities for streetscape improvements. Davis Street and Marina Boulevard cross the project corridor and E. 14th Street parallels the corridor approximately 0.4 miles to the north.

Generally, the visual landscape of north and central portion of the project corridor are characterized by heavy transportation infrastructure, unmaintained landscape, exposed concrete, and commercial and industrial land uses. URS (2012) classified these areas as having low visual character. An exception to this description is the area nearest the Lake Merritt BART Station, where views to landmark buildings, the Lake Merritt outlet, and surrounding open space provide scenic interest. In addition, south of the San Leandro BART Station the project transitions to mixed use and residential areas, which do provide some visual order. URS (2012) classified these areas as having moderate visual character.

Viewer groups are defined as *Neighbors* (people with views *to* the project corridor) and *Users* (people with views *from* or *within* the project corridor). Neighbors include employees of nearby commercial and industrial businesses, occupants of adjacent residential areas, and cyclists, pedestrians, commuters, and motorists along streets that are adjacent to the project corridor. Users include, commercial and residential viewers at the northern project terminus, commuters entering and exiting BART stations, and motorists, commuters, cyclists, pedestrians, and transient residents using local streets and bus and commuter rail facilities within the project corridor. The project area is currently characterized as a busy transportation corridor with both heavy rail and automobile traffic. Therefore, neighbors would have moderately low sensitivity due to familiarity with transportation facilities, focus on work activities, and limited views to the corridor. Users pass through the area quickly, are likely to be focused on surrounding traffic, and are familiar with the areas – contributing to moderately low viewer sensitivity. The composite sensitivity of all viewer groups would be moderately low.

As described under the *Affected Environment*, there are no roadways within or near the project area that are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. The segment of I-80 passing near the project area (but from which views are not available) is an eligible state scenic highway, but is not officially designated (California Department of Transportation 2013).

Discussion

Visual impacts from both bookended options and thus any final alignment options that may fall between them would be comparable. Therefore, impacts are discussed together. Expansive, scenic views out and over the landscape are not available from the project corridor, due to the predominance of urban and suburban development. Therefore, although there are limited scenic views available along the project corridor, such as views to Lake Merritt and its associated open space at the outflow of the lake, the study area is not considered to have scenic vistas. Accordingly, the project would not substantially degrade a scenic vista and there would be no impact on such scenic resources.

a. Less Than Significant Impact. As described, no eligible or designated state scenic highways that are within view of the project corridor. In addition, the City of Oakland designated scenic segment of I-80 does not have views of the project corridor. Views from these routes are not available due to dense urban and suburban development and intervening vegetation. Therefore, these corridors would not be affected by the project.

Alameda County and City of Hayward scenic routes and City of San Leandro gateways have very limited, brief views of the project corridor as roadway travelers cross over or pass nearby the corridor. Roads that cross over the project corridor would have brief views directly toward or down the corridor, but viewers pass over the corridor in a matter of seconds, are already accustomed to the rail corridor, and the pathway would not stand out or contrast against the existing visual setting in this urbanized environment. Roadways that pass near the project corridor may have very limited views of the project corridor. However, the curvature of intersecting roadways that allow for view corridors from the scenic route to the project corridor, direction of traffic in relation to views of the corridor, dense urban and suburban development, intervening vegetation, and low-profile of the project's built features would make views of the corridor very hard to discern, if at all visible. Therefore, substantial adverse impacts on scenic vistas are less than significant.

b and c. Less Than Significant/Less Than Significant With Mitigation. The project would create minor visual impacts due to construction activities under both design options (R2T and RwT). The project would likely be implemented in phases from 2021 through 2023 due to the considerable length of the proposed facility, uncertainty regarding the availability of the UPRR ROW, and in order to open portions of the project to the public in the near-term. Because of the anticipated phasing of the project, construction impacts would be of a limited scope at any one time and occur relatively quickly. Further, both neighbor and user viewer groups are accustomed to automobile traffic passing through the project corridor. The addition of construction equipment and staging areas would not appreciably detract from this already busy area with low visual character. Construction equipment and materials would be stored in the project's staging areas. Visual impacts on these areas are anticipated to be minimal, where conditions already consist of vacant land covered in ruderal vegetation or asphalt. Two exceptions are the proposed staging areas at Whitman Street and Sorenson Road and at 73rd Avenue near the San Leandro BART Station, where existing trees are present. However, as identified in the Natural Environmental Study (NES), tree protection measures would be implemented for California or coast live oak (*Quercus agrifolia*) measuring 4 inches diameter at breast height (DBH) or larger any other tree measuring 9 inches DBH or larger except Eucalyptus (*Eucalyptus sp*.) and Monterey pine (*Pinus radiata*) (California Department of Transportation 2017). This includes installing exclusionary fencing that would protect trees during construction and would ensure that impacts on mature trees are minimized.

The most notable infrastructure proposed by the project, in term of visual impacts, are the trail facilities themselves. Both Class I and Class IV trail facilities would be constructed of either asphalt or concrete with widths of 18 feet to 34 feet for the R2T option and 10 feet to 14 feet for the RwT option. The R2T option would also include adjacent decomposed granite shoulders and a decomposed granite jogging path throughout much of its length. Linear asphalt or concrete structures, such as trails, would not stand out in the project corridor, an area that is already defined by linear transportation structures. In fact, the addition of a well-maintained trail facility would add visual unity to the project corridor, while at the same time making it more pedestrian friendly. This is particularly true for the R2T option, where old, and sometimes derelict, rail infrastructure would be replaced with the trail and associated landscaped areas. Further, under the R2T option, replacing the railroad tracks in the project corridor would alleviate the visual disturbance of passing trains and replace them with quite, non-motorized forms of transportation. The R2T option would include a landscaped or hardscaped median between lanes, providing some visual relief within the unmaintained industrial areas that characterize much of the project corridor. The RwT option requires that Class I facilities be constructed immediately adjacent to existing surface streets in many instances. The effect in these areas would be to increase the overall paved areas without a landscape buffer. The increase in pavement would be incremental to the already large amount of paved surfaces within the project corridor, resulting in a nominal increase in glare. This increase in pavement would not degrade the existing visual quality of these areas, nor would it improve the visual condition of the project corridor like the R2T option. Therefore, there would be a neutral change at these locations.

Neighbor perceptions of greenway trails can sometimes be negative, where residents believe that introduction of trails could lead to increased crime rates, vandalism, and littering. While these perceptions may be mistaken—areas adjacent to trail facilities often have lower rates of crime than surrounding areas (Tracy and Morris 1998), the perception of lowered safety (as a result of increased trail activity, vandalism, and litter) can lead to fewer people using trail facilities (Loukaitou-Sideris 2006). Existing privacy fencing and grade separations obscure the project from

view in many adjacent residential areas, possibly tempering negative perceptions of the trail. There are exceptions, where the proposed trail would be directly visible from residential areas. The project corridor along Western Boulevard from Hampton Road to A Street is an example of this. In these areas, trail maintenance would be critical for improving perceptions of safety along the trail (Zelinka and Brennan 2001). In addition, there are some sections where the trail would be up on an embankment, such as from Tennyson Road to Sorenson Road and along Whitman Street and Western Boulevard. Along these segments, there may be sight lines over fences and down into residences. However, most of the residences that back the corridor already have wooden privacy fencing and dense landscaping that block most views and would maintain privacy. Where privacy fencing and landscaping is sparse, or where residences face the corridor, views from the trail into the yards of residences would be more available. However, BART users already have similar views in passing, though at higher rates of speed. Trail users would travel at a slower speed but would also pass by residences, as well, so that views would not be fixed in any one location. Furthermore, although trail users may glance over to residential areas, they tend to be more focused on views down the trail when walking, running or cycling for safety reasons.

Bridges and underpasses are notable features within the project corridor; modifications to existing bridges and underpasses, and the construction of new clear span bridges and an underpass, would have impacts on visual character. Under both options, there would be up to three new clear span bridges constructed adjacent to the existing bridge, one new underpass, and six new retaining walls at three locations. Under the R2T option, there would be two additional retaining walls. Under the RwT option, the project would require the construction of an additional six new clear span bridges constructed adjacent to the existing bridge (for a total of nine), and eight new retaining walls (for a total of 14 retaining walls, as described in Table 1-2). Because transportation infrastructure, including bridges and aerial structures, already dominates the visual setting throughout much of the project corridor, the modification of existing bridges and the addition of new bridges and an underpass would have minimal impacts on the existing visual landscape. The construction of new bridges and an underpass offers the opportunity to incorporate location specific urban design into the project, as stated in the project CDPs. Any modification or construction of new bridges should conform to Measure AES-1, described as follows. Under both options, the construction of a new underpass near Jefferson Street would improve existing conditions. The new underpass would have an improved height of 16 feet, which is taller than the existing pedestrian tunnel 200 feet to the north. Well-lit and properly dimensioned tunnels are critical for ensuring trail user safety and the perception of trail safety.

Similar to bridges, grading and retaining walls are notable features in the landscape, and have the potential to affect the visual quality of the project corridor. The RWT option would require the construction of six retaining walls up to 16 feet in height and 400 feet in length, and the R2T option would require eight retaining walls up of the same dimensions. Retaining walls under both options would be partially visible from residential backyards along Oharran Drive and May Court and directly visible along Whitman Street from an adjacent residence or business. The R2T option would require 16 feet in height and 400 feet in length retaining walls adjacent to the project corridor and perpendicular to Tennyson Road, along the backyard of several residences. The RwT option would require an additional eight retaining walls: four 8 feet in height and 150 feet in length, two up to 10 feet in height and 125 feet in length, one 4 feet in height and 1,300 feet in length, and finally one 16 feet in height and 400 feet in length. Both options would construct two new retaining walls, approximately 16 feet in height and 400 feet in length, for access to Jackson Street within the City of Hayward ROW. There is currently a sound wall northwest of Jackson Street that is located at the top

of the roadway bank, bordering adjacent residences. The retaining wall northwest of Jackson Street would be constructed to support the creation of pedestrian connector ramps from the East Bay Greenway Trail to the Jackson Street sidewalk and the wall would not higher than the existing top of slope. There is currently no pedestrian access to the tracks at this location; however, a new retaining wall at this location could block views of the mural of the mural from Jackson Street and the sidewalk, which is likely to be of community importance. The mural is painted on the sound wall that is located along the tracks and Jackson Street and was painted by the local artist, Jean Bidwell, in 2010 and 2011 as part of the City of Hayward's Mural Art Program (Kurhi 2011). It is critical that project design, including built structures, complement the natural and cultural landscape, are aesthetically pleasing, and minimize the effects of visual intrusion on the landscape. Measure AES-1, described below, would help minimize any negative visual impacts of the project. Furthermore, Measure AES-2 and AES-3 would reduce the negative visual impacts associated with the mural along Jackson Street.

The project may require tree removal or relocation in several places. Within the project area, 213 trees have the potential to be impacted by construction activities (refer to Table 4 in the NES). As described, palm trees within the planting islands near the Coliseum BART Station would need to be relocated, approximately 50 trees would be removed or relocated along Western Boulevard between Blossom Way and A Street, one tree and up to four mature shrubs south of the Bay Fair BART Station, several mature trees located on either side of D Street, and approximately three trees north of the South Hayward BART Station and along Tennyson Road would either need to be removed or relocated. Trees at the Coliseum BART Station and along Western Boulevard have canopies that are up to 30 feet high; however, these trees provide some of the only visual relief within the project corridor. The trees and shrubs at the Bay Fair BART Station are a part of the existing station landscaping that would be affected by the addition or retaining walls. Mature trees on either side of D Street would be affected, depending on the size of the area impacted by construction of the new retaining walls on either side of the roadway. The three trees at the South Hayward BART Station are approximately 50 feet high and are part of the roadside landscaping along Tennyson Road. To the extent possible, tree removals would be avoided as part of final design. If relocation is possible, trees would be relocated on the same block, where possible. However, some trees may need to be removed due to cost restrictions or low chances of survival associated with relocation (due to tree size or species types that may not transplant well). Therefore, removing any trees would have a negative effect on the visual character of the project corridor. However, landscape improvements provided by the project have the potential to outweigh the initial loss of trees. In addition, as described under *Project Amenities and Landscaping* and Measure AES-1, initial improvements would focus on general landscaping within ROW areas, at trail access points, and at trail intersections with surface streets, which is where many of the removals would likely occur. This would aide in re-landscaping areas affected by tree removals. As prescribed in Section 4.3.1.8 of the NES and Measure AES-4, tree protection measures would be implemented and an arborist report would be prepared to survey and document all the trees and shrubs that would be trimmed, removed, or damaged by construction activities.

In addition, impacts on trees and shrubs would need to comply with the Alameda County and City of Oakland, San Leandro, and Hayward policies and ordinances that protect affected vegetation including:

- Alameda County's Municipal Code: Chapter 12.11 'Regulation of Trees in County Right-of-Way (Appendix G of the NES).
- City of Oakland's Municipal Code: Chapter 12.32 'Street Trees and Shrubs'. Oakland's Municipal Code 12.32.060 states "*permit to maintain, remove, mutilate, attach to, or detach*

from, trees), states that it is unlawful for any person to make any tree or shrub improvement, or to destroy, deface or mutilate any tree or shrub in and along any public street, or to attach or place any rope, wire, sign, poster, handbill or other thing to or on any tree growing in any public street, or any guard or protection of such tree, or to cause or permit any wire charged with electricity to come in contact with any such tree, without having first obtained a written permit therefor from the Director of Parks and Recreation of the city."

- City of Oakland's Municipal Code: Chapter 12.36 'Protected Trees' (Appendix H of the NES).
- City of San Leandro's Municipal Code: Chapter 5.2 'Street Trees' (Appendix I of the NES).
- City of Hayward's Municipal Code: Article 15 Section 10 'Tree Preservation' (Appendix J of the NES).

The arborist report would identify impacts on trees protected by these County and City polices and ordinances.

Where the project crosses existing roadways, intersection improvements would be required under both options. Improvements would include new crosswalk striping, curb modifications and extensions, signalized intersections, and dedicated left- and/or right-turn pockets. At unsignalized intersections, treatments such as raised crosswalks, median refuge islands, high visibility crosswalks, pedestrian and bicyclist activated rectangular rapid flashing beacons would be used.

At locations where the project would not cross the roadway within 100 feet of an existing intersection, a new mid-block trail crossing would be implemented. These improvements are specific to pedestrian and bicycle infrastructure, but are not unfamiliar elements in transportation corridors, such as the project area. Further, these elements are critical to pedestrian and cyclist safety and would add visual order to areas where the trail interfaces with existing surface streets. As a result, the visual condition of the project corridor would improve.

Project safety features would include fencing, barrier rails, signage, lights and striping under both options. Fencing would also be required to protect trail users from the rail ROW. Depending on the design option, the length of fencing would vary. However, the RwT option would require more fencing to prevent access to active UPRR rail lines. Currently, chain link fencing is found throughout much of the project corridor as a barrier between roadways, sidewalks, easements areas, and the BART and UPRR ROW. Moving existing fencing or adding additional fencing would have minimal impact on the visual quality of the project corridor. Measure AES-5 below describes design guidelines to allow fencing to recede within and blend into views, minimizing negative effects on the visual condition of the project corridor. Additional safety features such as concrete barriers, guardrails, signage, lights and trail striping would not be noticeable to viewers, who are accustomed to similar transportation infrastructure preexisting in the corridor. In fact, these features may provide additional visual order and unity to the project corridor and would increase the sense of safety.

The project provides opportunities for general landscaping—including shrubs and trees, hardscape improvements, green infrastructure, and linear open space areas. Improvements would focus on general landscaping and stormwater infrastructure within ROW areas, at trail access points, and at trail intersections with surface streets. The R2T option offers more opportunities for these improvements because of the greater availability of ROW. In addition, the project would make land available to outside entities to develop as programmed open space and urban development; however, these developments are outside of the scope of this document. Currently, views of rail infrastructure, chain link fence, graffiti, unmaintained landscape areas, exposed concrete surfaces, and ruderal vegetation characterize the project corridor—offering low visual quality. Any

improvements to the landscape of the project corridor would benefit the visual condition of the site. Therefore, overall impacts related to substantial degradation of the existing visual character or quality of the site and its surroundings is less than significant with mitigation.

d. Less Than Significant With Mitigation. Typical hours of construction would be informed by contractor preference, and would comply with each jurisdiction's municipal ordinance construction hour limits, including any work that is conducted during the nighttime hours. If construction occurs during nighttime hours, this would create a need for high-intensity lighting to illuminate construction activities occurring in the dark. However, if needed, such lighting would not result in severe impacts because most sensitive residential areas are at a great enough distance or are not within visual sight of the construction area and roadway travelers would pass by such lighting very briefly. Where residential areas are within sight of the project corridor, such as south of the San Leandro BART Station, Measure AES-6 would be applied to reduce disturbance in these areas.

Project safety features would also include lighting under both options. Lighting would be low-level to provide safety and wayfinding for pedestrian and bicyclists and no bright night lighting would be introduced. Because the project follows exiting transportation corridors, it is expected that any additional lighting would be incremental to existing street lighting. Similarly, any increases in glare due to additional lighting would be incremental to existing conditions. However, some areas of the corridor pass through private property and do not currently have existing street lighting. Lighting could negatively affect sensitive receptors if not properly designed. In particular, light-emitting diode (LED) lighting can negatively affect humans by increasing nuisance light and glare, in addition to increasing ambient light glow, if proper shielding is not provided and blue-rich white light lamps (BRWL) are used (American Medical Association 2016; International Dark-Sky Association 2010a, 2010b, 2015). Studies have found that a 4000 Kelvin (K) white LED light causes approximately 2.5 times more pollution than high pressure sodium lighting with the same lumen output, which would affect sensitive receptors, and more than double the perceived brightness of the night sky (Aubé et al. 2013; Falchi et al. 2011, 2016). This would result in a substantial source of nighttime light and glare that would adversely affect nighttime views in the area if lighting is not properly designed and shielding is not employed. Measure AES-7 would further lessen light and glare impacts caused by project lighting. Therefore, impacts resulting from creation of a new source of substantial light or glare adversely affecting views are less than significant with mitigation.

Avoidance, Minimization, and Mitigation Measures

Measure AES-1: Implement Project Amenities and Landscaping

The project provides opportunities to landscape, improve hardscapes, install green infrastructure, and create linear open space areas. The project will make land available to outside entities to develop as programmed open space and urban development within the available ROW. The extent of these improvements will be determined in the project design phase. Initial improvements will focus on general landscaping and stormwater infrastructure within ROW areas where aesthetic treatments will have the most affect, such as at trail access points and at trail intersections with surface streets.

Measure AES-2: Apply Aesthetic Design Treatments to Bridges and Retaining Walls

Designs of structures associated with both options shall evaluate similar, local structures with historic value or that are well-designed and may consider these features as design precedent to develop designs for bridges, retaining walls, others that complement the natural and cultural landscape, are aesthetically pleasing, and minimize the effects of visual intrusion of the project facilities on the landscape. Where no local design precedent exists, the designer shall research structure designs outside the local area. Attention shall be paid to design details to ensure that structures are complementary of one another so that these facilities do not create further visual discordance in the landscape. The design will be in coordination and accordance with the aesthetic requirements of the local jurisdiction or governing authority.

Measure AES-3: Minimize Retaining Wall Design at Jackson Street

In addition to measures specified in Measure AES-3, the design of the retaining wall northwest of Jackson Street shall be minimized to avoid blocking views of the sound wall mural, which is likely to be of local importance. An example option evaluates the placement of the ramp/pathway being located in between the existing muraled sound wall and the trees located at the top of the bank. Siting the pathway at this location may eliminate the need for a retaining wall, if this area is wide enough to accommodate a pathway, but it may require the use of a safety hand railing and may require the removal of more trees than the proposed retaining wall design. The removal of more trees may not be desirable to the community, even if it means the views to the sound wall mural would be maintained. Another option may be to plan and provide a new mural in-kind on the proposed retaining wall. While the existing mural may be partially blocked, this would utilize the proposed retaining wall as a canvas for a new mural. In addition, there may also be other feasible alternatives to the proposed design. Therefore, design options will be developed in coordination and accordance with the local governing authority.

Measure AES-4: Relocate or Replace Affected Trees

The project would replace trees removed during construction in compliance with the NES and county and city polices and ordinances. Replacement ratios will be determined in accordance with the county and city ordinances. The project proponent and/or its contractor may also elect to relocate affected trees if the tree size and species type is conducive to relocation and survivability and if the county or city are amenable to tree relocation.

Measure AES-5: Apply Aesthetic Treatments to Fencing

New fencing associated with the project will be designed in a manner that allows these features to recede within and blend into views. The use of ornamental fencing that complements the cultural landscape shall be evaluated in sensitive public areas. Aesthetic considerations shall be balanced with other considerations including cost, safety, maintenance, and durability. At a minimum, any proposed fencing will be powder coated and colored a shade that is two to three shades darker than the general surrounding area such as a dark evergreen, black, or dark brown color. These darker colors will allow fencing to recede into the visual landscape as much as possible and allow for more transparent views through the fencing. Light or bright colors will be avoided because such colors, including grey stainless steel, creates more of a visual barrier that creates visual focus, is less transparent, and increases glare. Colors may be chosen from the U.S. Department of the Interior Bureau of Land Management Standard Environmental Colors Chart

CC-001: June 2008. Because color selection will vary by location, the facility designer may employ the use of color panels evaluated from key observation points during common lighting conditions (front light versus backlighting) to aid in the appropriate color selection. Color selection will be made for the coloring of the most prevalent season. The appropriate operating agency or organization will maintain the paint color over time. Fencing will be managed and maintained for a well-kept appearance and in a manner that vandalism, graffiti, or damage is abated semi-annually to maintain the effectiveness and attractiveness of the visual mitigation prescribed herein.

Measure AES-6: Limit Construction Near Residences to Daylight Hours

Construction activities scheduled to occur between 7 a.m. and 6 p.m. will not take place before or past daylight hours (which vary according to season). This will reduce the amount of construction experienced by viewer groups, because most construction activities would be occurring during business hours (when most viewer groups are likely at work) and eliminate the need to introduce high-wattage lighting sources to operate in the dark near residences.

Measure AES-7: Apply Minimum Lighting Standards

All artificial outdoor lighting will be limited to safety and security requirements, designed using Illuminating Engineering Society's design guidelines, and in compliance with International Dark-Sky Association approved fixtures. All lighting is designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only towards objects requiring illumination. Therefore, lights will be installed at the lowest allowable height and cast low-angle illumination while minimizing incidental light spill onto adjacent properties, open spaces, or backscatter into the nighttime sky. The lowest allowable wattage will be used for all lighted areas and the amount of nighttime lights needed to light an area will be minimized to the highest degree possible. The amount of nighttime lights used will be minimized to the highest degree possible to ensure that spaces are not unnecessarily over-lit. Light fixtures will have non-glare finishes that will not cause reflective daytime glare. Lighting will be designed for energy efficiency and have daylight sensors or be timed with an on/off program. Lights will provide good color rendering with natural light qualities with the minimum intensity feasible for security, safety, and personnel access. Lighting, including light color rendering and fixture types, will be designed to be aesthetically pleasing. LED lighting will avoid the use of blue-rich white light lamps and use a correlated color temperature that is no higher than 3,000 Kelvin, consistent with the International Dark-Sky Associations Fixture Seal of Approval program (International Dark-Sky Association 2010a, 2010b, 2015). In addition, LED lights will use shielding to ensure nuisance glare and that light spill does not affect sensitive residential viewers. Technologies to reduce light pollution evolve over time and design measures that are currently available may help but may not be the most effective means of controlling light pollution once the project is designed. Therefore, all design measures used to reduce light pollution will employ the technologies available at the time of project design to allow for the highest potential reduction in light pollution.

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II. Agricultural and Forestry Resources	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the proposed project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Affected Environment

The project area is designated as Urban and Built-Up Land on the California Department of Conservation's Alameda County Important Farmland 2014 map (California Department of Conservation 2014). According to the California Department of Conservation, Urban and Built-Up Land is defined as land occupied by structures with a building density of at least 1 unit to 1.5 acres,

or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes (California Department of Conservation 2016). The project area is not designated or zoned for agricultural use, and is not under a Williamson Act contract. No forest land or timberland is located in the vicinity of the project area.

Discussion

a, c, d and e. No Impact. The project is located in an urban area, and it will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Nor would the project result in other changes to the existing environment, that due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland or timberland to non-forest/non-timberland use. Therefore, there would be no impacts related to conversion of protected farmland or forest/timberland.

b. No Impact. As described, there is no farmland in the vicinity of the project, and no parcels that are enrolled in Williamson Act contracts. The project would not conflict with any existing agricultural uses or a Williamson Act contract. Therefore, there would be no impact related to conflict with existing zoning or a Williamson Act contract.

Avoidance, Minimization, and Mitigation Measures

None required.

III. Air Quality	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the proposed project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Air Quality Technical Memorandum, East Bay Greenway Project, Alameda County, California* (ICF 2017b).

The project spans the cities of Oakland, San Leandro, and Hayward along with unincorporated portions of County, which are located within the San Francisco Bay Area Air Basin (SFBAAB). Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and particulate matter (PM10 and PM2.5) are commonly used as indicators of ambient air quality conditions. These pollutants are known as criteria pollutants and are regulated by the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (ARB) through national and California ambient air quality standards (NAAQS and CAAQS), respectively. The NAAQS and CAAQS limit criteria pollutant concentrations to protect human health and prevent environmental and property damage. Other pollutants of concern in the project area are nitrogen oxides (NO_x) and reactive organic gases (ROG), which are precursors to ozone, and toxic air contaminants (TACs), which can cause cancer and other human health ailments.

Regulatory Setting

The air quality management agencies of direct importance in the project area are the EPA, ARB, and Bay Area Air Quality Management District (BAAQMD). Specifically, the ARB and BAAQMD are given the primary responsibility of implementing EPA's NAAQS. Additionally, the ARB and BAAQMD are also responsible for ensuring that state air quality standards (CAAQS) are met.

Federal

The federal Clean Air Act (CAA), enacted in 1963 and amended several times thereafter (including the 1990 amendments known as CAAA 1990, which are the current federal governing regulations for air quality), establishes the framework for modern air pollution control.

State

At the state level, the California CAA establishes a statewide air pollution control program and requires the ARB and all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. State standards are achieved through district-level air quality management plans that are incorporated into the SIP, for which ARB is the lead agency.

Local

At the local level, the BAAQMD is responsible for ensuring the NAAQS and CAAQS are met within the SFBAAB. BAAQMD manages air quality through a comprehensive program that includes long-term planning, regulations, incentives for technical innovation, education, and community outreach. The *2017 Clean Air Plan*, approved by BAAQMD on April 19, 2017, provides an integrated strategy to reduce ozone, PM, TACs, and greenhouse gas (GHG) emissions in a manner that is consistent with federal and state air quality programs and regulations.

The BAAQMD's *CEQA Guidelines* provide guidance for evaluating project-level air quality impacts. The guidelines also contain thresholds of significance for ozone, CO, PM_{10}, $PM_{2.5}$, TACs, and odors. As stated in Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the checklist determinations.

Existing Air Quality Conditions

The air existing air quality conditions in the project area can be characterized by monitoring data collected in the region. Air quality monitoring stations in Alameda County that are located in proximity to the 16-mile project corridor include the Oakland–West (1100 21st Street), Oakland–East (9925 International Boulevard), and the Hayward (3466 La Mesa Drive) stations. Both the Oakland–West station, which is located approximately 1.54 miles northwest of the corridor, and Oakland–East station, which is located approximately 0.55-mile northeast of the corridor, monitor for ozone, CO, PM2.5, and NO_2. The Hayward station, which is located approximately 1.89 miles north of the corridor, monitors ozone only. Table III-3 summarizes the pollutant levels monitored at these three stations for the last three years for which complete data are available (2014–2016). As shown, the Oakland–West monitoring station has experienced four exceedances of the national PM2.5 standards from 2014 to 2016, while the Oakland–East monitoring station has experienced two exceedances of the national and state 8-hour ozone standard and two exceedances of the national PM2.5 standard during this time period. The Hayward monitoring station also experienced three exceedances of the state 1-hour standard and six exceedances of the state and national 8-hour standard from 2014 to 2016.

Table III-3. Ambient Air Quality Monitoring Data for Project Area

Ambient Air Quality Monitoring Data for Project Area			
Pollutant Standards	2014	2015	2016
Ozone (O_3) – Oakland-West Station			
Maximum 1-hour concentration	0.072	0.091	0.065
Maximum 8-hour concentration	0.059	0.065	0.053
4th highest 8-hour concentration	0.051	0.053	0.045
Days state 1-hour standard exceeded (0.09 ppm)	0	0	0
Days state 8-hour standard exceeded (0.070 ppm)	0	0	0
Days national 8-hour standard exceeded (0.070 ppm)	0	0	0
Ozone (O_3) – Oakland-East Station			
Maximum 1-hour concentration	0.083	0.094	0.082
Maximum 8-hour concentration	0.069	0.074	0.058
4th highest 8-hour concentration	0.058	0.056	0.055
Days state 1-hour standard exceeded (0.09 ppm)	0	0	0
Days state 8-hour standard exceeded (0.070 ppm)	0	2	0
Days national 8-hour standard exceeded (0.070 ppm)	0	2	0
Ozone (O_3) – Hayward Station			
Maximum 1-hour concentration	0.096	0.103	0.083
Maximum 8-hour concentration	0.076	0.085	0.065
4th highest 8-hour concentration	0.073	0.065	0.063
Days state 1-hour standard exceeded (0.09 ppm)	1	2	0
Days state 8-hour standard exceeded (0.070 ppm)	4	2	0
Days national 8-hour standard exceeded (0.070 ppm)	4	2	0
Carbon Monoxide (CO) – Oakland-West Station			
Maximum 1-hour concentration	3.0	4.7	2.5
Maximum 8-hour concentration	2.6	2.6	2.2
Days state 1-hour standard exceeded (20 ppm)	–	–	–
Days national 1-hour standard exceeded (35 ppm)	0	0	0
Days state 8-hour standard exceeded (9 ppm)	–	–	–
Days national 8-hour standard exceeded (9 ppm)	0	0	0
Carbon Monoxide (CO) – Oakland-East Station			
Maximum 1-hour concentration	2.8	2.4	2.6
Maximum 8-hour concentration	1.7	1.4	1.0
Days state 1-hour standard exceeded (20 ppm)	–	–	–
Days national 1-hour standard exceeded (35 ppm)	0	0	0
Days state 8-hour standard exceeded (9 ppm)	–	–	–
Days national 8-hour standard exceeded (9 ppm)	0	0	0
Fine Particulate Matter (PM2.5) – Oakland-West Station			
Maximum state 24-hour concentration	38.8	38.7	21.9
Maximum national 24-hour concentration	38.8	38.7	21.9
Annual average concentration	9.5	10.2	*
Days national 24-hour standard exceeded (measured) (35 µg/m^3)	1	3	0

Ambient Air Quality Monitoring Data for Project Area			
Pollutant Standards	2014	2015	2016
Fine Particulate Matter (PM2.5) – Oakland-East Station			
Maximum state 24-hour concentration	37.6	44.7	15.5
Maximum national 24-hour concentration	37.6	44.7	15.5
Annual average concentration	8.5	8.4	*
Days national 24-hour standard exceeded (measured) (35 µg/m^3)	1	1	0
Nitrogen Dioxide (NO_2) – Oakland-West Station			
Maximum 1-hour Concentration	0.056	0.057	0.049
Annual Average Concentration	14	14	12
Days state standard exceeded (0.18 ppm)	0	0	0
Days national standard exceeded (0.100 ppm)	0	0	0
Nitrogen Dioxide (NO_2) – Oakland-East Station			
Maximum 1-hour Concentration	0.082	0.048	0.059
Annual Average Concentration	11	11	9
Days state standard exceeded (0.18 ppm)	0	0	0
Days national standard exceeded (0.100 ppm)	0	0	0

Sources: California Air Resources Board 2016b; U.S. Environmental Protection Agency 2017a.
ppm = parts per million.
µg/m^3 = micrograms per cubic meter.
* = insufficient data available to determine the value.
– = no data available.

Attainment Status

Local monitoring data (Table III-3) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are further defined as follows.

- **Nonattainment:** Assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance:** Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- **Attainment:** Assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified:** Assigned to areas were data are insufficient to determine whether a pollutant is violating the standard in question

Table III-4 summarizes the attainment status of the project area with regard to the NAAQS and CAAQS.

Table III-4. Federal and State Attainment Status of the Project Area (Alameda County)

Pollutant	NAAQS	CAAQS
8-hour ozone	Marginal Nonattainment	Nonattainment
CO	Maintenance (P)	Attainment
PM10	Unclassified	Nonattainment
PM2.5	Moderate Nonattainment	Nonattainment

Sources: California Air Resources Board 2016c; U.S. Environmental Protection Agency 2017b.
(P) = designation applies to a portion of the County.

Sensitive Receptors

Sensitive receptors are generally defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas (Bay Area Air Quality Management District 2017).

As the project's 16-mile corridor would span the cities of Oakland, San Leandro, and Hayward as well as portions of unincorporated Alameda County by running parallel to the BART corridor, surface streets, and portions of the UPRR, the project area is located within a fully developed urban area that contains various residential, commercial, industrial, and institutional land uses. The predominant sensitive receptors along the project corridor are single-family and multifamily residential use. Many of these sensitive receptors are located along or in the vicinity of segments of E. 8th Street, E. 12th Street, San Leandro Street, and San Leandro Boulevard that run adjacent to the corridor. Along the segment of the project corridor from the San Leandro BART Station to the Bay Fair BART Station, the single-family residences located south of 143rd Street and adjacent to Western Avenue are directly below the BART viaduct. From the Bay Fair BART Station to the Hayward and South Hayward BART Stations, the project corridor traverses a large swath of single-family residential neighborhoods. Aside from the majority of residential uses, school uses including elementary and high schools also occur occasionally along the project corridor.

Local air pollutants in the project area are emitted primarily by vehicular traffic, including trucks traveling on roadways in the area. The largest highways in the vicinity of the project corridor are I-580 and I-880, which are located to the north and south, respectively, of the corridor. Along a portion of the project corridor between the Lake Merritt BART Station and the Fruitvale BART Station, I-880 runs directly parallel to the corridor and is located as close as 180 feet away.

Discussion

a. Less Than Significant. A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds estimates used to develop applicable air quality plans. Projects that propose development that is consistent with the growth anticipated by the relevant land use plans would be consistent with the current BAAQMD air quality plans. Likewise, projects that propose development that is less dense than anticipated within a general plan (or other governing land use document) would be consistent with the air quality plans because emissions would be less than estimated for the region.

The project consists of constructing a regional trail facility consisting of Class I and Class IV facilities using the BART and UPRR Oakland Subdivision corridor ROW and public streets. The Class I and

Class IV facilities would be provided on a continuous, 16-mile corridor to promote non-motorized travel. As such, the project does not propose land use changes and operation of the project would not result in land use changes that can lead to population or employment growth in the project area. Additionally, as discussed in Section XVI, Transportation/Traffic, the project would not deteriorate existing intersection capacities to the extent where existing vehicles using the project corridor would begin to divert to other routes outside of the corridor, and intersections that are currently operating at over-capacity conditions would either remain the same or improve with respect to traffic operations. As stated in the traffic study prepared for the project, as an infrastructure project that would enhance multimodal bicycle and pedestrian safety and access within the project area, the project may also reduce vehicle miles traveled (VMT) within the project corridor by creating a modal shift from driving to biking, walking, and transit (CHS Consulting Group 2017). Accordingly, because the project would not result in any additional growth beyond what has been projected for the region, the project would not be inconsistent with population, housing, or employment growth estimates that were used to develop current BAAQMD air quality plans. The project would not conflict with or obstruct implementation of any applicable air quality plan or policy, and the impact would be less than significant.

b. Less Than Significant With Mitigation.

Construction

Construction activities associated with the project would generate short-term emissions of ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$. Emissions would originate from on-road hauling trips, construction worker commute trips, construction site fugitive dust, and off-road construction equipment. Construction-related emissions would vary substantially depending on the level of activity, specific construction operations, and wind and precipitation conditions.

Construction emissions of criteria pollutants generated by the project have been estimated using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Emissions Model (RCEM) (Version 8.1.0). The RCEM is a public-domain spreadsheet model formatted as a series of individual worksheets for estimating the construction-related emissions of roadway projects. The model enables users to estimate emissions using a minimum amount of project-specific information. The model estimates emissions for load hauling (on-road, heavy-duty vehicle trips), worker commute trips, construction site fugitive dust (PM10 and PM2.5), and off-road construction vehicles. Modeling inputs, which included project-specific inputs such as the project size and length, duration of the construction period, amount of soil exported daily, and the maximum amount of area that would be disturbed per day, are shown in Appendix B. Table III-5 summarizes the maximum daily emissions and the annual emissions for the project.

Table III-5. Estimated Criteria Pollutant Emissions from Project Construction (pounds per day)

				PM10		PM2.5	
Daily Emissions	ROG	NO_X	CO	Dust	Exhaust	Dust	Exhaust
Maximum Daily Emissions (lbs/day)	7.0	53.6	52.8	2.5	3.0	0.5	2.7
BAAQMD Daily Thresholds (lbs/day)	**54**	**54**	**–**	**BMPs**	**82**	**BMPs**	**54**
Exceed Threshold?	No	No	–	–	No	–	No

Note: See Appendix B of the Air Quality Technical Memorandum prepared for this project for construction assumptions and Road Construction Emissions Model inputs and outputs.
lbs = pounds.
BMPs = best management practices.

As shown in Tables III-5, construction of the project would not generate ROG, NO_X, or PM exhaust in excess of BAAQMD's numeric thresholds. The BAAQMD *CEQA Guidelines* consider dust impacts to be less than significant through the application of best management practices (BMPs). Therefore, implementation of Measure AQ-1 would reduce construction-related fugitive dust emissions to a less-than-significant level.

Operations

Given that the project is a regional trail facility consisting of Class I and Class IV facilities to serve pedestrians and bicyclists, no emissions would be generated during operations. Additionally, because the project would create a modal shift in the corridor area over time from driving to biking, walking, and transit, the project may serve to reduce pollutant emissions that are currently being generated by vehicles in the project area. As such, operation of the project would not result in the violation of any air quality standard or contribute substantially to an existing or project air quality violation, and no impact would occur.

c. Less Than Significant With Mitigation. BAAQMD has identified project-level thresholds to evaluate criteria pollutant impacts. In developing these thresholds, BAAQMD considered levels at which project emissions would be cumulatively considerable. As noted in their CEQA Guidelines (2017):

> In developing thresholds of significance for air pollutants, 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.

Consequently, exceedances of the project-level thresholds would be cumulatively considerable. As discussed above, criteria pollutant emissions associated with implementation of the project would not exceed BAAQMD's quantitative thresholds for construction (Table III-5). Pursuant to BAAQMD regulations, Measure AQ-1 and 2 are required to ensure construction-related fugitive dust emissions would be less than significant with mitigation.

d. Less Than Significant.

Diesel Particulate Matter

Construction of the project would result in diesel particulate matter (DPM) emissions, which has been identified by ARB as a TAC that has the potential to cause cancer and other adverse health effects, from the use of diesel-fueled equipment and would result in the exposure of nearby sensitive

receptors to DPM concentrations. Cancer health risks associated with exposure to diesel exhaust are typically associated with chronic exposure, which is considered to be a 70-year exposure period. In addition, DPM concentrations and the associated cancer health risks dissipate as a function of distance from their source. The BAAQMD has determined that construction activities occurring at distances of greater than 1,000 feet from a sensitive receptor likely do not pose a significant health risk.

As discussed previously, because the project's 16-mile corridor spans the cities of Oakland, San Leandro, and Hayward as well as portions of unincorporated Alameda County by running parallel to the BART corridor, surface streets, and parallel to or within portions of the UPRR ROW, sensitive receptors such as residences and schools would be located in proximity to the corridor. The predominant sensitive receptors along the project corridor are single-family and multifamily residential uses, which many of located along or in the vicinity of segments of E. 8th Street, E. 12th Street, San Leandro Street, and San Leandro Boulevard that run adjacent to the corridor. Along the segment of the project corridor from the San Leandro BART Station to the Bay Fair BART Station, the single-family residences located south of 143rd Street and adjacent to Western Avenue are directly below the BART corridor. The project corridor also traverses a large swath of single-family residential neighborhoods from the Bay Fair BART Station to the Hayward and South Hayward BART Stations. As such, sensitive receptors would be located within 1,000 feet of the project corridor.

Although DPM emitted during construction of the project may expose these receptors to increased health risks, construction activities would be short-term (30 months total) relative to the 70-year chronic exposure period. Additionally, because the project corridor is 16 miles long, construction activities at any specific location would only occur for a short amount of time before the activities end and move along further along the corridor. Thus, the amount of time that any one sensitive receptor would be exposed to DPM would be much shorter than 30 months. If project construction activities along the 16-mile corridor are averaged over a 30-month period, approximately 0.5 mile of construction would occur per month. Thus it is anticipated that an existing sensitive receptor located along the corridor would be exposed to DPM concentrations from project construction for less than a month before the construction activities progress and move beyond a 1,000 feet from the receptor. Because the general exposure duration for sensitive receptors located along the project corridor would be considerably shorter than the 70-year exposure period typically associated with chronic cancer health risks, construction of the project would not expose sensitive receptors to substantial pollutant concentrations and would not substantially increase health risks. After construction is completed, there would be no new sources of pollutant concentrations. Therefore, impacts related to DPM are less than significant.

Carbon Monoxide

The BAAQMD has established screening criteria to determine whether a project would result in CO emissions that exceed the CAAQS. According to the screening criteria, a project would result in a less-than-significant impact on localized CO concentrations if it would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (Bay Area Air Quality Management District 2017). As discussed above, the project would not deteriorate existing intersection capacities to the extent where existing vehicles using the project corridor would begin to divert to other routes outside of the corridor, and intersections that are currently operating at over-capacity conditions would either remain the same or improve with respect to traffic operations. Furthermore, because the project would enhance multimodal bicycle and pedestrian safety and access within the project

area, the project may also reduce VMT within the project corridor by creating a modal shift from driving to biking, walking, and transit. Because the project would not increase the number of vehicles per hour in the affected intersections, it would not contribute to or worsen localized CO concentrations. Therefore, impacts related to CO are less than significant.

Naturally Occurring Asbestos

Depending on a project's size and geographic location, BAAQMD may require mitigation to address potential impacts from naturally occurring asbestos (NOA). BAAQMD enforces ARB's applicable air toxic control measures. These require operations engaged in road construction and maintenance, grading, and quarrying and surface mining in areas where NOA is likely to be found to employ the best available dust mitigation measures to reduce and control dust emissions.

Projects that are located in an area known to contain NOA or have the potential to disturb asbestos (from soil or building material) are required to prepare and submit applicable notification forms and comply with all the requirements of ARB's air toxic control measures. For projects that are not located in an area known to contain NOA or are located in such an area but do not involve earth-disturbing activity, it can be assumed that the project would not have the potential to expose people to airborne asbestos particles.

The project is not located in an area known to contain NOA (U.S. Department of the Interior 2011). As the project's 16-mile corridor would span the cities of Oakland, San Leandro, and Hayward as well as portions of unincorporated Alameda County, the project area is located within an existing, fully developed urban area. Accordingly, there is little to no potential for impacts related to NOA emissions during construction activities. Therefore, impacts related to NOA are less than significant.

e. Less Than Significant. During construction of the project, potential odor sources would include diesel exhaust from heavy-duty equipment and asphalt. Because odors are highly localized, project-related odor impacts would be limited to when emissions from equipment may be in the immediate vicinity of odor-sensitive land uses. Odor impacts resulting from construction-related operations would be temporary, as construction activities would be occurring over a 16-mile corridor over a 30-month period. Because odors from construction would be short-term and only affect land uses in the immediate vicinity of the construction equipment, the project would not be likely to result in nuisance odors that would violate BAAQMD Regulation 7 (Odorous Substances).

After construction is completed, there would be no new sources of odors, because, as discussed above, the project would not result in any new land uses, increase in vehicle traffic, or the odors associated with these sources. Thus, the project is not expected to create objectionable odors that would exceed the BAAQMD's odor thresholds. Impacts related to creation of objectionable odors affecting a substantial number of people are less than significant.

Avoidance, Minimization, and Mitigation Measures

Measure AQ-1: Implement California Department of Transportation Standard Specifications

The project proponent and/or its construction contractor shall comply with Caltrans Specifications in Section 14-9 Air Quality (2010).

- Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
- Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.

Measure AQ-2. Implement BAAQMD Basic Control Measures to Control Construction-Related Dust

In accordance with the BAAQMD's current Air Quality Guidelines (BAAQMD 2011), the project proponent and/or its construction contractor will implement the following BAAQMD-recommended control measures to reduce particulate matter emissions from construction activities.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material offsite will be covered.
- All visible mud or dirt track-out onto adjacent public roads will 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 will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Post a publicly visible sign with the telephone number and the name of the person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The phone number of the District will also be visible to ensure compliance.

IV. Biological Resources	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Natural Environmental Study-Minimal Impacts, East Bay Greenway Project, Alameda County, California* (ICF 2017c).

The project corridor is situated in an urban setting on previously disturbed and developed land. The majority of the surrounding landscape is residential or mixed commercial and industrial with roadway and railway development. Class I and IV paths are proposed on existing paved city streets, and their conditions would remain unchanged with the project. From 35th Avenue to the South Hayward BART Station, newly constructed paths would be on city streets and/or in the BART and UPRR ROWs.

Most of the study area is highly disturbed and developed with some urban landscaping. Along the existing and proposed path routes, the vegetation consists of sparse, "roadside" weeds and nonnative annual grasses, vegetation which is classified as ruderal and highly disturbed. Nonnative landscape trees also occur along the streets where the new path would be constructed. Short path segments, including the 0.25-mile segment between Antonio Street to Davis Street, is located south of the existing BART tracks and have scattered coyote brush (*Baccharis pilularis*) among weeds and nonnative grasses. A narrow riparian land cover is present along San Leandro Creek.

Of the 12 waterbodies that cross the project corridor (Table IV-1), no waterbody is vegetated. Of the 12 waterbodies, 6 are exposed to the sun (or day lighted) in the project corridor, including Lake Merritt Channel, Elmhurst Creek, Estudillo Canal, San Lorenzo Creek, Ward Creek, and Zeile Creek. Although the Lake Merritt Channel, and sections of Elmhurst and Ward Creeks, have dirt bottoms and are day lighted, they lack in-channel vegetation. Estudillo Canal, San Lorenzo Creek, and Zeile Creek are concrete-lined and lack vegetation.

Biological resources and potential impacts on these resources from the project were identified through a literature and database review. To evaluate whether special-status species (Tables IV-2 and IV-3), or other sensitive biological resources (e.g., wetlands) could occur in the study area and vicinity, biologists reviewed existing resource information including the following.

- List of threatened and endangered species provided by the USFWS Information for Planning and Conservation (IPaC) search of the project corridor (U.S. Fish and Wildlife Service 2017; ICF 2017c).
- List of threatened and endangered species, and protected resources provided by the National Marine Fisheries Service (NMFS) resources search for the U.S. Geological Survey (USGS) 7.5-minute Oakland West, Oakland East, San Leandro, and Hayward quadrangles (ICF 2017c).
- List of special-status species from the California Natural Diversity Database (CNDDB) records search for USGS 7.5-minute Oakland West, Oakland East, San Leandro, and Hayward quadrangles (California Department of Fish and Wildlife 2017; ICF 2017c).
- CNPS Inventory of Rare and Endangered Plants of California for the USGS 7.5-minute Oakland West, Oakland East, San Leandro, and Hayward quadrangles (California Native Plant Society 2017; ICF 2017c).

This information was used during the field review to determine if special-status species and vegetation communities of special concern could be present in the project vicinity, and to determine the potential for wetlands to occur in the project area.

A wetland assessment of watercourses and reconnaissance-level survey of the project corridor was conducted on February 27, 2017. The assessment and survey was conducted to identify the ordinary high water mark of non-tidal watercourses, riparian boundaries, plant communities, and invasive plants, and to determine whether suitable habitat exists for special-status plant and wildlife species. The project was surveyed by driving on public streets parallel to the project corridor and stopping at locations to document site conditions and habitats that had potential to support biological resources. A windshield survey was conducted of the entire project area. The 12 watercourses and potential staging area located within the project ROW were visited on foot; public sidewalks (including sidewalks on bridges) and parking lots provided visibility of the watercourses in the project ROW. The windshield survey and field verifications of available aerial imagery was conducted using general knowledge of the region's biological resources and the habitats that have the potential to support special-status plant and wildlife species.

Table IV-1. Project Creek and Waterbody Crossings

Project Creek and Waterbody Crossings			
Water Feature Name (Bridge)	Location/City at Crossing	Description of Waterbody	Construction Work at or Encroaching on Waterbody[b]
Lake Merritt Channel	E.10th Street near 2nd Avenue/City of Oakland	Open channel; surface exposure. Brackish, tidal, wide channel. Natural substrate (i.e., mud) with no vegetation.	Project to use existing E.10th Street bridge over waterbody.
Sausal Creek	E.12th Street, near 30th Avenue/City of Oakland	Culverted and underground in ROW; no surface exposure. Nearest daylight 750 feet NW of project corridor.	None. Waterbody located underground.
Peralta Creek	E.12th Street, near 34th Avenue/City of Oakland	Culverted and underground in ROW; no surface exposure. Nearest daylight 2,950 feet NW of project corridor.	None. Waterbody located underground.
Lion Creek	San Leandro Street, near 69th Avenue/City of Oakland	Culverted and underground in ROW; no surface exposure. Brackish, tidal, wide, channel. Concrete-lined with no vegetation.	None. Waterbody located underground.
Arroyo Viejo	San Leandro St, south, near Hegenberger Road/City of Oakland	Culverted and underground in ROW; no surface exposure. Brackish, tidal, wide channel. Concrete-lined with no vegetation.	None. Waterbody located underground.
Elmhurst Creek	San Leandro Street, near 85th Avenue/City of Oakland	Open channel in UPRR ROW; surface exposure. Freshwater, channel with no vegetation in UPRR ROW. Culverted and underground in BART ROW; no surface exposure. Concrete-lined with no vegetation in BART ROW.	Project to use existing UPRR bridge.
San Leandro Creek	San Leandro Boulevard, between Lille Avenue and Antonio Street/City of San Leandro	Culverted and underground in UPRR/ ROW; no surface exposure. Freshwater, vegetated, narrow, channel outside ROW.	None. Waterbody located underground.
Estudillo Canal	West of Thornally Drive/City of San Leandro	Open channel in UPRR ROW; surface exposure. Freshwater, wide channel. Concrete-lined with no vegetation.	Project to widen or construct a new clear span bridge.
San Lorenzo Creek	North of Hampton Road and Western Boulevard intersection/City of Hayward	Open channel in UPRR ROW; surface exposure. Freshwater wide channel. Concrete-lined with no vegetation.	Project to construct a new clear span bridge.

Project Creek and Waterbody Crossings			
Water Feature Name (Bridge)	Location/City at Crossing	Description of Waterbody	Construction Work at or Encroaching on Waterbody[b]
Ward Creek	W of Pinedale Ct (W end)/Hayward	Culverted and underground in BART ROW; no surface exposure, concrete-lined with no vegetation. Open channel in UPRR ROW; surface exposure, freshwater, shallow channel with no vegetation. Outside of UPRR/ BART ROW channel is vegetated.	Project to use existing UPRR bridge.
Unnamed drainage	Whitman Street near Culp Avenue/City of Hayward	Culverted and underground in ROW; no surface exposure. Nearest daylight 180ft SW of project.	None. Waterbody located underground.
Zeile Creek	Whitman Street near Ainslee Court/City of Hayward	Open channel in ROW; surface exposure. Freshwater channel. Concrete-lined with no vegetation.	Use of existing UPRR bridges or sidewalk.

Sources: 2012 IS/MND; 2016 PES, February 2017 CDPs; ICF Site Visits 2017.

[a] Refer to CDP Maps in Appendix A.

[b] All bridge widening or expansion proposed by the project would be clear span, and all work conducted and installation of all bridge components (including foundations) would be done outside of banks.

Table IV-2. Special-Status Plant[a] Species Known or with Potential to Occur in the Study Area

Special-Status Plant Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Adobe sanicle *Sanicula maritima*	–/R/1B.1	Coastal Monterey and San Luis Obispo Counties; historically known from the San Francisco Bay area in Alameda* and San Francisco* Counties	Moist clay, serpentinite or ultramafic soils, in meadows and seeps, chaparral, coastal prairie, valley and foothill grassland; 30–240 meters	Absent	Extirpated in Alameda County; suitable habitat absent in project area
Alkali milk vetch *Astragalus tener* var. *tener*	–/–/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area	Playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; 1–60 meters; blooms Mar–Jun	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Beach layia *Layia carnosa*	E/E/1B.1	Scattered occurrences along coastal California from Humboldt County to Monterey County, formerly to Santa Barbara County	Coastal dunes, coastal scrub on sandy soil; below 60 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Bent-flowered fiddleneck *Amsinckia lunaris*	–/–/1B.2	Inner North Coast Ranges, San Francisco Bay Area, west-central Great Valley	Coastal bluff scrub, valley and foothill grasslands, cismontane woodlands; 3–500 meters; blooms Mar–Jun	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Big-scale balsamroot *Balsamorhiza macrolepis*	–/–/1B.2	Scattered occurrences in the Coast Ranges and Sierra Nevada Foothills	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 90–1,555 meters; blooms Mar–Jun	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Blue coast gilia *Gilia capitate* ssp. *chamissonis*	–/–/1B.1	Coastal California from Sonoma County to San Francisco	Coastal dunes, coastal scrub; 2–200 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Bristly sedge *Carex comosa*	–/–/2B.1	Scattered occurrences throughout California; Oregon, Washington, and elsewhere	Coastal prairie, marshes and swamps at lake margins, valley and foothill grassland; below 625 meters; blooms May–Sep	Absent	Suitable habitat absent in project area; project area surrounded by urban development
California seablite *Suaeda californica*	E/–/1B.1	Morro Bay, San Luis Obispo County, and San Francisco and Contra Costa Counties; historically found in the south San Francisco Bay	Margins of tidal salt marsh; below 15 meters; blooms Jul–Oct	Absent	Suitable habitat absent in project area; project area surrounded by urban development

Special-Status Plant Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Choris' popcorn-flower *Plagiobothrys chorisianus* var. *chorisianus*	–/–/1B.2	Southwest San Francisco Bay Area, northern Central Coast: Santa Cruz, San Francisco and San Mateo Counties	Mesic sites in chaparral, coastal prairie, coastal scrub; 15–160 meters; blooms Mar-Jun	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Congdon's tarplant *Centromadia parryi* ssp. *Congdonii*	–/–/1B.1	East San Francisco Bay Area, Salinas Valley, Los Osos Valley	Alkaline soils in annual grassland, on lower slopes, flats, and swales, sometimes on saline soils; below 230 meters; blooms May–Oct (Nov)	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Congested-headed hayfield tarplant *Hemizonia congesta* DC. ssp. *congesta*	–/–/1B.2	Mendocino, Marin, San Francisco, San Mateo, and Sonoma Counties	Valley and foothill grassland and marsh edges; 20–560 meters; blooms Apr–Nov	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Contra Costa goldfields *Lasthenia conjugens*	E/–/1B.1	Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Mendocino*, Monterey, Marin, Napa, Santa Barbara*, Santa Clara*, Solano and Sonoma Counties	Wet areas in cismontane woodland, valley and foothill grassland, vernal pools, alkaline playas or saline vernal pools and swales; below 470 meters; blooms Mar–Jun	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Dark-eyed gilia *Gilia millefoliata*	–/–/1B.2	Northern coastal California from Del Norte to San Francisco County	Coastal dunes; 2–30 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Diablo helianthella *Helianthella castanea*	–/–/1B.2	San Francisco Bay area: Alameda, Contra Costa, Marin*, San Francisco*, and San Mateo Counties	At chaparral/oak woodland ecotone, often in partial shade, on rocky soils; also coastal scrub, riparian woodland, broadleafed upland forest, valley and foothill grassland; 60–1,300 meters; blooms Mar–Jun	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Fragrant fritillary *Fritillaria liliacea*	–/–/1B.2	Coast Ranges from Marin County to San Benito County	Adobe soils of interior foothills, coastal prairie, coastal scrub, valley and foothill grassland, often on serpentinite; 3–410 meters; blooms Feb–Apr	Absent	Suitable habitat absent in project area; project area surrounded by urban development

Special-Status Plant Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Hairless popcorn-flower *Plagiobothrys glaber*	–/–/1A	Coastal valleys from Marin County to San Benito Counties	Alkaline meadows and seeps, coastal salt marsh and swamps; 15–180 meters; blooms Mar–May	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Jepson's coyote-thistle *Eryngium jepsonii*	–/–/1B.2	Alameda, Amador, Calaveras, Contra Costa, Fresno, Napa, San Mateo, Solano, Stanislaus, Tuolumne, and Yolo Counties	Valley and foothill grassland and vernal pools with clay soil; 6–110 meters; blooms Apr–Aug.	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Kellogg's horkelia *Horkelia cuneate* var. *sericea*	–/–/1B.1	Coastal California from San Mateo to Santa Barbara Counties, formerly further north	Openings in closed-cone coniferous forest, coastal scrub, maritime chaparral, on sandy or gravelly soils; 10–200 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Loma Prieta hoita *Hoita strobilina*	–/–/1B.1	Alameda*, Contra Costa, Santa Clara, and Santa Cruz Counties	On mesic usually serpentinite substrates in chaparral, cismontane woodland, and riparian woodland; 30-–860 meters; blooms May–Jul (Aug–Oct)	Absent	Extirpated in Alameda County; suitable habitat absent in project area
Minute pocket moss *Fissidens pauperculus*	–/–/1B.2	Butte, Del Norte, Humboldt, Mendocino, Marin, and Santa Cruz Counties	Damp, coastal soil in North Coast coniferous forest; 10–1,024 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Most beautiful jewelflower *Streptanthus albidus* ssp. *Peramoenus*	–/–/1B.2	Eastern San Francisco Bay area, central outer South Coast Ranges in Alameda, Contra Costa, Monterey, Santa Barbara, Santa Clara, San Luis Obispo, and Stanislaus Counties	On serpentinite outcrops in chaparral, cismontane woodland, valley and foothill grassland, on ridges and slopes; 95–1,000 meters; blooms Apr–Sep (Mar–Oct)	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Oregon meconella *Meconella oregana*	–/–/1B.1	Known in CA only from five occurrences in Contra Costa and Santa Clara Counties; Oregon, Washington and elsewhere	Coastal prairie, coastal scrub; 250–620 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development

Special-Status Plant Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Oval-leaved viburnum *Viburnum ellipticum*	–/–/2B.3	Northwest California, San Francisco Bay Area, north and central Sierra Nevada Foothills: Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, Sonoma, and Tehama Counties; also Oregon, Washington	Chaparral, cismontane woodland, and lower montane coniferous forest; 215–1,400 meters; blooms May–Jun	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Pallid manzanita *Arctostaphylos pallida*	T/E/1B.1	Eastern San Francisco Bay area, Sobrante and Huckleberry ridges, Berkeley-Oakland Hills in Alameda and Contra Costa Counties	On siliceous sandy or gravelly shales in broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub; 185–465 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Point Reyes salty bird's-beak *Chloropyron maritimum* ssp. *palustre*	–/–/1B.2	Coastal northern California, from Humboldt to Santa Clara County; Oregon	Coastal salt marsh; below 10 meters; blooms Jun–Oct	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Presidio clarkia *Clarkia franciscana*	E/E/1B.1	San Francisco Bay, Presidio, Oakland hills: Alameda and San Francisco Counties	Serpentine grassland, coastal scrub; 25–335 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Robust spineflower *Chorizanthe robusta* var. *robusta*	E/–/1B.1	Coastal central California, from Marin to Monterey County	Sandy or gravelly areas in coastal scrub, coastal dunes, and openings in cismontane woodland; 3–300 meters; blooms Apr–Sep	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Rose leptosiphon *Leptosiphon rosaceus*	–/–/1B.1	Coastal California from Marin County to San Mateo County; known now from one occurrence near Pacifica	Coastal bluff scrub; below 100 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Round-leaved filaree *California macrophylla*	–/–/1B.2	Scattered occurrences in the Great Valley, southern North Coast Ranges, San Francisco Bay Area, South Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges	Cismontane woodland, valley and foothill grassland on clay soils; 15–1,200 meters; blooms Mar–May	Absent	Suitable habitat absent in project area; project area surrounded by urban development

Special-Status Plant Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Saline clover *Trifolium hydrophilum*	–/–/1B.2	Sacramento Valley, central western California	Salt marsh, mesic alkaline areas in valley and foothill grasslands, vernal pools, marshes and swamps; below 300 meters; blooms Apr–June	Absent	Suitable habitat absent in project area; project area surrounded by urban development
San Francisco Bay spineflower *Chorizanthe robusta* var. *robusta*	–/–/1B.2	Coastal central California, from Sonoma to San Mateo County	Sandy areas in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub; 3–215 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
San Francisco popcorn flower *Plagiobothrys diffusus*	–/E/1B.1	Alameda, Santa Cruz, and San Mateo Counties	Coastal prairie, valley and foothill grassland; 60–360 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
San Joaquin spearscale *Extriplex joaquinana*	–/–/1B.2	West edge of Central Valley from Glenn County to Tulare County	Alkaline soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland; 1–835 meters; blooms Apr–Oct	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Santa Cruz tarplant *Holocarpha macradenia*	T/E/1B.1	Coastal slope of the Santa Cruz Mountains, Monterey and Santa Cruz Counties, recently found in Solano County	Coastal terrace grasslands, coastal scrub, often on light sandy to sandy clay soils; 10–220 meters; blooms Jun–Oct	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Slender-leaved pondweed *Stuckenia filiformis* ssp. *alpina*	–/–/2B.2	Scattered locations in California: Alameda, Contra Costa, El Dorado, Lassen, Merced, Mono, Modoc, Mariposa, Nevada, Placer, San Mateo, Santa Clara*, Shasta*, Sierra, Solano, and Sonoma Counties; Arizona, Nevada, Oregon, Washington	Freshwater marsh, shallow emergent wetlands and freshwater lakes, drainage channels; 300–2,150 meters; blooms May–Jul	Absent	Project area is below elevation for species.
Tiburon buckwheat *Eriogonum luteolum* var. *caninum*	–/–/1B.2	Central inner north Coast Range, northern Central coast, and northern San Francisco Bay area: Alameda, Contra Costa, Marin, and Sonoma?* Counties	On sandy to gravelly serpentinite soils in chaparral, coastal prairie, oak woodland, valley and foothill grassland; below 700 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development

Special-Status Plant Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Water star-grass *Heteranthera dubia*	–/–/2B.2	All occurrences are historical and some are possibly extirpated; Butte, Colusa, Lassen, Mendocino, Modoc, Marin, San Francisco, Shasta, San Mateo Counties; also many states across the United States.	Alkaline, still or slow-moving water of marshes and swamps; requires a pH of 7 or higher, usually in slightly eutrophic waters 30–1,495 meters	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Western leatherwood *Dirca occidentalis*	–/–/1B.2	San Francisco Bay region, Alameda, Contra Costa, Marin, Santa Clara, San Mateo, and Sonoma Counties	Moist areas in broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland; 25–425 meters; blooms Jan–Mar (Apr)	Absent	Suitable habitat absent in project area; project area surrounded by urban development
Woodland woollythreads *Monolopia gracilens*	–/–/1B.2	Alameda, Contra Costa, Monterey, San Luis Obispo, Santa Clara, Santa Cruz, and San Mateo Counties	Serpentinite soils in openings in broadleafed upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland; 100–1,200 meters; (Feb) Mar–Jul	Absent	Suitable habitat absent in project area; project area surrounded by urban development

* = populations extirpated in the county.

[a] CRPR List 3 or 4 species do not qualify as rare under CEQA except in truly unique circumstances, so they are not included in this table.

[b] Status Codes:

– = No listing.

Federal

E = Listed as endangered under the federal Endangered Species Act (ESA).

T = Listed as threatened under ESA.

State

E = Listed as endangered under the California Endangered Species Act (CESA).

R = Listed as rare under CESA.

California Native Plant Society (CNPS) California Rare Plant Rank

1A = List 1A species: plants presumed extirpated in California and either rare or extinct elsewhere.

1B = List 1B species: plants rare, threatened, or endangered in California and elsewhere.

2B = List 2B species: plants rare, threatened, or endangered in California, but more common elsewhere.

CNPS

0.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat).

0.2 = Fairly endangered in California (20-80% of occurrences threatened).

0.3 = Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Table IV-3. Special-Status Wildlife[a] and Fish Species Known or with Potential to Occur in the Study Area

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Invertebrates					
Bay checkerspot butterfly *Euphydryas editha bayensis*	T/–/–	Vicinity of San Francisco Bay, including San Francisco peninsula in San Mateo County and mountains near San Jose, Santa Clara County	Native grasslands on outcrops of serpentine soil; California plantain (*Plantago erecta*) and owl's clover (*Castilleja densiflorus or C. exserta*) are host plants	Absent	Project located outside species' known range; project area surrounded by urban development
Callippe silverspot butterfly *Speyeria callippe*	E/–/–	San Bruno Mountain, San Mateo County, and a single location near Pleasanton in Alameda County	Open hillsides with Johnny jump-up (*Viola pedunculata*), which is larval host plant; adults feed on native mints and nonnative thistles	Absent	Project located outside species' known range; project area surrounded by urban development
San Bruno elfin butterfly *Callophrys mossii bayensis*	E/–/–	San Bruno Mountain, Montara Mountains, and northern end of Santa Cruz Mountains, San Mateo County	North-facing slopes and ridges facing Pacific Ocean from 600 to 1,100 feet that support *Sedum spathulifolium*	Absent	Project located outside species' known range; project area surrounded by urban development
Vernal pool fairy shrimp *Branchinecta lynchi*	T/–/–	Central Valley, central and south Coast Ranges from Tehama to Santa Barbara County; isolated populations in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools	Absent	Suitable habitat (i.e., vernal pools) absent in project area; project area surrounded by urban development
Amphibians					
California red-legged frog *Rana draytonii*	T/SSC/–	Found along the coast and coastal mountain ranges of California from Mendocino County to San Diego County and in the Sierra Nevada from Butte County to Stanislaus County	Permanent and semipermanent freshwater aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation; may aestivate in rodent burrows or cracks during dry periods	Absent	Although suitable aquatic habitat (i.e., freshwater creeks with vegetation) present in project area at San Leandro creek, species absent due to poor quality of habitat. Habitat is severely degraded with fast-flowing narrow channel that lacks emergent vegetation; narrow creek riparian project surrounded by urban development. Nearest CNDDB record 2.5 mile from project SE of South Hayward BART Station in a pond in Garin Regional Park.

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
California tiger salamander *Ambystoma californiense*	T/ST/–	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet in elevation, and coastal region from Sonoma County south to Santa Barbara County	Small freshwater ponds, lakes, or vernal pools in grasslands and oak woodlands for breeding; rodent burrows, rock crevices, or fallen logs for upland cover during dry season	Absent	Suitable aquatic habitat (i.e., freshwater ponds, lakes, or vernal pools) and upland habitat absent in project; project surrounded by urban development. Only one CNDDB record on Alameda Island and presumed extirpated; no connectivity of habitat (aquatic or upland) to project area.
Foothill yellow-legged frog *Rana boylii*	–/ SSC/–	Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	Absent	Suitable habitat (i.e., creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats) absent in project area. Although aquatic habitat (i.e., freshwater creek) present in project area at San Leandro Creek, species absent due to poor quality of habitat. Habitat is severely degraded with fast-flowing narrow channel that lacks rocky riffles and sunny banks; narrow creek riparian project surrounded by urban development. Nearest CNDDB record in Moraga Creek approximately 6 miles NE from project area.
Reptiles					
Alameda whipsnake *Masticophis lateralis euryxanthus*	T/T/–	Restricted to Alameda and Contra Costa Counties; fragmented into 5 disjunct populations throughout its range	Valleys, foothills, and low mountains associated with northern coastal scrub or chaparral habitat; requires rock outcrops for cover and foraging	Absent	Suitable habitat (i.e., northern coastal scrub or chaparral habitat) absent in the project. No connectivity of habitat to project; project surrounded by urban development.
Western pond turtle *Emys marmorata*	–/SSC/–	From the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada	Ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and aquatic vegetation; in woodlands, grasslands, and open forests	**Present**	Suitable habitat (i.e., stream with narrow riparian habitat) present in project area at San Leandro Creek.

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Birds					
Alameda song sparrow *Melospiza melodia pusillula*	–/SSC/–	Marshes along the southern portion of San Francisco Bay	Tidal marshes dominated by pickleweed; nest in tall vegetation (gumplant) or dense stands of pickleweed	Absent	Suitable habitat (i.e., pickleweed dominated tidal marshes) absent in the project area; project area surrounded by urban development
American peregrine falcon *Falco peregrinus anatum*	D/D/FP	Permanent resident along the north and south Coast ranges; may summer in the Cascade and Klamath Ranges and through the Sierra Nevada to Madera County; winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large prey populations; other tall built nest sites include electricity transmission towers, quarries, silos, skyscrapers, churches, and bridges.	**Present**	Although tall built structures (i.e., transmission towers and buildings) with potential for nesting in proximity to project is present, nesting unlikely as project is surrounded by urban development and species prefers more remote areas with multiple foraging habitats. The only foraging habitat present is for avian prey in open air space.
Black skimmer *Rynchops niger*	–/SSC/–	Western population breeds from southern California (inland at Salton Sea, along coasts in San Diego and Orange counties) to Nayarit, Mexico. Suspected of breeding in small numbers in S. San Francisco Bay (Roberson 1985)	Nests on gravel bars and sandy beaches; forages in shallow, calm waters	Absent	Project area located outside species' known range; project area surrounded by urban development
Burrowing owl *Athene cunicularia*	–/SSC/–	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation to forage in with available burrows for refuge and nesting	Absent	Suitable nesting (i.e., burrows) with foraging habitat (i.e., open grassland or desert vegetation) absent in project area; project surrounded by urban development

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
California black rail *Laterallus jamaicensis coturniculus*	–/T/FP	Permanent resident in the San Francisco Bay and eastward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties	Tidal salt marshes associated with dense pickleweed; also occurs in brackish or freshwater marshes at low elevations	Absent	Suitable habitat (pickleweed dominated tidal salt marsh, and brackish or freshwater marsh) absent in the project area; project area surrounded by urban development
California least tern *Sternula antillarum (=Sterna, =albifrons) browni*	E/E/FP	Nests on beaches along the San Francisco Bay and along the southern California coast from southern San Luis Obispo County south to San Diego County	Nests on sandy, upper ocean beaches, and occasionally uses mudflats; forages on adjacent surf line, estuaries, or the open ocean	Absent	Suitable nesting (i.e., beaches or mudflats) and foraging habitat (i.e., surf line, estuaries, or the open ocean) absent in project area; project area surrounded by urban development
California Ridgway's rail (=California clapper) rail *Rallus longirostris obsoletus*	E/E/FP	Marshes around the San Francisco Bay and east through the Delta to Suisun Marsh	Restricted to salt marshes and tidal sloughs; usually associated with dense pickleweed and abundant tidal channels	Absent	Suitable habitat (i.e., salt marsh and tidal sloughs with dense pickleweed and abundant tidal channels) absent in the project area; project area surrounded by urban development
Golden eagle (nesting) *Aquila chrysaetos*	PR/–/FP	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals	Absent	Suitable nesting (i.e., cliffs, escarpments, and tall trees overlooking open country) and foraging habitat (i.e., annual grasslands, chaparral, and oak woodlands) absent in project area; project area surrounded by urban development
Northern harrier *Circus cyaneus*	–/SSC/–	Throughout lowland California, but species has been recorded in fall at high elevations	Grasslands, meadows, marshes, and seasonal and agricultural wetlands; nests on the ground within a thicket of vegetation	Absent	Suitable nesting (i.e., thicket of vegetation) and foraging habitat (i.e., grasslands, meadows, marshes, and seasonal, and agricultural wetlands) absent in project area, project area surrounded by urban development

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	–/SSC/–	Found only in the San Francisco Bay Area in Marin, Napa, Sonoma, Solano, San Francisco, San Mateo, Santa Clara, and Alameda Counties	Freshwater marshes in summer and salt or brackish marshes in fall and winter; requires tall grasses, tules, and willow thickets for nesting and cover	Absent	Suitable nesting (i.e., tall thicket of vegetation in freshwater marsh) and non-breeding foraging (i.e., marshes) absent in project area; project area surrounded by urban development
Western snowy plover (Coastal) *Charadrius alexandrinus nivosus*	T/SSC/–	Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries. Twenty breeding sites are known in California from Del Norte to Diego County	Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent	Absent	Project located outside species' known nesting range. Suitable habitat (i.e., coastal beaches and open areas with sandy or saline substrates) absent in project area; project area surrounded by urban development
Western yellow-billed cuckoo *Coccyzus americanus*	T/E/–	Nests along upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant	Absent	Project located outside species' known nesting range. Suitable nesting and foraging (riparian forests with willow understory and cottonwood overstory) absent in project area; project area surrounded by urban development
White-tailed kite *Elanus leucurus*	–/–/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills, to western San Diego County at the Mexico border	Dense-topped trees or shrubs for nesting; open grasslands, marshes, or agricultural fields for foraging	Absent	Suitable foraging (i.e., open grasslands, marshes, or agricultural fields) absent in project area; project area surrounded by urban development

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Yellow warbler *Setophaga petechia*	–/SSC/–	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes and the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Two small permanent populations in San Diego and Santa Barbara Counties	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses	**Present**	Suitable nesting and foraging habitat (i.e., riparian near stream courses) present in project area at San Leandro Creek
Mammals					
Alameda Island mole *Scapanus latimanus parvus*	SC/SSC/–	Alameda Island	Terrestrial; *Scapanus latimanus* prefer moist soils, but will inhabit dry areas with large boulders.	Absent	Project located outside species' known range; project area surrounded by urban development
American badger *Taxidea taxus*	–/SSC/–	Majority of the northern, western, and central United States south to Baja California	Grasslands, savannas, mountain meadows, and open areas of desert scrub that support small mammal burrow complexes	Absent	Suitable habitat (i.e., grasslands, savannas, mountain meadows, and open areas of desert scrub with small mammals) absent in the project area; no connectivity of habitat (aquatic or upland) to project area; project area surrounded by urban development
Big free-tailed bat *Nyctinomops macrotis*	–/SSC/–	Distribution in California is uncertain because occurrences are very rare; most likely to be found in southern California, but has been recorded in Berkeley, Alameda County	Inhabits arid, rocky areas; roosts in crevices in cliffs	Absent	Suitable habitat (i.e., cliffs among arid, rocky areas) absent in the project area; project area surrounded by urban development
Hoary bat *Lasiurus cinereus*	–/–/WBWG Medium	Widespread throughout California	Roosts primarily in coniferous and deciduous trees, typically within forests and at edge of a clearing	Absent	Suitable habitat (i.e., within forests) absent in the project area; project area surrounded by urban development

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Pallid bat *Antrozous pallidus*	–/SSC/ WBWG High	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland. Relies heavily on trees for roosts; also roosts in rocky outcrops crevices, cliffs, caves, mines, and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied and vacant buildings	**Present**	Suitable roosting habitat (i.e., trees, bridges, and buildings) present in and surrounding the project area. Trees within riparian of San Leandro Creek, and crevices in elevated BART track, BART station structures, watercourse bridges, and roadway bridges in project ROW are suitable roosting habitat; waterways crossing ROW are suitable foraging habitat.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	E/E/FP	San Francisco, San Pablo, and Suisun Bays; the Delta	Tidal salt marshes with dense pickleweed and fat hen with sufficient high-tide cover in adjacent uplands	Absent	Suitable habitat (i.e., pickleweed dominated tidal marshes with high-tide upland cover) absent in the project area; project area surrounded by urban development
Salt-marsh wandering shrew *Sorex vagrans halicoetes*	–/SSC/–	Restricted to southern and northwestern San Francisco Bay including Alameda County	Mid-elevation salt marsh habitats with dense pickleweed; requires driftwood and other objects for nesting cover	Absent	Suitable habitat (i.e., mid-elevation salt marsh habitats with dense pickleweed) absent in the project area; project area surrounded by urban development
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	–/SSC/–	West side of Mount Diablo to coast and San Francisco Bay	Present in chaparral habitat and in forest habitats with a moderate understory	Absent	Suitable habitat (i.e., chaparral habitat and in forest habitats with a moderate understory) absent in the project area; project area surrounded by urban development

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Silver-haired bat *Lasionycteris noctivagans*	–/SSC/ WBWG Medium	Occurs from southern Alaska, throughout southern Canada, and most of the United States into the San Carlos Mountains of northeastern Mexico.	Primarily a forest bat, associated primarily with north temperate zone conifer and mixed conifer/hardwood forests; has been found in winter and during seasonal migrations in low elevation, more xeric habitats	Absent	Suitable habitat (i.e., chaparral or forest habitats with a moderate understory) absent in the project area
Townsend's big-eared bat *Corynorhinus townsendii*	–/SCT, SSC/WBWG High	Coastal regions from Del Norte County south to Santa Barbara County	Roosts in caves, tunnels, mines, and dark attics of abandoned buildings; very sensitive to disturbances and may abandon a roost after one onsite visit	Absent	Suitable habitat (i.e., caves, tunnels, mines, and attics of abandoned buildings in low disturbance areas) absent in the project area; project area surrounded by urban development
Western mastiff bat *Eumops perotis californicus*	–/SSC/ WBWG High	Occurs along the western Sierra primarily at low to mid elevations and widely distributed throughout the southern coast ranges; recent surveys have detected the species north to the Oregon border	Found in a wide variety of habitats from desert scrub to montane conifer; roosts and breeds in deep, narrow rock crevices, but may also use crevices in trees, buildings, and tunnels	**Present**	Suitable roosting habitat (i.e., trees, bridges, and buildings) present in and surrounding the project area. Trees within riparian of San Leandro Creek, and crevices in elevated BART track, BART station structures, watercourse bridges, and roadway bridges in project ROW are suitable roosting habitat; waterways crossing ROW are suitable foraging habitat

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Fish					
Green sturgeon *Acipenser medirostris*	T/–/–	Coastal drainages along the west coast including tributaries which connect directly to San Francisco Bay	Ocean water, bays, and estuaries while not spawning; spawns in the mainstem of freshwater rivers with connections to marine habitat and suitable deep pools	Absent	Suitable habitat is absent in Lake Merritt Channel as the Lake is shallow and water salinity would be too high for spawning. Suitable habitat (i.e., coastal drainages with cold, clear water) is present at the mouths of Lion Creek, Arroyo Viejo Creek, Estudillo Canal, San Lorenzo Creek, and Zeile Creek, but habitat quality is unsuitable further up these streams as waterways are concrete lined, lack pools, and do not provide habitat for sturgeon. Suitable habitat with potential for populations of sturgeon is present at the mouth of San Leandro Creek, but stream depth further upstream (before and including the project alignment intersection) is too shallow and lacks deep pools.
California Central coast steelhead *Oncorhynchus mykiss*	T/–/–	Coastal drainages along the central California coast including tributaries which connect directly to San Francisco Bay	Cold, clear freshwater watercourses with clean gravel of appropriate size for spawning; most spawning occurs in headwater streams	**Present**	Suitable habitat is absent in Lake Merritt Channel as water is brackish; water salinity would be too high for spawning, and the lake does not provide spawning habitat. Suitable habitat (i.e., coastal drainages with cold, clear water) is present in Lion Creek, Arroyo Viejo Creek, Estudillo Canal, San Lorenzo Creek, and Zeile Creek, but habitat quality is low as waterways are concrete lined and do not provide habitat for steelhead or rainbow trout; if present in these waterways, steelhead would likely be in small numbers as strays. Suitable habitat with potential for populations of steelhead is present in San Leandro Creek as there are no downstream barriers and the creek is not cement lined; adult and juvenile

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
					steelhead (i.e., rainbow trout) have been captured in San Leandro Creek by East Bay Municipal Utility District during surveys from 1996 to 2001 (Leidy et al 2005)
Central Valley steelhead *Oncorhynchus. mykiss*	T/–/– (spring run) E/–/– (winter run)	Sacramento and San Joaquin River and their tributaries	Occurs in the Sacramento and San Joaquin Rivers and their tributaries in well-oxygenated, cool, riverine habitat with water temperatures from 7.8 to 18°C (Moyle 2002); habitat types are riffles, runs, and pools	Absent	Project area located outside species' known range
Central Valley Chinook salmon *Oncorhynchus tshawytscha*	T/–/– (spring run) E/–/– (winter run)	Sacramento and San Joaquin River and their tributaries	An anadromous fish that spawns and spends a portion of its life in inland streams, typically maturing in the open ocean	Absent	Project area located outside species' known range
Delta smelt *Hypomesus transpacificus*	T/E/–	Primarily in the Sacramento–San Joaquin Estuary, but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand (Moyle 2002)	Absent	Project area located outside species' known range
Longfin smelt *Spirinchus thaleichthys*	C/T, SSC/–	San Francisco Bay-Delta to north of the Cook Inlet in Alaska	Salt or brackish estuary waters with freshwater inputs for spawning	Absent	Project area located outside species' known range

Special-Status Wildlife and Fish Species Known or with Potential to Occur in the Study Area					
Common Name Scientific Name	Status[b] Federal/ State/Other	Geographic Distribution	General Habitat Description	Habitat Presence/ Absence	Rationale
Tidewater goby *Eucyclogobius newberryi*	E/SSC/–	From Tillas Slough (mouth of the Smith River, Del Norte County) to Agua Hedionda Lagoon (northern San Diego County)	Found in brackish shallow waters of coastal lagoons, estuaries, and marshes; prefer sandy substrate for breeding, but can be found on rocky, mud, and silt substrates	Absent	Suitable habitat (i.e., brackish shallow waters of coastal lagoons, estuaries, and marshes) absent in the project area; project area surrounded by urban development

[a] Wildlife species with no legal status under CEQA were omitted from the table.

[b] Status Codes:

Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA)

– = No listing.
E = Listed as endangered.
T = Listed as threatened.
C = Candidate for listing.

Other

SC = Listed as a Species of Concern by the Federal Endangered Species Act (ESA).
D = Delisted.
SSC = Listed as a Species of Special Concern by the California Endangered Species Act (CESA).
SCT = Candidate for state threatened listing under the California Endangered Species Act.
FP = California fully protected species.
PR = Protected under the Golden Eagle Protection Act.
WBWG = Western Bat Working Group conservation priority (High or Medium).

Discussion

a. Less Than Significant With Mitigation. No special-status plant species have the potential to occur in the project area. No special-status plant habitat (e.g., natural playas, valley and foothill grassland, vernal pools, coastal prairies, coastal dunes, coastal scrub, cismontane woodlands, chaparral, coastal prairie, freshwater marshes and swamps, tidal salt marsh, oak woodland, coniferous forest, woodland, serpentine outcrops, broadleaved upland forest, and upland forests) is present in the project area.

Five special-status wildlife species, and one special-status fish species have the potential to occur in the project area. Although the majority of migratory bird species are not considered special-status wildlife species, their occupied nests and eggs are protected by the California Fish and Game Commission Sections 3503, 3503.5, and 3800; and the Migratory Bird Treaty Act. Migratory birds and raptors have the potential to nest in or near the project area.

- Western pond turtle (*Emys marmorata*): Suitable habitat (i.e., stream with narrow riparian habitat) is present in the project area at San Leandro Creek.
- American peregrine falcon (*Falco peregrinus anatum*): Although tall built structures (i.e., transmission towers and buildings) area present in proximity to the project area, nesting is unlikely as the project area is surrounded by urban development, and this species prefers more remote areas with multiple foraging habitats. The only foraging habitat present is for avian prey in open air space; foraging habitat would not be affected by project activities.
- Yellow warbler (*Setophaga petechial*): Suitable nesting and foraging habitat (i.e., riparian near stream courses) is present in project area at San Leandro Creek.
- Pallid bat (*Antrozous pallidus*): Suitable roosting habitat (i.e., trees, bridges, and buildings) is present in and surrounding the project area. Trees within the riparian corridor of San Leandro Creek and crevices in elevated BART track, BART station structures, watercourse bridges, and roadway bridges in project corridor are suitable roosting habitat. Waterways crossing corridor are suitable foraging habitat.
- Western mastiff bat (*Eumops perotis californicus*): Suitable roosting habitat (i.e., trees, bridges, and buildings) is present in and surrounding the project area. Trees within the riparian corridor of San Leandro Creek and crevices in elevated BART track, BART station structures, watercourse bridges, and roadway bridges in project corridor are suitable roosting habitat. Waterways crossing ROW are suitable foraging habitat.
- California Central coast steelhead (*Oncorhynchus mykiss*): Suitable habitat (i.e., unobstructed watercourse with cold, freshwater) with potential for populations of steelhead is present in San Leandro Creek. Construction along San Leandro creek would be located in upland areas only, outside of the stream channel and its banks, and would occur at times when steelhead are not moving through the portion of the stream within or near the project corridor.
- Migratory birds and raptors have the potential to nest in trees, shrubs, grass, bridges, culverts, on building structures, and under road overpasses (e.g., Hesperian Boulevard).
- No critical habitat or essential fish habitat respectively designated by USFWS or NMFS occurs in the portions of waterways crossed by the project.

The project would have no effect on special-status plant species. The project would have a significant impact on candidate, sensitive, or special-status species, migratory birds and raptors, and fish species. However, with implementation of Measures BIO-1 through BIO-5, impact on candidate, sensitive, or special-status species, migratory birds and raptors, and fish species would be less than significant.

b. Less Than Significant With Mitigation. The watercourses described in Table IV-1 are the only regulated habitats (i.e., waters of the United States) in the project area. Wetlands and other waters of the United States and potential impacts on these resources are addressed below under CEQA topic "c". The project would have a significant impact on riparian habitat and/or other sensitive natural communities. However, with implementation of Measures BIO-1, BIO-6, and BIO-7, impacts on riparian habitat or other sensitive natural communities would be less than significant.

c. Less Than Significant With Mitigation. A habitat of concern that has the potential to occur in the project area is wetlands and other waters of the U.S. Of the 12 identified watercourses in the project area, some are spanned by existing bridges, and others (San Leandro Creek, Estudillo Canal, and San Lorenzo Creek) would have their existing bridges extended (widened) or would have new bridges installed as part of the project. Therefore, the project would have a significant impact on federally protected wetlands. However, new bridge structures would clear-span the channels, and all supports and footings would be outside the top banks of the waterways. No piers or abutments would be installed within the channel of the water ways. No in-water work, dewatering activities, or coffer dams would occur during project construction. Furthermore, implementation of Measures BIO-1, BIO-6, and BIO-8, impacts on federally protected wetlands would be less than significant.

d. Less Than Significant With Mitigation. As described above in b and c (respectively), impact on riparian habitat and waterways would be less than significant with mitigation incorporated. Special-status species occurring in terrestrial habitat east of the project (e.g., near or west of Highway 580) have no habitat connectivity to the project area. Special-status species residing in tidal marsh habitat west of the project area have no habitat connectivity to the project area; no tidal marsh habitat occurs in the project area. There are patches of suitable roosting habitat for bats (including pallid and western mastiff) and nesting habitat passerines birds (including yellow warbler) in the limited riparian habitat on the banks of San Leandro Creek in the project corridor and further between the San Francisco Bay and Lake Chabot. There is potential for western pond turtle in San Leandro Creek, but the creek ultimately leads to tidal salt water habitat in the San Francisco Bay approximately 1.77 miles downstream from the project corridor. There is habitat connectivity for California Central coast steelhead in San Leandro Creek, between the San Francisco Bay and a dam at the Lake Chabot source (California Department of Fish and Wildlife 2016). No native wildlife nursery sites are located within the project area. The project would have a significant impact on the movement of fish or wildlife species, wildlife corridors, or nursery sites. However, with implementation of Measures BIO-2 through BIO-5, impact on the movement of fish or wildlife species, wildlife corridors, or nursery sites would be less than significant

e. Less Than Significant With Mitigation. The project could remove or relocate trees (relocating trees in the same general area [i.e., the same block]) regulated by the Cities of Oakland, Hayward, or San Leandro, or Alameda County along the project corridor, however, existing trees would be avoided or preserved to the extent possible. Current project designs do not indicate what vegetation would be impacted. Table IV-4 identifies 213 trees within the project area that have the potential to be impacted by construction activities. All impacts on vegetation would comply with the Alameda County (Municipal Code: Chapter 12.11 'Regulation of Trees in County Right-of-Way) and City of Oakland (Municipal Code: Chapter 12.32 'Street Trees and Shrubs' and Chapter 12.36 'Protected Trees'), San Leandro (Municipal Code: Chapter 5.2 'Street Trees'), and Hayward (Municipal Code: Article 15 Section 10 'Tree) policies and ordinances. The project would have a significant impact on local policies or ordinances protecting biological resources. However, with implementation of

Measures BIO-1 and BIO-9, impacts related to local policies or ordinances protecting biological resources would be less than significant.

Table IV-4. Trees that Occur in the Project Area

Trees that Occur in the Project Area					
			Impact		
Tree (Common Name)*	Amount	CDP Sheet	Rail to Trail	Rail with Trail	Jurisdiction
Stonefruit sp.	1	RWT-03		X	Oakland
Stonefruit sp.	1	RWT-03		X	Oakland
Pine sp.	1	RWT-09		X	Oakland
Pine sp.	1	RWT-09		X	Oakland
Stonefruit sp.	8	RWT-10		X	Oakland
California Pepper	1	RWT-11		X	Oakland
Palm sp.	7	RWT-17		X	Oakland
Palm sp.	5	RWT-17		X	Oakland
Ornamental sp.	4	RWT-23		X	Oakland
California Pepper	1	R2T-24	X		Oakland
Ornamental sp.	10	RWT-24		X	Oakland
Cypress sp.	2	RWT-26		X	San Leandro
Ornamental sp.	2	RWT-26		X	San Leandro
Tree of Heaven	1	RWT-26		X	San Leandro
California Bay	1	RWT-26		X	San Leandro
California Sycamore	5	RWT-27		X	San Leandro
Pine sp.	5	RWT-28		X	San Leandro
Italian poplar	4	RWT-34		X	San Leandro
Eucalyptus sp.	3	R2T-36	X		San Leandro
Ornamental sp.	3	R2T-36	X		San Leandro
Unknown	5	R2T-36	X		San Leandro
Cherry	2	R2T-36	X		Alameda Co
Pine sp.	2	R2T-36	X		Alameda Co
Privet sp.	1	RWT-38		X	Alameda Co
Unknown	1	R2T-40	X		Alameda Co
Manzanita sp.	2	RWT-42		X	Alameda Co
Ornamental sp.	4	RWT-42		X	Alameda Co
Coast Live Oak	3	R2T-43	X		Alameda Co
Ornamental sp.	2	R2T-43	X		Alameda Co
Manzanita sp.	3	RWT-43		X	Alameda Co
Ornamental sp.		RWT-43		X	Alameda Co
Cherry	5	RWT-43		X	Alameda Co
Manzanita sp.	7	RWT-43		X	Alameda Co
Ornamental sp.	7	RWT-43		X	Alameda Co
Stonefruit sp.	1	RWT-43		X	Alameda Co
Cherry	1	R2T-44	X		Alameda Co
Redwood sp.	4	RWT-44		X	Alameda Co

Trees that Occur in the Project Area					
			Impact		
Tree (Common Name)*	Amount	CDP Sheet	Rail to Trail	Rail with Trail	Jurisdiction
Ornamental sp.	10	RWT-44		X	Hayward
Cherry	2	RWT-44		X	Hayward
Redwood sp.	4	RWT-44		X	Hayward
Ornamental sp.	5	RWT-44		X	Hayward
Cherry	5	RWT-44		X	Hayward
Ornamental sp.	6	RWT-44		X	Hayward
Cherry	5	RWT-44		X	Hayward
Redwood sp.	4	RWT-44		X	Hayward
Ornamental sp.	1	RWT-45		X	Hayward
Cherry	4	RWT-45		X	Hayward
Redwood sp.	7	RWT-45		X	Hayward
Pine sp.	3	RWT-46	X	X	Hayward
California Pepper	2	RWT-46	X	X	Hayward
Pine sp.	3	RWT-46	X	X	Hayward
Eucalyptus sp.	1	RWT-47		X	Hayward
Redwood sp.	1	RWT-47		X	Hayward
Pine sp.	5	RWT-47	X	X	Hayward
Ornamental sp.	4	R2T-49	X		Hayward
Coast Live Oak	6	R2T-52	X		Hayward
Cherry	2	R2T-52	X		Hayward
California Sycamore	1	RWT-52		X	Hayward
Coast Live Oak	6	RWT-54	X	X	Hayward
Redwood sp.	5	R2T-55	X		Hayward
Redwood sp.	4	RWT-55		X	Hayward
* sp. = unknown species.					

f. No Impact. No adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans are in place in the project area. Therefore, there are no impact related to conflict with the provisions of applicable or other approved plans.

Avoidance, Minimization, and Mitigation Measures

Measure BIO-1: Develop and Implement Worker Awareness Training

Prior to construction, project proponent and/or their construction contractor will retain a qualified biologist to develop and conduct a worker environmental awareness training (WEAT) for all project personnel.

The training will include focused environmental education about the protected biological resources with potential on the project (i.e., trees, wetlands and waters of the U.S, special-status wildlife and habitats, migratory birds), the protected status of those resources, the need and actions that should be taken to avoid impacts on these resources, any terms and conditions

required by state and federal agencies, the penalties for not complying with biological mitigation requirements, and the importance and instruction regarding the control and prevention of the spread of invasive plants. If new construction personnel are added to the project, the contractor's superintendent will ensure that the personnel receive the mandatory training before starting work. An environmental awareness handout will be provided to each person that describes and illustrates sensitive resources to be avoided during project construction, and identifies all relevant permit conditions.

Measure BIO-2: Implement Western Pond Turtle Impact Avoidance Measures

The project proponent and/or their construction contractor will be responsible for avoiding impacts on western pond turtle in areas where potential habitat occurs. Accordingly, the following measures will be implemented.

- Prior to the start of construction within 300 feet (excluding developed or hardscaped land cover) from western pond turtle habitat (i.e., San Leandro Creek), the project proponent will retain a biologist approved by the CDFW to survey for and handle western pond turtles to conduct a preconstruction surveys. Surveys will be conducted no more than 7 days prior to the initiation of ground disturbance at that location.
- If a non-nesting pond turtle is found in the work area, the biologist will allow the turtle to move outside the work area on its own. If this is not feasible, the biologist will remove and relocate the turtle to suitable habitat outside the study area. Relocation sites will be subject to CDFW approval.
- If preconstruction surveys identify active nests, the biologist will establish 50-foot no-disturbance buffer zones around each nest using temporary orange ESA fencing. The fence will be installed 4 inches above the ground, which will allow hatchlings to move freely away from the nest site. The buffer zones and fencing will remain in place until the biologist has confirmed that the young have left the nest.
- During construction, if a turtle is found in the work area, all work shall stop within 50 feet of the turtle.
    - If a non-nesting turtle is observed in the work area and leaves on its own, details of the observation (e.g., time, size, location, behavior) will be reported to the CDFW-approved biologist by the end of the work day.
    - If a non-nesting turtle is observed in the work area and does not leave on its own, the CDFW-approved biologist will be contacted to relocate the turtle.
    - If a nesting turtle is observed in the work area, the CDFW-approved biologist will be contacted as soon as possible. The turtle will be allowed to complete nesting. If the turtle leaves the nesting site prior to speaking to or a biologist being onsite, the nest location will be flagged with flagging tape on nearby vegetation so the biologist can relocate the nest.

Measure BIO-3: Implement Nesting Bird Impact Avoidance Measures

The project proponent and/or their construction contractor will be responsible for avoiding effects on migratory and non-migratory birds including special-status species (i.e., American peregrine falcon and yellow warbler). Accordingly, the following measures will be implemented.

- Vegetation (including trees) trimming or removal will be conducted during the nonbreeding season (February 1 to August 31), to the extent feasible.
- Construction activities will be conducted during the nonbreeding season (February 1 to August 31), to the extent feasible.
- Construction activities will begin during the nonbreeding season (February 1 to August 31) and prior to the nesting season (February 1 to August 31), if feasible. Beginning

construction prior to the breeding season will establish a level of noise disturbance that will dissuade noise-sensitive raptors and other birds from attempting to nest within or near the study area.

- Bridge work (including existing bridge expansion and new bridge installation) will be conducted during the nonbreeding season (February 1 to August 31), to the extent feasible. It is recommended that inactive nests be removed from any bridge work location and from any vegetation or structure within the project ROW within 50 feet of where bridge work will take place. In addition, nest exclusion measures (e.g., fine mesh netting, panels, or metal projectors) are recommended to be installed outside of the nesting season, to the extent feasible. If installed, exclusionary devices will be monitored and maintained throughout the breeding season to ensure that they are fully functional (i.e., successful in preventing the birds from accessing cavities or potential nesting sites).
- If construction activities (including vegetation trimming or removal and bridge work) occur within the breeding season (February 1 to August 31), a qualified wildlife biologist with demonstrated nesting bird survey experience will conduct preconstruction surveys for nesting birds. A minimum of three separate surveys will be conducted for migratory birds, including raptors. Surveys will include a search of all suitable nesting habitat (e.g., grassland, bushes, trees, bridges, culverts, overpasses, and structures) in the project area. In addition, a 300-foot area around the project area will be surveyed for nesting raptors. When feasible, surveys should occur during the height of the breeding season (March 1 to June 1) with one survey being conducted in each of 2 consecutive months within this peak period and the final survey being conducted within 1 week of the start of construction. If no active nests are detected during these surveys, no additional measures are required.
- If a lapse in construction activities of 3 days or longer at a previously surveyed study area occurs, another preconstruction survey will be conducted.
- When construction occurs linearly, it often is conducted in segments with periods of no activity in between. Such work is often conducted with multiple work crews and at different times. Each work segment will be considered a separate active construction area with boundaries, and nesting bird survey protocol will be followed for each individual segment work boundary.
- If an active nest is found in the project area, a no-disturbance buffer (marked with high-visibility fencing, flagging, or pin flags) will be established by a qualified wildlife biologist around the site to avoid disturbance or destruction of the nest until the end of the breeding season (August 31) or until after the biologist determines that the young have fledged and moved out of the project area (this date varies by species). The extent of these buffers will be determined by the biologist in coordination with USFWS and CDFW. Buffer size will depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Buffer size has the potential to vary with different species; buffer size is based on a species' sensitivity to disturbance and planned work activities in the vicinity. Typical buffer sizes are 300 feet for raptors and 50 feet for other birds.
- After the end of the nesting bird season or the project (whichever comes first), the biologist will complete a memorandum detailing survey effort and results and submit the memorandum to the project proponent within 10 working days. If the project is conducted over multiple nesting bird seasons, a memorandum will be conducted for each season.

Measure BIO-4: Implement Bat Impact Avoidance Measures

The project proponent and/or their construction contractor will be responsible for avoiding impacts on special-status bat species, including the pallid bat and western mastiff bat. Accordingly, the following measures will be implemented.

- Tree removal will be avoided between April 1 and September 15 (the maternity period) to avoid effects on pregnant females and active maternity roosts (whether colonial or solitary).
- All tree removal will be conducted between September 15 and October 30, which corresponds to a time period when bats have not yet entered torpor or would be caring for nonvolant (i.e., not yet able to fly) young.
- If tree removal and trimming cannot be conducted between September 15 and October 30, a qualified biologist will examine trees to be removed or trimmed for suitable bat roosting habitat no more than 2 weeks before removal and trimming. High-quality habitat features (e.g., large tree cavities, basal hollows, loose or peeling bark, larger snags, palm trees with intact thatch) will be identified and the area around these features searched for bats and bat signs (e.g., guano, culled insect parts, urine staining). Riparian woodland, orchards, and stands of mature broadleaf trees should be considered potential habitat for solitary foliage-roosting bat species. Passive monitoring using full spectrum bat detectors may be needed if identification of bat species is required. Survey methods will be discussed with CDFW prior to the start of surveys.
- Each tree will be removed in pieces rather than felling the entire tree.
- If a maternity roost is located, whether solitary or colonial, that roost will remain undisturbed until September 15 or until a qualified biologist has determined the roost is no longer active.
- If avoidance of nonmaternity roost trees is not possible, and tree removal or trimming must occur between October 30 and September 15, qualified biologists will monitor tree trimming and removal. If possible, tree trimming and removal should occur in the late afternoon or evening when it is closer to the time that bats would normally arouse. Prior to removal and trimming, each tree will be shaken gently and several minutes should pass before felling trees or limbs to allow bats time to arouse and leave the tree. The biologists will search downed vegetation for dead and injured bats. The presence of dead or injured bats that are species of special concern will be reported to CDFW. The biologist will prepare a biological monitoring report, which will be provided to the project proponent and CDFW.

Measure BIO-5: Implement Fish Impact Avoidance Measures

The project proponent and/or their construction contractor will be responsible for avoiding impacts on special-status fish species including the California central coast steelhead. Accordingly, the following measure will be implemented.

- No in-water activities, dewatering activities, or coffer dam installation will occur within any stream channel. Conduct bridge construction activities, including pier installation or pile driving, at San Leandro Creek, Estudillo Canal, and San Lorenzo Creek during the dry season between June 1 and October 1 to avoid the primary steelhead migration season for both adults and juveniles (between November and June) in the project area.

Measure BIO-6: Implement Environmentally Sensitive Area Fencing Installation

The project proponent and/or their construction contractor will be responsible for avoiding impacts on waters of the U.S and related riparian habitat documented in the study area. Accordingly, the following measures will be implemented.

- Prior to construction, orange environmentally sensitive area (ESA) fencing (i.e., snow fencing) will be installed to protect sensitive habitat (i.e., waters of the United States and riparian habitat) if bridge work, ground disturbance, or staging has the potential to impact sensitive habitat. Installation of ESA fencing is not required when conducting low-disturbance activities (e.g., restriping bike lanes) near sensitive habitat. The fencing shall be installed outside of riparian habitat, and the bed-and-bank of waters of the U.S. Construction activity, traffic, equipment, or materials will not be permitted in fenced areas.
- Sections of the fence protecting stream bed and bank may be temporarily removed when conducting bridge work (i.e., expansion or installation) if it impedes the work. If fencing is moved, flagging (e.g., pin flags or flagging tape) will be used to demarcate the top of the bank.
- Orange silt fencing can take the place of ESA fencing if silt fence, specified by the project stormwater pollution prevention plan (SWPPP), is to be installed at the same location. Silt fencing cannot be removed when conducting bridge work and replaced with flagging.

Measure BIO-7: Implement Invasive Plants Avoidance Measures

The project proponent and/or their construction contractor will be responsible for avoiding the introduction of new invasive plants and the spread of invasive plants. Accordingly, the following measures will be implemented.

- Construction vehicles and equipment will be power washed prior to arriving on site to remove all plant seed or mud that could harboring plant seed. Construction vehicles and equipment that are removed from the project to be used on another will be power washed again prior to the equipment's return and use.
- Surface disturbance within the construction work area will be minimized to the greatest extent possible.
- All disturbed areas will be seeded with certified weed-free native mixes and mulched with certified weed-free mulch (rice straw may be used in upland areas).
- Native, noninvasive species will be used in erosion control plantings to stabilize site conditions and prevent invasive species from colonizing.

Measure BIO-8: Implement Water Quality Protection Measures

The project proponent and/or their construction contractor will be responsible to protect water quality during construction. Accordingly, the following measures will be implemented.

- A SWPPP will be implemented as part of the National Pollutant Discharge Elimination System (NPDES) and in accordance with a General Construction Activity Stormwater Permit to minimize the potential for sediments or contaminants to be discharged into San Francisco Bay, wetlands, or waters of the United States within the project vicinity. The project will fully comply with the SWPPP.
- The project proponent will review and approve the contractors' toxic materials control and spill response plan before allowing construction to begin. The project proponent will routinely inspect the construction site to verity that BMPs specified in the SWPPP are properly implemented and maintained. The project proponent will notify the contractor immediately if there is a noncompliance issue and will require compliance.

Measure BIO-9: Implement Tree Protection Measures

The project proponent and/or their construction contractor will be responsible for avoiding impacts on protected biological resources, including trees and shrubs. Current project designs do not indicate what vegetation will be impacted. Table IV-4 identifies 213 trees within the project area that have the potential to be impacted by construction activities. Accordingly, the following measures will be implemented.

- Prior to construction, a qualified arborist will conduct a survey and prepare a report to document all the trees and shrubs that will be affected (i.e., trimmed, removed, or damaged) by construction activities.
- All impacts on vegetation will comply with the Alameda County and City of Oakland, San Leandro, and Hayward policies and ordinances including:
    - Alameda County's Municipal Code: Chapter 12.11 'Regulation of Trees in County Right-of-Way (ICF 2017c).
    - City of Oakland's Municipal Code: Chapter 12.32 'Street Trees and Shrubs' Oakland's Municipal Code 12.32.060 states: permit to maintain, remove, mutilate, attach to, or detach from, trees), states that it is unlawful for any person to make any tree or shrub improvement, or to destroy, deface or mutilate any tree or shrub in and along any public street, or to attach or place any rope, wire, sign, poster, handbill or other thing to or on any tree growing in any public street, or any guard or protection of such tree, or to cause or permit any wire charged with electricity to come in contact with any such tree, without having first obtained a written permit therefor from the Director of Parks and Recreation of the city.
    - City of Oakland's Municipal Code: Chapter 12.36 'Protected Trees' (ICF 2017c).
    - City of San Leandro's Municipal Code: Chapter 5.2 'Street Trees' (ICF 2017c).
    - City of Hayward's Municipal Code: Article 15 Section 10 'Tree Preservation' (ICF 2017c).

V. Cultural Resources	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Historic Property Survey Report, Historic Resources Evaluation Report, and Archaeological Survey Report, East Bay Greenway Project, Alameda County, California* (ICF 2017def).

This section discusses the existing cultural resources and paleontological conditions, a comprehensive discussion of the relevant regulatory, prehistoric, ethnographic, and historical context; methods used for identifying cultural and paleontological resources; and descriptions of known cultural and paleontological resources and sensitivity for encountering these resources.

The project APE occurs within a developed urban setting and consists mostly of roadways. It generally follows the BART system tracks from the City of Oakland to the City of Hayward.

Prehistory

Precontact cultural chronologies of the Bay Area have been developed by numerous researchers and studies of the prehistory of the region divide the prehistoric cultural sequence into multiple phases or periods that range from around 13,500 before present (BP) to around 225 BP. These changes are delineated by changes in regional patterns of land use, subsistence, and tool types over time.

Ethnography

At the time of European contact, the Bay Area, including the APE vicinity, was inhabited by a group of Native Americans whom ethnographers refer to as the Ohlone or Costanoan. The Ohlone spoke several dialects of the Utian Language family of the Penutian stock. Between 1776 and 1797, seven Spanish missions were founded in Ohlone territory and many Ohlone were brought to live and work, often by force. By 1832, the Ohlones numbered less than 2,000 as a result of introduced disease, harsh living conditions, and reduced birth rates. Under the Mexican government, secularization of the mission lands began in earnest in 1834. The indigenous population scattered away from the mission centers, and the few that were given rancherias from the mission lands were not properly

equipped to maintain or work their land. During the early 20th century, descendants of the Ohlone and other groups participated in legal efforts to obtain recognition by the federal government.

History

Mexico gained its independence from Spain in 1821 and became a federal republic in 1824, with California designated as a territory. In 1833 the Mexican government ordered that all mission land be secularized and divided among Hispanicized Native Americans and new colonists willing to settle in California. The cities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and a part of San Leandro are located on the former once Rancho San Antonio, granted to Luis Maria Peralta in 1820.

In February 1848, the Treaty of Guadalupe Hidalgo transferred all Mexican territory north of the Río Grande to the United States. California became a state in September 1850. Alameda County was created in 1853 from portions of Contra Costa and Santa Clara Counties.

Oakland

In 1852, Oakland was incorporated by the state legislature. Oakland's size and population began to expand in 1869, when the city became the terminus of the Central Pacific Railroad. A period of rapid population expansion and physical growth followed, including the establishment of civic and commercial buildings and improved infrastructure. The 1906 earthquake and devastating San Francisco fire resulted in refugees from the burned-out city across the bay pouring into East Bay towns. The post-earthquake development boom defined much of downtown Oakland, with a number of landmark skyscrapers and commercial buildings constructed during this era.

World War I increased the number of industrial establishments in both downtown and along the waterfront. The Great Depression of the 1930s followed the post-World War I prosperity of the 1920s, with little to no construction activity. With the preparations for and outset of World War II, Oakland entered an era of intense industrial, commercial, and economic development. From 1940 to 1945, Oakland's population increased by one-third and by 1950, the population was nearly 385,000. Between 1950 and 1980, Oakland's population steadily decreased, though it rose again in the 1980s.

San Leandro

After Alameda County was established in 1853, San Leandro was selected to be the county seat, though it wouldn't be incorporated until 1872. In 1873, Oakland became the new county seat. Like many East Bay towns, agriculture was San Leandro's first primary industry. San Leandro became famous for its cherry production, eventually earning the nickname "The Cherry City." San Leandro's population doubled between 1940 and 1950, as the city shifted from primarily agricultural industries to other industries. San Leandro's rapid development began to slow in the 1960s as the city ran out of vacant land.

Hayward

In 1830, the surveyor and soldier Guillermo Castro settled on a property encompassing lands in present-day Hayward, San Lorenzo, and Castro Valley. Castro sold 40 acres to William Dutton Hayward, a shoemaker from Massachusetts, sometime after Hayward returned to San Francisco in 1851, and eventually found himself squatting on Castro's land. The town of Haywards, later Hayward, was incorporated on March 11, 1876. Hayward grew into a successful agricultural area in

the late 1800s, rife with orchards, ranches, dairies, and other related businesses. After World War II, the farms and ranches gave way to suburban housing developments.

Railroad Development in the East Bay

The project APE includes a portion of the former Western Pacific Railway Company ROW. The Western Pacific Railway Company (Western Pacific Railroad Company after 1916) was founded in San Francisco in 1903. Construction of the line between Oakland and Salt Lake City, Utah, began in 1905, and the line was completed in 1909. The company launched the California Zephyr in 1949The line stopped providing passenger service in 1970, and the company was purchased by Union Pacific in 1982.

Bay Area Rapid Transit System

BART was born out of a need to reduce increasing traffic caused by the post-World War II population boom in the Bay Area. In 1951, the California State Legislature created the San Francisco Bay Area Rapid Transit Commission with representatives from each of the nine counties surrounding the San Francisco Bay. The San Francisco Bay Area Rapid Transit District (Transit District), comprising Alameda, Contra Costa, Marin, San Francisco, and San Mateo Counties, was formed in 1957 and was responsible for funding and building the system. BART's Fremont-Daly City line is located in the project area. The Fremont-Daly City line was constructed along the former Western Pacific Railroad Company ROW and service began on this line in 1974.

Geology and Paleontology

The APE is situated on Holocene dune sand, Holocene alluvium, and older (Holocene/Pleistocene) alluvium (Wagner et al. 1991), overlying older deposits of Holocene and Pleistocene age. Remains of land mammals (such as extinct mammoth and sloth) have been reported from localities of similar age and origin to the Older alluvium in the nearby area (University of California Museum of Paleontology 2017). For example, remains of a mammoth was recovered from Harris Street Tunnel, Oakland Coliseum, and 81st Avenue (Parkman 2006). As discussed below under Methodology, Paleontological Resources, vertebrate fossils are considered sensitive paleontological resources.

Methodology

Cultural Resources

ICF performed the following studies to determine whether cultural resources are present in the APE and the likelihood of encountering as-yet undocumented cultural resources: (1) background research of previously recorded resources and completed reports within and adjacent to the APE acquired from the Northwestern Information Center as well as basic background research to establish the general historic context for the APE, (2) outreach to Native Americans and interested parties, (3) in-depth property-specific research, (4) pedestrian survey to inspect and record resources in the APE, and (5) and a desktop-based buried site sensitivity analysis.

Background Research

The records search identified five cultural resources previously recorded within or directly adjacent to the APE. Four are archaeological resources (P-01-000233 [CA-ALA-321], a small prehistoric habitation site; P-01-000241, a single fragmented burial; P-01-010693, a mussel and clam shell

surface deposit; and P-01-011001 an ethnographically known shellmound location), and one is an architectural resource (a segment of the Western Pacific Railroad). Additionally, a total of 55 cultural resources studies encompass portions of the APE.

Property-specific research was conducted through the LandVision database, which provides assessor property characteristics data. In addition, internet research was conducted to locate the USGS Topographic Maps of the area. Historic aerials of the project area and properties in the APE were collected, and online databases from the National Archives and Records Administration, California Digital Newspaper Collection, and Ancestry.com were used to gather property-specific historical information.

Native American Coordination

ICF contacted the California Native American Heritage Commission (NAHC) on April 17, 2017, to identify any areas of concern within the APE that may be listed in the NAHC's Sacred Land File. NAHC responded on April 17, 2017, stating that a search of its files indicated the presence of a Native American sacred site in the immediate APE and provided the appropriate contact information.

NAHC also provided a list of six Native American contacts that might have information pertinent to this project or have concerns regarding the proposed actions.

Interested Parties Correspondence

On June 14, 2017, ICF sent contact letters to the Alameda County Historical Society, Oakland Heritage Alliance, San Leandro Historical Society, and Hayward Area Historical Society. Additional letters were sent on August 14, 2017 to the Historic Bridge Foundation, Alameda County Railroad Society (via email), and the San Leandro Historical Railway Society. None of the contacts responded as to the writing of this document.

Pedestrian Surveys

ICF archaeologists performed an archaeological pedestrian survey of the archaeological APE on April 27, 2017. Due to limited accessibility and lack of permission to enter, primarily along the rail line, this survey was restricted to publicly accessible ROWs where safe conditions allowed.

ICF architectural historians, who meet the qualifications of an Architectural Historian, surveyed and recorded all parcels in the architectural APE that contained buildings predating 1972. These parcels were surveyed on May 19 and May 26, 2017. Resources in the architectural APE were documented with digital photographs and handwritten notes.

Desktop Buried Site Sensitivity Analysis

An ICF geoarchaeologist performed a desktop-based buried site sensitivity analysis. The analysis consisted of reviewing the finest scale geologic map sources available that encompassed the APE, which ranged from 1:24,000 to 1:50,000 in scale, to assess the APE's potential to contain as-yet undocumented buried archaeological resources. At this range of scales, the error associated with horizontal accuracy would range from 12 to 24 meters.

Paleontological Resources

Geologic maps were consulted to determine the geologic units present at and near the project site and to determine the paleontological sensitivity of the geologic unit at the project site using SVP Guidelines. A records search was conducted at the University of California Museum of Paleontology database to identify fossil records in Alameda County in the project vicinity.

Findings

Cultural Resources

Eligible for Listing in the NRHP and/or CRHR

Because the degree of pavement and development in the APE is such that relocation of previously documented resources and evaluative testing cannot be performed at this time, the following four (4) archaeological resources and single (1) architectural resource are assumed eligible for listing in the NRHP, for the purposes of this project:

- **P-01-000233 (CA-ALA-321) –** small prehistoric habitation site.
- **P-01-010693 –** mussel and clam shell surface deposit.
- **P-01-011001 –** ethnographically known shellmound location.
- **P-01-000241** (CA-ALA-506) – single fragmented burial.
- **BART –** segment, circa 1970, assumed eligible for listing in the NRHP under Criteria A/C and the CRHR under Criterion 1/3.

Desktop Buried Site Sensitivity Analysis

The analysis revealed that nearly the entire APE is located on landforms with moderate to high buried site sensitivity. Table V-1 describes the geologic units located within the APE, where they are located, and their sensitivity for containing buried archaeological sites. However, only the installation of buried utilities in areas where utilities had not previously been installed and the construction of footings for new bridges are likely to result in ground disturbance that exceeds previous ground disturbance associated with the construction of the rail line.

Paleontological Resources

Table V-1. Geologic Units and Unit Attributes

Geologic Unit	Depositional Origin	Location	Age	Sensitivity	Reference
Af	Artificial fill	From intersection with 8th Street to 22nd Avenue; between 52nd Avenue to Hegenberger Road	Historical	Moderate	Graymer 2000; Dibble and Minch 2005a
Qa	Holocene alluvium – alluvial fans	Between 22nd Avenue and 52nd Avenue; Between Hegenberger Road and 81st Avenue; between Golby Street and Tennyson Road	Holocene	High	Dibble and Minch 2005a; Dibble and Minch 2005b
Qhl	Holocene alluvium – natural levee deposits	Between 2nd Avenue and Intersection with 8th Street; between 81st Avenue and 92nd Avenue; between 102nd Avenue and West Broadmoor Boulevard; between Williams Street and Estabrook Street between Terra Avenue and Halcyon Drive	Holocene	High	Graymer 2000
Qhb	Holocene alluvium – basin deposits	Between 92nd Avenue and 98th Avenue	Holocene	High	Graymer 2000
Qhaf	Holocene alluvium – alluvial fan	Between 98th Avenue and 102nd Avenue; between West Broadmoor Boulevard and Williams Street; between Estabrook Street and Terra Avenue; between Halcyon Street and Golby Street	Holocene	High	Graymer 2000

Table V-2 shows likelihood of fossil types and paleontological sensitivity of the map units in the project vicinity.

Table V-2. Surficial Geologic Units in the Project Vicinity

Age	Geologic Unit	Fossils Recovered	Paleontological Sensitivity
Holocene	Alluvium	NA	Low
Holocene	Dune sands	NA	Low
Holocene/Late Pleistocene	Old alluvium	Camel, horse, mammoth, sloth, squirrel, vole	High

Discussion

a. Less Than Significant. The Historic Property Survey Report (HPSR) completed for the project (ICF 2017d) identified one property affected by the project that is assumed NRHP-eligible for the purposes of this project: a segment of the BART system alignment in the APE. The Caltrans Cultural Studies Officer (CSO) approved the eligibility determinations for the BART segment in the APE in a letter dated July 27, 2017, for the purposes of the project due to the large size of the resource and the limited potential for effects. Concurrence with Caltrans eligibility determinations for the BART segment is currently being pursued.

The project construction adjacent to the UPRR ROW in the APE generally consists of minor activities consisting of restriping roadways for the bike path and bike path buffer. The project includes the construction of new bridges adjacent to the BART tracks in the APE at the following locations: State Highway 77 and 42nd Avenue in Oakland (new bridge approach), San Leandro Creek Bridge at approximately Antonio Street in San Leandro, Washington Avenue Bridge south of San Leandro Boulevard in San Leandro, Ashland Avenue Bridge at Elgin Street in San Leandro, San Lorenzo Creek Bridge at Hampton Road in San Lorenzo, and Tennyson Road Bridge south of East 10th Street in Hayward. Additionally, bridge widening work is proposed at Estudillo Canal Bridge, South of Bay Fair Mall in San Leandro. Construction of retaining walls adjacent to the BART tracks in the APE are proposed at both sides of Washington Avenue south of San Leandro Boulevard, south of the Bay Fair BART Station, south side of Tennyson Road east of the tracks, and directly west of the tracks north and south of Tennyson Avenue.

The project would not result in substantial alteration to the character defining features of the BART resource. Minor activities such as bike path striping would occur adjacent to the UPRR ROW in existing bike paths, and thus would not alter BART features directly nor introduce visual elements that weren't already part of BART's setting. Likewise, the bridge modification and construction of new bridge and retaining walls would not be visually prominent enough to detract from the overall scale, complexity, and design character of the BART station. Therefore, impact on historic resources would be less than significant.

b. Less Than Significant With Mitigation. Across much of the archaeological APE, project-related ground disturbance is not anticipated extend to depths greater than the extent of previous ground disturbance associated with road and rail construction; however, some activities (i.e., proposed foundation, walls, trestle locations) have to potential to extend below the depth of previous ground disturbance. Based on a desktop-based buried archaeological site sensitivity analysis, much of the project has high sensitivity for containing buried archaeological resources. Therefore, for those locations and activities where excavations are likely to extend below the depth of previous ground disturbance, implementation of Measure CUL-1 is recommended to ensure that impacts to known and as-yet undocumented archaeological resources would be less than significant. For all areas within the APE, implementation of Measure CUL-2 is recommended to ensure that any inadvertent impact on archaeological resources would be less than significant. With implementation of Measure CUL-1 and CUL-2, impacts related to adverse changes in the significance to an archeological resource would be less than significant.

c. Less Than Significant With Mitigation. Project activities would involve grading and soil removal for the trail and soil excavation to a maximum depth of 15 feet for foundations and shallower depths for other project elements. While this area is already disturbed, disturbance could be to depths that have not yet been disturbed by human activity; therefore, there is a possibility of encountering

previously undisturbed fossil remains. Paleontological resources may be encountered during project-related ground disturbance, but the likelihood is very low. With implementation of Measure CUL-3, impact related to direct or indirect (inadvertent) destruction of a unique paleontological resource or site or unique geological feature would be less than significant.

d. Less Than Significant With Mitigation. There are no known cemeteries within or directly adjacent to the APE. One fragmented set of human remains was previously documented adjacent to the APE (P-01-000241 [CA-ALA-506]), but no further investigations were performed to determine if additional sets of human remains were present in the vicinity. Regardless, project-related ground disturbance is not anticipated to occur at the location of the previously documented human remains. Based on this information, the likelihood of encountering human remains during the project is considered to be low. However, human remains may be encountered during project-related ground disturbance. With implementation of Measure CUL-4, impacts related to disturbance to any human remains, including those interred outside of dedicated cemeteries, would be less than significant.

Avoidance, Minimization, and Mitigation Measures

Measure-CUL-1: Perform Extended Phase I Archaeological Investigations

The project proponent and/or their contractors will retain a qualified archaeologist to develop an extended phase I (XPI) and/or phased approach plan. The plan(s) will describe the archaeological investigations that will be performed in order to determine whether previously documented and as-yet undocumented significant archaeological resources are present in areas identified as archaeologically sensitive and that will be subject to project-related ground disturbance that exceeds the depth of previous ground disturbance. The plan will be provided to the Caltrans archaeological Professionally Qualified Staff (PQS) for review and approval before it is implemented.

Once the project is designed, the project proponent and/or their contractors will retain a qualified archaeologist to perform the archaeological investigations as defined in the plan. The results of the investigations will be summarized in an extended phase I report, provided to Caltrans for review and approval, and integrated into the project's HPSR package. Depending on the results of the investigations; additional studies, archaeological monitoring, and/or mitigation may be required. The project proponent will be responsible for ensuring that any additional studies, monitoring, or mitigation are performed in accordance any agreements (e.g., additional mitigation measures, memoranda of agreement) established in consultation with Caltrans.

Measure CUL-2: Stop Work if Buried Cultural Resources Are Discovered

During project construction, the project proponent and/or their construction contractor will ensure work is stopped work if buried cultural resources are inadvertently discovered during ground-disturbing activities. Buried cultural resources include, but are not limited to, chipped or ground stone, historic debris, building foundations, or human bone. If there is evidence of such resources, work will stop in that area and within 100 feet of the find until a qualified professional archaeologist can assess the significance of the find and develop appropriate treatment measures in consultation with the project proponent. The project proponent will be responsible for ensuring that treatment measures are implemented prior to the resumption of

construction on that portion of the site. If discovered resources include human bone, implementation of Measure CUL-4 is also required.

Measure CUL-3: Establish and Follow Procedures in Case of Accidental Discovery of a Paleontological Resource

Before the start of any drilling or pile-driving activities, Alameda CTC or their construction contractor will retain a qualified paleontologist, as defined by SVP, who is experienced in teaching generalists. The qualified paleontologist will 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 are likely to be seen during construction, and proper notification procedures should fossils be encountered. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who will evaluate the significance.

If paleontological resources are discovered during earthmoving activities, the construction crew will immediately cease work near the find and notify the project implementer. Construction work in the affected areas will remain stopped or be diverted to allow recovery of fossil remains in a timely manner. The project proponent and/or their construction contractor will retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with SVP guidelines (Society for Vertebrate Paleontology 2010). The recovery plan may include a field survey, construction monitoring, sampling, data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the project implementer to be necessary and feasible will be implemented before construction activities can resume at the site where the paleontological resources were discovered. The project proponent and/or their construction contractor will be responsible for ensuring that the monitor's recommendations regarding treatment and reporting are implemented.

Measure CUL-4: If Human Remains are Discovered, Comply with State Laws Relating to Human Remains

If human bones or remains are inadvertently discovered during project construction, the project proponent and/or their construction contractor will ensure that work is stopped work if buried cultural resources are inadvertently discovered during ground-disturbing activities. Consequently, if any human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains (1) until the Alameda County Coroner has been informed and has determined that no investigation of the cause of death is required; and (2) if the remains are of Native American origin:

The descendants of the deceased Native American(s) have made a recommendation to the landowner or the person responsible for the excavation work regarding means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98; or

The NAHC has been unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the NAHC.

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VI. Geology and Soils	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
2. Strong seismic ground shaking?	☐	☐	☒	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
4. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Affected Environment

Local Seismicity

The San Francisco Bay Area is considered one of the most seismically active regions in the United States. Significant earthquakes have occurred in the Bay Area and are associated with crustal movements along a system of subparallel fault zones that generally trend in a northwesterly direction.

The Coast Ranges tectonic province is bounded on the west by the northwest-trending San Andreas Fault system, the primary boundary between the Pacific and North American Plates. The system boundary is represented as a broad region, 62 to 124 miles wide, centered on the plate boundary, including much of the Coast Ranges, and is tectonically dominated by the dextral horizontal shear caused by the relative motion of the two plates. In the San Francisco Bay region, the plate boundary

is a 62-mile-wide zone of deformation consisting of several major strike-slip fault zones, including the San Gregorio, San Andreas, Hayward-Rodgers Creek, Calaveras, and Concord-Green Valley faults.

The project area lies within the San Andreas fault system and is adjacent to the Hayward fault, which is part of the San Andreas fault system. The last major earthquake on the Hayward fault occurred in 1868 and caused widespread damage throughout much of the East Bay region. This earthquake caused surface rupture from Fremont to as far north as Berkeley. Although the fault rupture was poorly documented, modeling of survey data suggest that the fault moved as far north as Berkeley, and from these data the average amount of horizontal movement along the fault is inferred to be about 6 feet. Based on empirical relationships among earthquake magnitude, fault rupture length, and displacement, a large event on the Hayward fault is capable of generating displacements of at least 10 feet. Other faults capable of generating large earthquakes lie near the project area. Table VI-1 outlines the distance from the project area to nearby major faults, their slip rate, and magnitude.

Table VI-1. Major Active Faults in the Project Vicinity

Fault	Distance to Project Area (miles)	Magnitude[a]
Hayward	0.1	7.5
Calaveras	7.7	7.5
San Andreas-Peninsula	15.2	8.0
Concord	16.3	6.5
Monte Vista/Shannon	18.2	6.5
San Gregorio	19.1	7.5

Sources: U.S. Geological Survey 2017; Mualchin 1996.

[a] Maximum Moment Magnitude that a fault is capable of generating.

Earthquakes are a part of the seismic setting of the Bay Area. There is a 72 percent likelihood that a magnitude 6.7 earthquake will occur in the Bay Area in the next 30 years (Working Group on California Earthquake Probabilities 2015).

Project Area Geology and Seismicity

Topography and Drainage

The topography in the project area is slightly sloping, with elevations ranging from approximately 5 to 100 feet above sea level over the lengthwise extent of the project.

Depth to Groundwater

Depth to groundwater varies over the length of the project, ranging from approximately 5 to over 20 feet (California Geological Survey 2003a, 2003b, 2003c, 2003d).

Fault Rupture

As shown in Table VI-1, the nearest active fault is the Hayward fault, approximately 0.1 miles to the east of the project area (U.S. Geological Survey 2017). The project area is not located in an Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2003e, 2003f, 2003g, 2003h), nor does it cross an otherwise identified active fault (U.S. Geological Survey 2017).

Ground Shaking

Due to the proximity of the Hayward Fault (see Table VI-1), the project area is subject to strong ground shaking during large earthquakes originating on this fault as well as from other regional faults.

Soils

Soils in the project area are shown in Table VI-2 complex (SSURGO 2017). Clear Lake clay, which occupies 17 percent of the project area, has very high susceptibility to expansiveness. Several soil types have a moderate susceptibility to water erosion.

Table VI-2. Soils in the Project Area

Soil Type	Susceptibility to Water Erosion	Expansiveness	Portion of Project Area
Botella loam, 0 to 2 percent slopes, MLRA 14	Low	Low	7%
Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14	Low	**Very high**	17%
Danville silty clay loam, 0 to 2 percent slopes	Low	Not rated	20%
Rincon clay loam, 0 to 2 percent slopes, MLRA 14	Moderate	Moderate	2%
Sycamore silt loam, drained	Moderate	Not rated	5%
Urban land	Not rated	Not rated	22%
Urban land-Baywood complex	Low	Not rated	2%
Urban land-Clear Lake complex	Low	Not rated	12%
Urban land-Tierra complex, 2 to 5 percent slopes	Moderate	Not rated	1%
Yolo silt loam, 0 to 3 percent slopes, dry, MLRA 14	Moderate	Not rated	12%

Source: SSURGO 2017.

Ground Failure

Strong ground shaking caused by large earthquakes can induce ground displacement and/or failure, such as liquefaction, lateral spreading, and landslide. A site's susceptibility to these hazards relates to the site topography, soil conditions, and depth to groundwater. Liquefaction is a soil behavior in which cohesionless sediments below the water table temporarily lose shear strength and collapse when they are shaken, for example during an earthquake. Lateral spreading occurs when liquefaction happens at an open face, such as a stream bank, and involves a liquid-like flow of sediments downslope. Landslide occurs when gravity on a steep slope overcomes the shear strength of the material on the slope, and the material begins a downward movement, sometimes a slow creep and sometimes a rapid fall.

The project is in an area zoned as susceptible to liquefaction (California Geological Survey 2003e, 2003f, 2003g, 2003h). Because it is in an area susceptible to liquefaction and there are open stream faces, lateral spreading is also a risk. Lateral spreading can be anticipated in a large earthquake in the East Bay (Earthquake Engineering Research Institute 1996).

The project is not in an area susceptible to landslide (California Geological Survey 2003e, 2003f, 2003g, 2003h).

The project area is not subject to subsidence or collapse.

Discussion

a-1.Less than Significant. The project is not located in an Alquist-Priolo Earthquake Fault Zone, nor does it cross an otherwise identified active fault.

a-2. Less than Significant. The project area is likely to experience strong ground shaking during the life of the project. The project includes structures that could be damaged from ground shaking, including retaining walls, clear-span bridge foundations, underground and aboveground utilities, electrical facilities, signage, and paved surfaces. The 2016 California Building Standards Code requires that geotechnical investigations provide design criteria that minimize impacts associated with strong ground shaking during an earthquake. The project implementer would be required to prepare a design-level geotechnical report in accordance with California Building Standards Code requirements and implement the project-specific recommendations contained therein. The design-level geotechnical report would be subject to review and approval by the project proponent (and designated jurisdiction) in order to secure project building permits.

Further, because the trail follows the route of BART, there is a remote chance that the BART train could derail in case of severe earthquake and fall to the ground onto the trail. However, because BART is seismically upgrading their systems, the risk is low.

a-3. Less than Significant. Project construction includes installation of structures that would apply load in areas subject to liquefaction, i.e., retaining walls, clear-span bridge foundations and, therefore, would be affected by liquefaction. Project construction also includes installation of structures that could be affected by lateral spreading adjacent to stream banks, i.e., clear-span bridge foundations, pavement, and signage. Liquefaction can result in loss of foundation support and settlement of overlying structures, ground subsidence, lateral movement due to lateral spreading, and differential settlement of affected deposits, potentially leading to cracking of foundations. Lateral spreading similarly can result in loss of foundation support and foundation cracking.

However, as required by all jurisdictions with approval authority over the project, the project implementer would comply with the 2016 California Building Standards Code. The 2016 California Building Standards Code requires that geotechnical investigations provide design criteria that minimize impacts associated with seismic-related ground failure (e.g., liquefaction), including preparation of a site-specific geotechnical investigation. The site-specific geotechnical investigation would characterize the subsurface conditions and develop site-specific recommendations for treatment. The geotechnical investigation would perform additional investigations and laboratory testing to determine soil characteristics, including but not limited to liquefaction susceptibility within the limits of the project, if deemed necessary, by a professional geologist/engineer and certified analytical laboratory. The additional investigations would include review of available literature prepared for other nearby structural and transportation projects to evaluate the expansive nature of soils in the project area. In addition, if deemed necessary by a qualified geologist, soils boring and laboratory testing would be conducted to evaluate the expansive nature of the soils within the limits of the project area. With preparation of a site-specific geotechnical report and implementation of its recommendations, impacts related to exposure of people or structures to seismic-related ground failure, including liquefaction would be low.

a-4. No Impact. The project area is not subject to landslide, nor is it adjacent to areas subject to landslide.

b. Less Than Significant. Construction activities, such as grading, vegetation removal, and establishing construction staging areas, could result in local (on-site) and temporary erosion. Uncontrolled runoff from the project area during construction could result in a potentially significant impact from off-site erosion. As discussed under Hydrology and Water Quality below, these potential impacts are expected to be temporary and erosion control measures would be implemented, and at a minimum would include provisions for drainage inlet protection, silt fence, and fiber rolls. In addition, the project would implement a SWPPP to minimize the potential for erosion and sedimentation into nearby drainage outlets during construction. Preparation and implementation of the SWPPP would reduce the potential for substantial erosion or siltation, on- or off-site, as a result of altering existing drainage patterns that would result in substantial erosion or siltation during construction. The impact would be less than significant.

c. Less Than Significant. As discussed under (a-3) above, several project elements would be constructed on land that is vulnerable to liquefaction and lateral spreading. However, compliance with requirements of the 2016 California Building Standards Code would minimize any risk related to construction on unstable geologic units or soils. The impact associated with ground failure would be less than significant.

The project area is not subject collapse. Therefore, no project elements would be constructed on land subject to collapse and, therefore, would not exacerbate these conditions. There would be no impact related to collapse.

The project area is not subject to landslide. Therefore, no project elements would be constructed on land subject to landslide and, therefore, would not exacerbate these conditions. There would be no impact related to landslide.

d. Less than Significant. Soil that is vulnerable to expansiveness is present in the project area. As shown in Table VI-2, approximately 17 percent of the project area is composed of highly expansive soils. Project elements with foundations would be constructed on expansive soils. Expansive soils respond to changes in soil moisture content by expanding when wet and contracting when dry. The more water they absorb, the more they increase in volume, and the more they decrease in volume when they dry out. Through this change in volume, expansive soils exert uplift or lateral pressures on foundations in contact with them when they expand and contract, thus providing unstable support for foundations. However, as required by all jurisdictions with approval authority over the project, the project implementer would comply with the 2016 California Building Standards Code, which requires that a preliminary soil report be prepared by a civil engineer who is registered by the state. If the preliminary soil report indicates the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects, a soil investigation must be prepared. Compliance with the recommendations of the soil investigation would minimize risks associated with expansive soils.

e. No Impact. The project does not include septic tanks or alternative wastewater disposal systems. There would be no impact related to septic systems or alternative wastewater systems.

Avoidance, Minimization, and Mitigation Measures

None required.

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VII. Greenhouse Gas Emissions	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Air Quality Technical Memorandum, East Bay Greenway Project, Alameda County, California* (ICF 2017b).

Regulatory Setting

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. Therefore, the climate change regulatory setting—nationally, statewide, and locally—is complex and evolving. The key current legislation relevant to the environmental assessment of project greenhouse gas (GHG) emissions are identified below.

As disused in Section III, Air Quality, the BAAQMD has primary responsibility for air quality management within the SFBAAB. The project area, which consists of a 16-mile corridor that spans the cities of Oakland, San Leandro, and Hayward along with unincorporated portions of Alameda County (County), is located within the SFBAAB. The BAAQMD directs lead agencies to quantify and disclose GHG emissions and make a determination on the significance of GHG impacts in relation to meeting AB 32 GHG reduction goals. The BAAQMD's *CEQA Guidelines* (2017) outline advisory thresholds for stationary source and land use development projects. The mass emissions threshold for stationary source projects is 10,000 metric tons per year of carbon dioxide equivalent (CO_2e). For land use development projects, the guidelines establish three potential analysis criteria for determining project significance: compliance with a qualified climate action plan (CAP), a mass emissions threshold of 1,100 metric tons per year of CO_2e, and a GHG efficiency threshold of 4.6 metric tons CO_2e per service population (residents + employees). The BAAQMD's *CEQA Guidelines* do not identify a GHG emission threshold for construction-related emissions, but they recommend that GHG emissions from construction be quantified and disclosed.

Environmental Setting

Climate change is a complex phenomenon that has the potential to alter local climatic patterns and meteorology. Increases in anthropogenic GHG emissions have been unequivocally linked to recent warming and climate shifts (Intergovernmental Panel on Climate Change 2014). Although modeling indicates that climate change will result globally and regionally, there remains uncertainty with regard to characterizing the precise local climate characteristics and predicting precisely how various ecological and social systems will react to any changes in the existing climate at the local

level. Regardless of this uncertainty in precise predictions, it is widely understood that some degree of climate change is expected as a result of past and future GHG emissions.

The most common GHGs resulting from human activity are CO_2, methane (CH_4), and nitrous oxide (N_2O). State CEQA Guidelines also define GHGs to include perfluorinated carbons (PFCs), sulfur hexafluoride (SF_6), and hydrofluorocarbons (HFCs), although these would not be generated by the project. Unlike criteria air pollutants, which occur locally or regionally, the long atmospheric lifetimes of these GHGs allow them to be well-mixed in the atmosphere and transported over distances. Within California, transportation is the largest source of GHG emissions (39 percent of emissions in 2015), followed by industrial sources (23 percent) and in-state electricity generation (11 percent) (California Air Resources Board 2017).

Discussion

a. Less Than Significant. The project consists of constructing a regional trail facility consisting of Class I and Class IV facilities that would be provided on a continuous, 16-mile corridor using the UPRR ROW and public streets to promote non-motorized travel. As discussed in Section III, *Air Quality*, the project would not deteriorate existing intersection capacities to the extent where existing vehicles using the project corridor would begin to divert to other routes outside of the corridor, and intersections that are currently operating at over-capacity conditions would either remain the same or improve with respect to traffic operations. Additionally, as an infrastructure project that would enhance multimodal bicycle and pedestrian safety and access within the project area, the project may also reduce VMT within the project corridor by creating a modal shift from driving to biking, walking, and transit. As such, operation of the project would not generate or increase vehicle trips in the project area relative to existing conditions, and would not directly or indirectly generate GHG emissions. Thus, the generation of GHG emissions would occur exclusively during construction activities associated with the project.

Construction of the project, which is anticipated to occur over a 30-month, would generate emissions of CO_2, CH_4, and N_2O from mobile and stationary construction equipment exhaust and employee and haul truck vehicle exhaust. Emissions were estimated using SMAQMD's RCEM and are summarized in Table VII-1.

Table VII-1. GHG Emissions from Construction of Project (total metric tons CO_2e)

Diesel Construction Equipment			
CO_2	CH_4	N_2O	CO_2e
2,514	13	11	2,539

Note: See Appendix A for construction assumptions and Road Construction Emissions Model inputs and outputs.
CO_2 = carbon dioxide.
CH_4 = methane.
N_2O = nitrous oxide.
CO_2e = carbon dioxide equivalent.

As shown in Table VII-1, project construction would generate a total of approximately 2,539 metric tons of CO_2e emissions. Over the course of its 30-month construction schedule, these emissions would equate to approximately 1,016 metric tons of CO_2e per year. The construction emissions are

primarily the result of diesel powered construction equipment (e.g., excavators, loaders). Because construction emissions would cease once construction is complete, they are considered short-term.

As discussed above, BAAQMD's *CEQA Guidelines* do not identify a GHG emission threshold for construction-related emissions. While not established as a construction threshold, the annual construction-related emissions associated with the project are below BAAQMD's annual 1,100 metric ton CO_2e operational threshold. Because construction emissions are temporary, comparing construction emissions to BAAQMD's operational threshold represents a conservative assessment of potential impacts. Additionally, because the project may also reduce VMT within the project corridor by creating a modal shift from driving to biking, walking, and transit, a reduction in GHG emissions in the long term would serve to offset the short-term increases in GHG emissions generated by the project's construction activities. Therefore, overall impact related to GHG emissions are less than significant.

b. Less Than Significant. AB 32 establishes a statewide goal to reduce GHG emissions back to 1990 levels by 2020. The ARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32 goals. The Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. SB 32 establishes a statewide goal to reduce GHG emissions to at least 40 percent below 1990 levels by 2030. An update to the AB 32 Scoping Plan is underway and includes additional direction from SB 32. Additionally, the cities of Oakland, San Leandro, and Hayward along with the unincorporated areas of Alameda County have their respective CAPs that identify GHG emissions reduction targets and implementation actions to achieve those targets. However, it should be noted that because the project would not result in operational changes in the project area, these CAPs and their respective reduction measures cannot be used for CEQA tiering purposes for the project.

The AB 32 Scoping Plan (and its proposed update) and the CAPs for the cities of Oakland, San Leandro, and Hayward and Alameda County (Unincorporated Areas) target sources with the greatest GHG emissions potential, including transportation, land use, building energy consumption, and waste generation. Construction activities such as those caused by the project are not specifically considered within these plans, and as such, none of the measures outlined in the ARB Scoping Plan or aforementioned CAPs are directly applicable to the construction activities of the project. However, because the project would enhance multimodal bicycle and pedestrian safety and access within the project area that can result in the eventual reduction in VMT within the project corridor by creating a modal shift from driving to biking, walking, and transit, the project is consistent with the general efforts in the Scoping Plan and CAPs to reduce GHG emissions. Accordingly, implementation of the project would not conflict with adopted plans for reducing GHG emissions. Therefore, impacts related to conflict with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHG are e less than significant.

Avoidance, Minimization, and Mitigation Measures

None required.

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VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Initial Environmental Site Assessment East Bay Greenway Project, Alameda County, California* (Parikh Consultants 2017).

A database search, compiled pursuant to Government Code Section 65962.5, was conducted for the project area (Parikh Consultants 2017). This search includes all available federal, state, regional, and local agency database listings.

The sites identified in the database search were evaluated with respect to their potential to adversely affect the project. Since the project involves disturbance of mostly near surface soils, only sites adjacent to the project area and sites where the project calls for bridge structures over streets or creeks to be constructed or widened were considered. A review of several contaminated sites in the City of Oakland indicate that the gradient for contaminated groundwater is west northwest away from the project corridor. There are several service station sites on the west side of San Leandro Street and on the east side of E. 12th Street, but those sites are eliminated from further discussion as they are down gradient from the project area.

The following provides brief description for 11 sites in the vicinity of the project corridor being identified from the database search findings:

- **Oakland Unified School District (OUSD) La Escuelita Education Center, and several other OUSD facilities at 314 E. 10th Street, Oakland.** Listed on the School Cleanup Sites list and is currently under an Operation and Monitoring program to manage contamination (lead, arsenic, and chlordane) that has remained on site following remediation. Additional contamination may be present beyond the property boundary on E. 10th Street between 2nd Avenue and 4th Avenue. Therefore, potential remains for E. 10th Street to be impacted with metals and pesticides
- **ASCEND Elementary School, 3709 E. 12th Street, Oakland**. Also listed on the School Cleanup Sites list for potential contamination of metals and pesticides. Based on the review of the Remedial Action Completion Report (RACR), lead and arsenic contamination was cleaned up on the east and west sides of the UPRR ROW; however, no investigation or cleanup was performed within the ROW itself.
- **29th Avenue and E. 12th Street Lot Zero (0) 20th Avenue lot in Oakland**. This site is listed as one of the potential staging areas along E. 12th Street and is under investigation for the potential presence of polychlorinated biphenyl (PCB) and petroleum hydrocarbons. This site is being evaluated for a school site although results are not yet available.
- **General Electric facility at 5441 International Boulevard, Oakland**. The site is historically impacted with elevated levels of chlorinated solvents, and PCBs and is currently undergoing treatment of groundwater for chlorinated solvents. To contain the PCBs, the site has been capped and paved with asphalt.
- **1100 Seminary Road in Oakland**. This site is listed on the LUST and SLIC databases. It is an open site for presence of petroleum hydrocarbons in groundwater. Review of the latest groundwater monitoring report indicates that the groundwater is undergoing treatment. Also the groundwater plume is well contained and has not reached the western boundary of the site. This site should not pose an adverse environmental concern.
- **Vacant Lot, 710 73rd Avenue, Oakland**. This property is listed on the SLIC database for presence of chlorinated solvents and PCBs. The City of Oakland performed a site investigation of the property in 2016. Results indicated low levels of chlorinated solvents and PCBs in the site soils. This location is one of the lots being considered for possible staging area.
- **921 98th Avenue, former Fleischmann's Yeast Facility**. This site is listed in the SLIC directory for presence of contaminated soil and groundwater Elevated concentrations of TPHG and benzene were detected along 98th Avenue; however, no hydrocarbons were detected along the project corridor. This site was granted closure and should not pose an adverse impact on the project; however, this site is listed as a potential staging area where several stockpiles of soil and construction debris were observed.
- **Preferred Freezer Services facility at 400 Hudson Lane, Sam Leandro.** This site listed on the SLIC database for presence of chlorinated solvents in the groundwater. Review of the latest groundwater monitoring report confirms presence of low levels of chlorinated solvents and total petroleum hydrocarbons on the facility. However, the gradient of

groundwater is toward the west and away from the project area. It is, therefore, unlikely for this site to have an adverse environmental impact.

- **San Leandro Regional Plume, San Leandro**. The San Leandro regional plume impacts portions of the project area including the proposed 500-foot bridge over Washington Avenue in San Leandro. Based on review of the data available groundwater here is affected with chlorinated solvents.
- **Cintas Corporation at 77–139th Avenue, San Leandro**. This site is listed as an "active site" and is undergoing cleanup of petroleum hydrocarbons and chlorinated solvents. Review of the latest groundwater monitoring report indicates that the groundwater below the site is in the range of 15 to 20 feet below grade.
- **West Lake Development at 1313 Martinez Street, San Leandro**. Low levels of chlorinated solvents and petroleum hydrocarbons were detected at this site. The developer intends to cap the contamination under the slab of concrete. However, the eastern extent of contamination onto Martinez Street has not been characterized. Contamination may be present on Martinez Street east of this site. Additional soil testing is recommended.

Historical Use of the Property

Based on review of historic USGS maps and aerial photographs, the project vicinity has been in agricultural, residential, and commercial use since the early 1900s. Industrial properties along the project corridor were formed in the 1950s through the 1980s along the San Leandro Street/Boulevard in Oakland and San Leandro between the Fruitvale BART Station and the San Leandro BART Station, and further south of the San Leandro BART Station to Halcyon Drive in San Leandro. Earlier aerial photographs show the presence of railroad tracks and development of Interstate 880. Photographs from the 1960s–1990s show improvement of Interstate 880, development of BART tracks, development of major landmarks such as the Oakland Coliseum, and construction of various interchanges and overpasses.

Site Reconnaissance

A site visit to the project consisted of a drive-through of the area and noting any potential problem sites. The project corridor includes industrial, commercial, and residential land uses. Areas observed during the site visit that may have issues with soil or groundwater contamination are below.

- **E. 8th Street and E. 12th Street to Fruitvale Avenue, Oakland**. Between 25th Avenue and 29th Avenue, piles of dirt (covered with plastic sheeting) were observed in the median below the BART tracks. Between 29th Avenue and 30th Avenue on the western side of the project corridor, is a staging area. The lot is currently vacant; however, it was previously used as the Caltrans South Oakland Maintenance Station. It is also under investigation by Alameda County Environmental Health Agency for possible presence of PCBs and volatile organic compounds (VOCs).
- **Fruitvale Avenue to Hegenberger Road, Oakland**. Various businesses are within this portion of the corridor including auto repair shops, machine companies, warehouses, and storage facilities. South of 54th Avenue on the east side of the tracks is a paved staging area listed as the General Electric facility located at 5441 International Boulevard. The paving is part of a cap and containment system that addresses PCBs and chlorinated solvents and prevents exposure of future occupants to such contamination.
  Another staging area is located at 901–999 66th Avenue located at the east side of the project corridor north of 66th Avenue. This area is listed as the Fruitvale Business Center. This unpaved lot appears to be used as a storage area for trucks and equipment. Several stockpiles of soil also appeared to be stored on the property.

- **Hegenberger Road to 105th Avenue, Oakland**. From Hegenberger Road to 98th Avenue, heavy industrial land uses line the western and eastern side of the project corridor. Several above ground storage tanks are visible at a lot on the southeast corner of 81st Avenue and San Leandro Street. One proposed staging area on 98th Avenue was fenced, but piles of dirt and concrete were observed.

Agricultural Chemicals and Pesticides

Based on review of aerial photographs and the USGS maps, agricultural activities were widespread in the general Hayward, San Leandro and Oakland areas until the 1940s. Activities conducted on agricultural properties involve the use of agricultural chemicals (including pesticides, insecticides, and herbicides). However, the project corridor's close proximity to railroad tracks makes it unlikely that agricultural activities occurred in an area adjacent to the railroad tracks.

Railroad Operations

Large portions of the project corridor are within UPRR ROW. These include areas from 37th Avenue in Oakland to the South Hayward BART Station. Soils within railroad ROW have typically been affected with heavy metals, total petroleum hydrocarbons (TPH) as diesel, fuel oil, and PCBs. They also may be impacted from locomotives (TPH as diesel), railroad ties (polynuclear aromatics) or slag ballast used to set the ties (heavy metals).

Aerially Deposited Lead

Aerially deposited lead (ADL) is attributed to the historic use of leaded gasoline. Areas of primary concern are soils along routes that have had high vehicle emissions from large traffic volumes or congestion during the time when leaded gasoline was in use (generally prior to 1986). The unpaved areas along the project corridor from San Leandro Boulevard in San Leandro, extending to San Leandro Street in Oakland, followed by E. 12th Street in Oakland have been traffic bearing roads since 1960s. It is likely that the surface soils along these areas are impacted with ADL and should be investigated.

Asbestos-Containing Materials and Lead-Based Paint

The majority of the bridges within the project corridor that would be used or modified for the project were built prior to 1980. Therefore, it is likely that the structures may contain asbestos-containing materials (ACM) and lead-based paint (LBP) in their construction materials, even though these materials were phased out in the 1980s.

In addition, there is a portion of the project corridor that runs through current or historical industrial part of Oakland and San Leandro between Fruitvale Avenue and 47th Avenue, on San Leandro Street from Park Street to Davis Street, and from Washington Avenue to 143rd Avenue with current or historical presence of commercial properties on both sides. The majority of these properties have been in existence since the 1940s and 1950s when lead-based paint was used in buildings and it was common practice to scrape the lead paint when repainting the buildings. The surface soils in these areas are, therefore, likely impacted with lead based paint.

Airports

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoff and landing. Airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport. The closest public airport is the Oakland International Airport located approximately 1.5 miles west of the project corridor. The Hayward Executive Airport is approximately 1.60 miles west of the project. No segments of the project are located within 2 miles of a private airstrip.

Schools

State CEQA Guidelines Section 15186 requires consideration of projects within 0.25 mile of a school to ensure that potential health impacts resulting from exposure to hazardous materials, wastes, and substances are evaluated. Hazardous emissions and accidental release or combustion of hazardous materials near existing schools could result in health risks or other dangers to students.

There are 18 schools located within 0.25 mile of the project corridor:

- Franklin Elementary School 915 Foothill Boulevard, Oakland
- St. Anthony Catholic School 1500 E 15th Street Oakland),
- Agnes Memorial Christian Academy 2372 International Boulevard, Oakland
- Oakland Charter Academy Middle School 4215 Foothill Boulevard, Oakland
- Arise High School 3301 E. 12th Street, Oakland
- International Community School 2825 International Boulevard
- Ascend Elementary 3709 E. 12th Street
- Saint Elizabeth High School 1530 34th Avenue
- Fred T. Korematsu Discovery Academy 10315 E Street, Oakland
- The Principled Academy 2305 Washington Ave # A, San Leandro
- Hesperian Elementary School 620 Drew Street, San Lorenzo
- San Lorenzo High School 50 E Lewelling Boulevard, San Lorenzo
- Cherryland Elementary 585 Willow Avenue, Hayward),
- Brenkwitz High School 22100 Princeton Street #A, Hayward
- Moreau Catholic High 27170 Mission Boulevard, Hayward
- Saint Clement Catholic School 27170 Mission Boulevard, Hayward
- Saint Clement Catholic School 790 Calhoun Street, Hayward
- Bowman Elementary School 520 Jefferson Street, Hayward
- Cesar Chavez Middle School 27845 Whitman Street, Hayward

Discussion

a. Less Than Significant With Mitigation. Operation of the project would not involve the transport, use, or disposal of hazardous materials. Construction of the project would involve small quantities of commonly used materials, such as fuels and oils, to operate construction equipment. However, because standard SWPPP BMPs would be implemented to reduce the emissions of pollutants during construction of the project, this impact would be less than significant. Once construction is complete, there would be no further use of hazardous materials or potential exposure associated with the project.

Review of the bridges within the project area indicates many may pose a risk related to hazardous materials such as asbestos-containing materials and/or lead-based paint. Construction workers could be exposed to hazardous wastes or materials, including lead-based paint and asbestos

containing materials during demolition and/or renovation of these components. Potential exposure of construction workers to hazardous materials or wastes is considered to be a significant impact because of the possible threat to human health from the handling of these materials. Measure HAZ-1 would assess bride structures for lead-based paint and asbestos containing materials.

The unpaved areas along the project corridor from San Leandro Boulevard in San Leandro extending to San Leandro Street in Oakland, followed by E. 12th Street in Oakland may have concentrations of ADL which may be encountered in the surface and near-surface soils. Potential exposure of construction workers to contaminated soils is considered to be a significant impact because of the possible threat to human health from the handling of these materials. Measure HAZ-2 would investigate and screen for ADL.

During the site visit, several areas were noted to contain soil stockpiles (E. 12th Street between 25th Avenue and 29th in Oakland). The records review also identified known areas of past soil and groundwater contamination or areas in the process of remediation. In addition, the majority of the project area is within the UPRRRR ROW which may contain soils contaminated with heavy metals, TPH as diesel, fuel oil, PCBs. Encountering these contaminates could expose construction workers to serious health risks. Potential soil contamination would be addressed through implementation of Measure HAZ-4, which would screen for contamination during construction.

With implementation of Measures HAZ-1, HAZ-2, and HAZ-4, overall impacts related to the routine transport, use, or disposal of hazardous materials would be less than significant.

b. Less Than Significant. Operation of the project would not create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. During construction however, small quantities of potentially toxic substances (such as petroleum and other chemicals used to operate and maintain construction equipment) would be used in the project area and transported to and from the area. Accidental releases of small quantities of these substances could contaminate soils and degrade the quality of surface water and groundwater, resulting in a public safety hazard. However, the handling and disposal of these materials would be compliant with regulations enforced by CUPA, and Cal-OSHA, as previously discussed. In addition, standard BMPs under the SWPPP, as discussed above, would further reduce the potential of an accidental release. Therefore, impacts related to upset and accident conditions involving the release of hazardous materials would be less than significant.

c. Less Than Significant. Portions of the project are located within 0.25 mile of schools as discussed above. However, the project's proximity to existing or proposed schools is not relevant with regard to hazardous materials, as the bicycle and pedestrian facility would not result in the emissions, production, or transportation of hazardous materials, substances, or waste. It is also unlikely that hazardous materials would be emitted or released within 0.25 mile of any schools during construction. Implementation of the standard BMPs by contractors would reduce the potential of a hazardous spill incident. Therefore, impacts related to hazardous emissions within 0.25 miles of a school would be less than significant.

d. Less Than Significant With Mitigation. The project area is not located on a Superfund or other National Priorities List (NPL) site (Parikh Consultants 2017). However, there are sites listed on regulatory databases that may result in a significant hazard to the public or the environment

through exposure to such sites. With implementation of Measures HAZ-3 and HAZ-4, impacts related to hazards associated with being on a list of hazardous materials sites to less than significant.

e. No Impact. Portions of the project corridor are located with 2 miles of the Oakland International Airport and the Hayward Executive Airport; however, the project is a transportation facility and involves ground level improvements and would not result in any safety hazards to people residing or working in the project area. There are no impacts related to location public airports or public use airports.

f. No Impact. No segments of the project are located within 2 miles of a private airstrip and, therefore, would not result in a safety hazard for people residing or working in the project area. There are no impacts related to private airstrips.

g. Less Than Significant. The project is a trail facility and would not interfere with emergency vehicles or other traffic. Development of the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. During construction, preparation of a traffic control plan that would ensure there is no interference with emergency vehicles/services or response/evacuation plans. Therefore, impacts related to adopted emergency response plans/emergency evacuation plans are less than significant.

h. Less Than Significant. The project area is located in an urbanized area and is not considered at risk for wildland fires (CalFire 2007). As a result, the threat of wildfires to residences or urban areas is less than significant. Therefore, impacts related to exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires is less than significant.

Avoidance, Minimization, and Mitigation Measures

Measure HAZ-1: Assess Bridge Structures for Lead-Based Paint and Asbestos-Containing Materials and Include Provisions in Standard Best Management Practices

Construction contract specifications will provide that the project proponent and/or its contractors arrange for sampling and testing of paint on bridges and/or bridge components scheduled for removal to determine the presence of lead chromate, other metals, or chemicals. If the lead or chemical content of the paint is above regulatory thresholds, BMPs in compliance with state and federal OSHA standards will be drafted to address worker safety when working with potentially lead- or chemical-bearing paint and added to standard BMPs including in the construction specifications. Bridge components will be sampled and tested for asbestos containing materials prior to construction. Hazardous materials found within the project area will be removed and disposed of by a licensed and certified abatement contractor prior to demolition or other activities that will disturb hazardous materials.

Measure HAZ-2: Conduct a Preliminary Investigation and Screening for Aerially-Deposited Lead

The project proponent and/or its contractors will conduct a preliminary investigation and screening for ADL to assess ADL levels in the surface and near-surface soils along the project corridor. If soils contain ADL in excess of established thresholds, soils will be handled in a manner compliant with the County CUPA regulatory requirements, and disposed of properly.

Measure HAZ-3: Conduct a Preliminary Investigation and Screening for Soils Along Railroad ROW

Surface soils in the areas to be improved adjacent to the former railroad tracks must be sampled and analyzed for TPH-D, heavy metals, and polynuclear aromatic hydrocarbons. A work plan will be prepared and a sampling and analytical program developed prior to initiation of the work.

Measure HAZ-4: Screen for Soil Contamination During Construction

Excavated soils will be tested during construction to determine how they should be appropriately handled, whether they can be reused onsite, or whether they might require off-site disposal or treatment. Soils determined to have contaminants exceeding hazardous waste thresholds must be handled in accordance with Federal and State hazardous waste laws and regulations. The Federal Resource Conservation and Recovery Act (RCRA) Subtitle C, sets forth criteria for defining federal hazardous wastes, and specifies minimum national requirements for generating, transporting, storing, or disposing of hazardous wastes. State regulations are contained in California Code of Regulations (CCR) Title 22, which equal or exceed federal standards. The contractor would be required to comply with all applicable regulations in effect during project construction.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☒	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☒	☐
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☒	☐
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j. Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Water Quality Technical Memorandum, East Bay Greenway Project, Alameda County, California* (WRECO 2017).

The project lies within the San Francisco Bay Watershed [U.S. Geological Survey (USGS) Hydrologic Unit Code (HUC) 18050004]. The San Francisco Bay borders Alameda County on the west, and the project is within the East Bay coastal plain that is highly developed and one of the most populous regions of the County. Generally, the corridor is urban in character with commercial areas, industrial areas, and moderately dense residential neighborhoods. The project corridor is approximately 16 miles long and parallels the BART corridor, surface streets, and portions of the UPRR corridor and crosses twelve water crossings. Water quality in a typical surface water body is influenced by processes and activities that take place within the watershed. The quality of the stormwater runoff from the project area and surrounding development is typical of urban watersheds where water quality is affected primarily by discharges from both point and nonpoint sources.

Several crossings such as San Leandro Creek are vegetated channels, while others such as San Lorenzo Creek and Estudillo Canal are concrete-lined channels but may have adjacent riparian vegetation. Within the project corridor is the outlet for Lake Merritt. Several crossings are culverted and underground in the project corridor, including two water crossings (Sausal and Peralta Creeks) which are entirely underground within and adjacent to the project corridor. The San Francisco Bay Basin Plan identifies beneficial uses and has region-wide and water body/beneficial use–specific water quality objectives that are intended to protect the beneficial uses of the basins. Table IX-1 shows waters with potential to be affected by the project that have been listed by the State Water Board and EPA as impaired on the CWA 303(d)-list. 303(d) listed impairments are based on the 2012 California Integrated Report (State Water Resources Control Board 2015). Table IX-2 lists all water body crossings within the project area including location, description, and approximate dimensions (WRECO 2017).

Table IX-1. 303(d) Listed Water Bodies in the Project Area

Water Body	Pollutant	Expected TMDL Completion Date	EPA TMDL Approved Date	Potential Sources
Lake Merritt	Organic Enrichment/ Low Dissolved Oxygen	2019		Unknown
	Trash	2019		Unknown
Sausal Creek	Trash	2021		Unknown
San Leandro Creek, Lower	Diazinon		2007	Urban runoff/storm sewers
	Trash	2021		Unknown
San Lorenzo Creek	Diazinon		2007	Unknown
Central San Francisco Bay	Chlordane	2013		Unknown
	DDT	2013		Unknown
	Dieldrin	2013		Unknown
	Dioxin compounds (including 2,3,7,8-TCDD)	2019		Unknown
	Furan compounds	2019		Unknown
	Invasive species	2019		Unknown
	Mercury		02/29/2008	Atmospheric deposition, industrial point sources, municipal point sources, natural sources, nonpoint sources, resource extraction
	PCBs	2008		Unknown
	PCBs (dioxin-like compounds)	2008		Unknown
	Selenium	2010		Unknown
	Trash	2021		Unknown
Lower San Francisco Bay	Chlordane	2013		Unknown
	DDT	2013		Unknown
	Dieldrin	2013		Unknown
	Dioxin compounds (including 2,3,7,8-TCDD)	2019		Unknown
	Furan Compounds	2019		Unknown
	Invasive Species	2019		Unknown
	Mercury		02/29/2008	Unknown
	PCBs	2008		Unknown
	PCBs (dioxin-like compounds)	2008		Unknown
	Trash	2021		Unknown

Source: State Water Resources Control Board 2012 *Integrated Report* (Clean Water Act Section 303[d] List/305[b] Report). Last updated: 2015. Available: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml. Accessed: April 20, 2017.

TMDL = total maximum daily load.
EPA = U.S. Environmental Protection Agency.
DDT = dichlorodiphenyltrichloroethane.
PCBs = polychlorinated biphenyls.
TCDD = Tetrachlorodibenzodioxin.

Floodplains

The project study area is covered by the Alameda County Flood Insurance Rate Map (FIRM) established by the Federal Emergency Management Agency (FEMA), which is the governing body responsible for delineating flood-prone areas and delineating flood maps. According to the most recent FIRMs for Alameda County, dated August 3, 2009, the majority of the project area is located outside of the 100-year floodplain, in FEMA Zone X (unshaded), areas of minimal flood hazard. Some areas are located within FEMA Zone X (shaded), areas of moderate flood hazard, also outside of the 100-year floodplain. Only a small portions of the project area which cross water features are within the FEMA-designated 100-year flood hazard zone (Figure 2-1).

Groundwater

The project is located in the East Bay Plain Groundwater Subbasin of the larger Santa Clara Valley Groundwater Basin. Average precipitation in the subbasin ranges from about 17 inches in the southeast to greater than 25 inches along the eastern boundary, most of which occurs between the months of November and March. Groundwater is characterized as calcium bicarbonate type groundwater, occurring mostly in the upper 200 feet of the subsurface, while sodium bicarbonate waters are common from about 200- to 1,000-foot depths. TDS in the shallow zone ranges from about 360 to 1,020 mg/l, while TDS from 200 to 1,000 feet below ground surface ranges from 310 to 1,420 mg/l. The San Francisco Regional Water Quality Control Board identified 13 distinct locations as areas with major groundwater pollution. Most contamination is due to release of fuels and solvents and appeared to be restricted to the upper 50 feet of the subsurface. Recharge in the area occurs through natural recharge through infiltration into streambeds and precipitation, artificial/incidental recharge, and applied water recharge (California Department of Water Resources 2004).

Discussion

a. Less Than Significant.

Construction

Potential water quality impacts associated with the project would include short-term construction-related erosion, sedimentation, and contamination from hazardous materials, such as paints, solvents, and metals used during construction. Construction activities would consist of demolition, clearing and grubbing, and landscaping. Construction of the project would require temporary disturbance of surface soils, which could introduce or remobilize soil and other contaminants into the San Francisco Bay Watershed via storm drains or surface drainages. Stormwater runoff within the work access area has the potential to contaminate underlying groundwater through soil infiltration. This contamination would come from pollutant sources such as motor oil, chemicals, and other materials used during construction activities. During precipitation events, sheet flows and eroded soil carrying pollutants could reach the storm drain. However, construction work would not occur during rain events, and stockpiles and other materials would be stored to prevent them from entering storm drains.

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Figure 2-1
FEMA Flood Hazard Zones

Under the project, construction is expected to disturb more than 1 acre of land and, therefore, would be required to obtain a General NPDES Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (i.e., the Construction General Permit). Because several water body crossings are within the project area and San Francisco Bay is in the vicinity of the project area, implementation of BMPs is important to ensure that water quality impacts would not occur from construction. Table IX-2 lists all water body crossings within the project area including possible project actions that could affect each feature identified. Minimization measures would be implemented to control sediment and suspended solids from entering the waterway during construction. Further, all project construction activities would be subject to existing regulatory requirements. As required by the Construction General Permit, a SWPPP would be prepared and implemented. With implementation of the applicable BMP requirements and the construction SWPPP, the project would not violate any water quality standards or waste discharge requirements.

Operation

Runoff from the proposed landscaped areas may contain pesticides and nutrients (associated with landscaping), sediment, trace metals (associated with atmospheric deposition), and may introduce pollutants such as trash during operation of the project. However, the project provides opportunities for general landscaping including shrubs and trees, hardscape improvements, green infrastructure, and linear open space areas. Improvements would focus on general landscaping and stormwater infrastructure within ROW areas, at trail access points, and at trail intersections with surface streets. The R2T option offers more opportunities for these improvements because of the greater availability of ROW. The project would be required to comply with measures in the Alameda County Municipal NPDES permit (Order No. R2-2015-0049 NPDES Permit No. CAS612008). The project would also be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Basin Plan. The City is also a member agency of the Alameda Countywide Clean Water Program. According to hydromodification maps, the project is exempt from hydromodification management requirements of the Alameda Countywide Clean Water Program (San Francisco Bay Regional Water Board 2015b). In addition, the project would implement post-construction stormwater requirements for the Construction General Permit to prevent or minimize violation of water quality standards or waste discharge requirements.

Therefore, overall impacts related to violation of water quality standards or waste discharge requirements are less than significant.

Table IX-2. Creek and Waterbody Crossings

Creek and Waterbody Crossings				
Water Feature Name (Bridge)	Location/City at Crossing	Description of Waterbody	Approximate Average Surface Dimensions in Study Area	Construction Work at or Encroaching on Waterbody
Lake Merritt Channel	E. 10th Street, near 2nd Avenue/ Oakland	Open channel in project ROW; surface exposure. Tidally influenced channel. Natural substrate (e.g., mud) with no vegetation. Active construction occurring at time of assessment.	Length: 300 feet Width: 90 feet	None. Path on existing E. 10th Street bridge over waterbody.
Sausal Creek	E. 12th Street, near 30th Avenue/Oakland	Underground in project ROW; no surface exposure. Nearest daylight 750ft NW of project.	Unknown	None. Waterbody located underground.
Peralta Creek	E. 12th Street, near 34th Avenue/Oakland	Underground in project ROW; no surface exposure. Nearest daylight 2950ft NW of project.	Unknown	None. Waterbody located underground.
Lion Creek	San Leandro Street, near 69th Avenue/Oakland	Culverted and underground in project ROW; no surface exposure. Tidally influenced channel, banks support pepperweed (*Lepidium latifolium*) and gumplant (*Grindelia stricta*). Concrete-lined east (upstream) of San Leandro Street with no vegetation.	Length: 45 feet Upstream Width: 35 feet (concrete channel) Downstream Width: 48 feet (unlined channel)	None. Path in UPRR ROW where waterbody located underground.
Arroyo Viejo	San Leandro Street, south, near Helgenberger Road/Oakland	Culverted and underground in project ROW; no surface exposure. Tidally influenced concrete-lined channel with no vegetation.	Length: 22 feet Width: 31 feet	None. Path in UPRR ROW where waterbody located underground.
Elmhurst Creek	San Leandro Street, near 85th Avenue/Oakland	Open channel in UPRR ROW; surface exposure. Freshwater, channel with no vegetation in UPRR ROW. Culverted and underground in UPRR ROW; no surface exposure.	Length: 73 feet Width: 21 feet	Potential for existing bridge expansion, or installation of new bridge structure to span water body. If conducted, all work conducted and installation of all bridge components (including foundations) would be done outside of banks.
San Leandro Creek	San Leandro Boulevard, between Lille Avenue and Antonio Street/ San Leandro	Culverted and underground in project ROW; no surface exposure. Freshwater, banks support moderate to well-developed riparian vegetation, along channel outside project ROW.	Length: 822 feet Width: 60 feet	Install new bridge structure to span water body. Bridge would be installed so all components (including foundations) are outside banks of the waterbody.

Creek and Waterbody Crossings				
Water Feature Name (Bridge)	Location/City at Crossing	Description of Waterbody	Approximate Average Surface Dimensions in Study Area	Construction Work at or Encroaching on Waterbody
Estudillo Canal	west of Thornally Drive/ San Leandro	Open concrete-lined channel in project ROW; surface exposure. Freshwater with no vegetation.	Length: 150 feet Width: 35 feet	Potential for existing bridge expansion, or installation of new bridge structure to span water body. If conducted, all work conducted and installation of all bridge components (including foundations) would be done outside of banks.
San Lorenzo Creek	North of Hampton Road and Western Boulevard intersection/ Hayward	Open concrete-lined channel in ROW; surface exposure. Freshwater with no vegetation.	Length: 123 feet Width: 41 feet	Install new bridge structure to span water body. Bridge would be installed so all components (including foundations) are outside banks of the waterbody.
Ward Creek	West of Pinedale Court (west end)/Hayward	Culverted and underground in BART ROW; no surface exposure. Concrete-lined channel with no vegetation in BART ROW. Open channel in UPRR ROW; surface exposure. Intermittent freshwater, shallow channel with no vegetation in UPRR ROW. Channel vegetated outside UPRR and BART ROWs.	Length: 158 feet Width: 15 feet	Potential for existing bridge expansion, or installation of new bridge structure to span water body. If conducted, all work conducted and installation of all bridge components (including foundations) would be done outside of banks.
Unnamed drainage	Whitman Street near Culp Avenue/ Hayward	Underground in project ROW; no surface exposure. Nearest daylight 180ft SW of project.	Length: 168 feet Width: 18 feet	None. Waterbody located underground.
Zeile Creek	Whitman Street near Ainslee Court/ Hayward	Open concrete-lined channel in project ROW; surface exposure. Freshwater with no vegetation.	Length: 282 feet Width: 14 feet	Potential for existing bridge expansion, or installation of new bridge structure to span water body. If conducted, all work conducted and installation of all bridge components (including foundations) would be done outside of banks.

b. Less Than Significant. Construction activities, including operation of heavy equipment, can compact surface soils and reduces infiltration capacities. However, the project provides opportunities for general landscaping including shrubs and trees, hardscape improvements, green infrastructure, and linear open space areas. Therefore, it would not interfere with groundwater recharge because it would not decrease the potential for groundwater recharge. No dewatering is expected to occur during construction. Excavation up to 15 feet in depth may occur for bridge modification and/or construction of piers and foundations. If dewatering is necessary during construction of the project, it would be temporary and would not result in a loss of quantities of water that would deplete groundwater supplies. Water supply for construction activities (e.g., dust control, concrete mixing, material washing) would come from nearby hydrants or existing surface supplies to the project area and/or be trucked to the site. Recharge in the area would continue to occur through infiltration into streambeds and through infiltration of precipitation. Operation of the project would not substantially deplete groundwater supplies because it is not expected to increase the demand for water supplies. Therefore, impacts related to depletion or interference with groundwater supply or recharge are less than significant.

c. Less Than Significant. Construction activities, such as grading, vegetation removal, and establishing construction staging areas could temporarily alter existing drainage patterns, redirect stormwater runoff, and result in local (on-site) and temporary erosion or siltation. Uncontrolled runoff from the project area during construction could result in a potentially significant impact from off-site erosion or siltation of surface receiving waters. However, these potential impacts are expected to be temporary and erosion control measures would be implemented, and at a minimum would include provisions for drainage inlet protection, silt fence and fiber rolls. In addition, the project would implement a SWPPP to minimize the potential for erosion and sedimentation into nearby drainage outlets during construction. Preparation and implementation of the SWPPP would reduce the potential for substantial erosion or siltation, on- or off-site, as a result of altering existing drainage patterns that would result in substantial erosion or siltation during construction.

The project area is in a highly developed area; therefore, the project would not substantially alter the existing drainage pattern on the project area. Drainage patterns would be similar to existing patterns at the site. Further, construction of the project would not involve work within surface waters and, thus, would not alter the course of an existing stream or river. Therefore, impacts related to alteration of existing drainage patterns are less than significant.

d. Less Than Significant. The project provides opportunities for general landscaping, hardscape improvements, green infrastructure, linear open space areas, and stormwater infrastructure within ROW areas. These features which would minimize surface runoff rates and volumes, allow stormwater to infiltrate into the soil, and other drainage issues on-site. These stormwater features and improvements would ultimately reduce the potential for localized flooding and ponding of water throughout the project area and would, therefore, not be expected to substantially alter the rate or amount of surface runoff on the project area such that on- or off-site flooding would occur. In addition, construction of the project would not involve work within surface waters, and thus would not alter the course of a stream or river. Further, construction activities would not occur during a rain event, would be temporary, and not obstruct natural onsite drainage patterns. In addition, preparation and implementation of the SWPPP would reduce the potential for flooding on- or off-site as a result of altering existing drainage patterns, or substantially increase the rate or amount of runoff that would result in flooding on- or off-site. The project would implement construction stormwater BMPs to reduce potential impacts related to flooding and drainage during construction.

Therefore, impacts related to alteration of the existing drainage pattern that would result in flooding on- or off-site are less than significant.

e. Less Than Significant. As previously discussed, the proposed trail facilities would be located within or adjacent to existing road ROWs and would be integrated into the existing stormwater system. The stormwater management and storm drainage system are required to meet several criteria (e.g., Alameda Countywide Clean Water Program Provision C.3 post-construction stormwater criteria) to ensure adequate storm drain capacity. In addition, the project would not increase the volume and rate of stormwater runoff during a storm event. Stormwater would infiltrate into the soil and reduce the potential for flooding or ponding of water. Further, the project would be in compliance with post-construction stormwater requirements for the Construction General Permit.

Uncontrolled runoff from the project area during construction could increase the discharge from the site of pollutants entrained in the stormwater and introduce pollutants to downstream receiving facilities. Implementation of the SWPPP would reduce potential pollutant loads to stormwater runoff and receiving waters. The project would be in compliance with the Construction General Permit, and any other relevant stormwater requirements during construction and, therefore, would not provide substantial additional sources of polluted runoff. Therefore, impacts related to creation or contribution of runoff water that would exceed the capacity of stormwater drainage systems or provide additional sources of polluted runoff are less than significant.

f. Less Than Significant. Other water quality impacts refer to those that can result from wetland dredge and fill. Construction would not involve work within water features, including excavation. Dredge and fill activities would not be necessary during construction or operation of the project. The project would implement the post-construction stormwater requirements for the Construction General Permit. Therefore, impacts related to violation of any water quality standards or waste discharge requirements are less than significant.

g. No Impact. The project does not propose any housing. There would be no impact related to placing housing within a 100-year flood area.

h. Less Than Significant. The majority of the project is not located in a 100-year flood plain. Small portions of the project where the trail crosses water features are within the FEMA-designated 100-year flood hazard zone. The structures are all clear-span and would not intrude on the water bodies or the 100-year flood zone. Therefore, impacts related to placing structures that impede or redirect floodflows is less than significant.

i. Less Than Significant. The project area is located within the inundation area of several covered reservoirs and dams: The Central Reservoir, Dunsmuir Reservoir, Upper San Leandro Reservoir, and Lake Chabot. However, the project would be separated from these dams and reservoirs by several miles of streets and intervening urban development, and users of the project would not be exposed to a significant risk of loss, injury or death involving flooding that is any greater than what exists in the general project area. Therefore, impacts related to exposure of people or structures to risk of loss, injury or death involving flooding are less than significant.

j. Less Than Significant. According to the California Geologic Survey's 2009 Alameda County Tsunami Inundation Maps, portions of the project corridor near the Lake Merritt BART Station are located within a tsunami inundation area. This portion of the project corridor is separated from the San Francisco Bay shoreline by approximately 2.2 miles, and is approximately 0.3 mile from the

Oakland Inner Harbor, and the possibility of damage from a tsunami is remote. The project consists of a bicycle/pedestrian path and does not involve construction of infrastructure that would contribute to impacts related to tsunami inundation. Mudflows are associated with hilly terrain, and the project area is flat. Therefore, impacts related to seiche, tsunami, or mudflow are less than significant.

Avoidance, Minimization, and Mitigation Measures

None required.

X. Land Use and Planning	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Physically divide an established community?	☐	☐	☒	☐
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Community Impact Assessment, East Bay Greenway Project, Alameda County, California* (ICF 2017g).

City of Oakland

The project's northern limit is located in the City of Oakland's General Plan defined Central Business District (9th Street, Fallon Street, and 10th Street until the Lake Merritt channel). The project corridor passes Laney College and the Oakland Museum of California on 10th Street and crosses the bridge over the Lake Merritt channel, which is classified as Urban Park Open Space in the General Plan. As the project heads east on 10th Street, E. 8th Street, E. 12th Street, and San Leandro Street the land use and zoning consists of a mix of commercial and industrial uses, due to the proximity of the UPRR corridor. Land uses along 10th Street, E. 8th Street, E. 12th Street, and San Leandro Street after passing the Lake Merritt channel are generally industrial uses with pockets of single-family and multifamily units, primarily located around transit centers, such as the Fruitvale and Coliseum BART Stations. Residential areas are found north of the project corridor.

City of San Leandro

The project enters the City of San Leandro on city streets and within the UPRR ROW in an area dominated by low, low-medium, and medium density residential areas and then crosses an undergrounded portion of San Leandro Creek before transitioning into the City of San Leandro's downtown area located around the San Leandro BART Station. The project corridor continues along fenced areas in an industrial and commercial area. As the project corridor enters the southern portion of the city, land uses become predominantly low-density residential, until reaching the Bay Fair BART Station, which is surrounded by a mostly commercial area.

Unincorporated Areas

The project enters unincorporated communities of Ashland and Cherryville, part of the Eden Area of Alameda County along the UPRR ROW. The area located around the BART tracks and Western Avenue consist of single-family residences with occasional multifamily and neighborhood commercial structures.

City of Hayward

The project enters the City of Hayward along the UPRR ROW in the highly residential northwesterly portion of the City. The project continues near the Hayward BART Station, which is located on the edge of the downtown area, which is characterized by retail and office commercial land uses. The project then continues along an area that is characterized by low-, medium-, and high-density residential, and mixed land uses. The project corridor ends at the South Hayward BART Station.

Discussion

a. Less Than Significant. The project would enhance non-motorized transportation options along the corridor, which would improve connections between residential areas with businesses, community centers, schools, and recreation. The project would not create any barriers that would limit access to neighborhoods or divide existing communities; rather, the project would make walking and bicycling more accessible and may improve connections across a rail line that currently divides communities. Therefore, impacts related to physical division of an established community are less than significant.

b. Less Than Significant. General Plans for the cities along the project length include language promoting visions for their communities that incorporate safe routes to transit, open space, and bicycle and pedestrian facilities. The project would improve bicycle and pedestrian accessibility in the area, expand regional connectivity, and increase safety. These effects would be consistent with the regional and local Bicycle Master Plans and General Plan policies governing the project area. The existing land uses adjacent to the corridor are compatible with a bicycle and pedestrian path, and would not be affected by construction or long-term use of the project facility. The project is consistent with the policies and goals of the associated plans and would not significantly affect the existing or planned land use or development patterns of the study area. Therefore, impacts related to conflict with applicable land use plans, policies, or regulations are less than significant.

c. No Impact. There are no applicable habitat conservation plans or natural community conservation plans with jurisdiction in the area of the project. There is no impact related to conflict with applicable plans.

Avoidance, Minimization, and Mitigation Measures

None required.

XI. Mineral Resources	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Affected Environment

Minerals are any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances including, but not limited to, coal, peat and oil bearing rock, but excluding geothermal resources, natural gas and petroleum. Rock, sand, gravel, and earth are also considered minerals by the Department of Conservation when extracted by surface mining operations. The project area is located in an urban setting that is built-out, and no known mineral resources are located on or near the project area.

Discussion

a and b. No Impact. The project entails constructing a bicycle and pedestrian pathway on existing streets and within UPRR ROW. There are no known mineral resources located on or near the project area. There is no impact related to loss of mineral resources.

Avoidance, Minimization, and Mitigation Measures

None required.

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XII. Noise	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project?	☐	☐	☒	☐
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project?	☐	☒	☐	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Noise Technical Memorandum, East Bay Greenway Project, Alameda County, California* (ICF 2017h).

Applicable Noise Standards

The project is located in multiple jurisdictions, with parts of the corridor located in Oakland, San Leandro, Hayward and unincorporated Alameda County. Note that the new multiuse regional trail facility proposed under the project would accommodate bicyclists and pedestrians and motorized vehicles would not be allowed. Use by pedestrians and bicyclists could generate intermittent daytime noise sources typical of a pathway in an urban setting which would not noticeably change the average noise level within the vicinity of the project. Therefore, the project would not result in significant operational noise impacts, and only construction noise impacts and thresholds are described in this IS/MND.

Discussion

a. Less Than Significant With Mitigation.

Construction Noise

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table XII-7 below summarizes noise levels produced by construction equipment that is expected to be used on this project. L_{max} sound levels at 50 feet are shown along with the typical acoustical use factors. The acoustical use factor is the percentage of time each piece of construction equipment is assumed to be operating at full power (i.e., its noisiest condition) during construction operation and is used to estimate L_{eq} values from L_{max} values. For example, the L_{eq} value for a piece of equipment that operates at full power and 50 percent of the time (acoustical use factor of 50) is 3 dB less than the L_{max} value.

Table XII-7. Typical Noise Levels by Construction Equipment

Equipment	Acoustical Use Factor (%)	Typical Noise Level (dBA) at 50 Feet from Source	
		L_{max}	L_{eq}
Backhoe	40%	78	74
Cement Mixer Truck	40%	79	75
Cement Pump Truck	20%	81	74
Compactor	20%	83	76
Dump Truck	40%	76	72
Excavator	40%	81	77
Generator	50%	81	78
Grader	40%	85	81
Loader (front-end)	40%	79	75
Paver/Paving Equipment	50%	77	74
Pile Driver	20%	101	94
Pump	50%	81	78
Roller	20%	80	73
Scraper	40%	84	80
Tractor	40%	84	80
Water Truck*	40%	74	70

Source: Federal Highway Administration (FHWA) 2006.
* Data for a flatbed truck, used as a proxy for a water truck.

A reasonable worst-case construction noise level can be estimated by assuming that the three loudest pieces of equipment that could be used would be operating concurrently (pile driver, grader, and tractor) during project construction. The combined L_{eq} level for these three pieces of equipment is 94 dBA at 50 feet. Noise from the pile driver results in substantially louder noise than all of the other equipment, as shown in Table XII-7. At this time, it is uncertain if pile driving would be required, though it is possible that it would be required for construction in the bridge areas of the project.

There are a variety of land use types located near or adjacent to the project corridor. Some land uses are considered sensitive, such as residences, medical facilities, and schools, while many land uses are not considered noise sensitive and would not be adversely affected by project construction noise. Some examples of uses that are not considered noise sensitive include parking lots, industrial facilities, and most commercial uses. As shown in Table XII-8, the project could result in combined construction noise levels as high as 94 dBA at 50 feet from the construction areas, which would be reduced over distance at a rate of 6 dB per doubling of distance.

Table XII-8. Combined Construction Noise Levels

	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Source Data:			
Construction Condition: Site leveling			
Source 3: Pile Driver - Sound level (dBA) at 50 feet =	101	20%	94.0
Source 2: Grader - Sound level (dBA) at 50 feet =	85	40%	81.0
Source 1: Tractor - Sound level (dBA) at 50 feet =	84	40%	80.0
Calculated Data:			
All Sources Combined - L_{max} sound level (dBA) at 50 feet =			101
All Sources Combined - L_{eq} sound level (dBA) at 50 feet =			94

Distance Between Source and Receiver (ft)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	101	94
100	-6	95	88
200	-12	89	82
300	-16	86	79
400	-18	83	76
500	-20	81	74
600	-22	80	73
700	-23	78	71
800	-24	77	70
900	-25	76	69
1,000	-26	75	68
1,200	-28	74	67
1,400	-29	72	65
1,600	-30	71	64
1,800	-31	70	63
2,000	-32	69	62
2,500	-34	67	60
3,000	-36	66	59
Geometric attenuation based on 6 dB per doubling of distance			
Ground affect attenuation based on 1.5 dB per doubling of distance			

Note: This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further.

This level of noise represents a worst-case scenario because it assumes that pile driving would occur which is uncertain at this time. If pile driving is required, it would occur only at the bridge areas of the project, and noise at all other project areas would be substantially lower. Additionally, the majority of noise sensitive land uses are likely located more than 50 feet from the project corridor, and construction would likely be short-term and intermittent at any given location along the linear alignment. As such, construction noise would likely be considerably lower than the worst case scenario of 94 dBA for much of the time.

Additionally, the noise environment in much of the project area is dominated by vehicle traffic on Interstate 880 and/or other roadways, and BART train/track noise along the BART alignment. Nevertheless, construction could result in temporarily elevated noise levels, primarily due to noise associated with pile driving. The noise that would occur would not occur in any one area for a long period of time, because the project is linear and would not involve complex construction activities (i.e., the construction of bicycle path would progress linearly at a relatively fast rate compared to a roadway).

As discussed in Caltrans Noise Memo construction noise would be conducted in accordance with Caltrans Standard specifications Section 14-8.02, which requires that internal combustion engines are equipped with mufflers. In addition, the following noise-reducing measures are discussed in the Caltrans Noise Memo.

- All equipment will have sound-control devices that are no less effective than those provided on the original equipment. No equipment would have an unmuffled exhaust.
- The project proponent and/or their construction contractor shall:
    - Review and ensure that construction activities are conducted in accordance with local noise standards.
    - Implement additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity to allowed timeframes, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources, as appropriate.

With the adherence to these specifications and measures, noise from construction equipment would be reduced through the use of mufflers or other noise control devices. However, even with these noise-reducing measures, construction noise could still be in excess of the applicable local thresholds.

Compliance with Standards in Alameda County

Construction activities that occur in Alameda County outside of the exempt daytime hours of 7 a.m. to 7 p.m. on weekdays and 8 a.m. to 5 p.m. on weekends would conflict with the local applicable ordinance (which exempt construction during these daytime hours). As construction is not permitted outside of these hours, and as the specific construction schedule is not known at this time, construction could conflict with the local applicable noise ordinances in Alameda County. Impacts in Alameda County related to construction noise would be potentially significant.

Compliance with Standards in the City of San Leandro

Construction activities that occur in the City of San Leandro outside of the exempt daytime hours of 7 a.m. and 7 p.m. on weekdays and 8 a.m. to 7 pm on weekends would conflict with the local applicable ordinance (which exempt construction during these daytime hours). As construction is not permitted outside of these hours, and as the specific construction schedule is not known at this

time, construction could conflict with the local applicable noise ordinances in San Leandro. Impacts in San Leandro related to construction noise would be potentially significant.

Compliance with Standards in the City of Oakland

In the City of Oakland, the daytime noise level received by any residential land use produced by short-term (less than 10 days) construction or demolition may be up to 80 dBA (with commercial and industrial land uses allowed to receive noise of up to 85 dBA). Long-term construction noise is limited to 65 dBA for residential receiving land uses and 70 dBA for commercial or industrial receiving land uses.

Table XII-8 above, which shows worst-case construction noise levels at various distances, indicates that construction noise could be up to approximately 80 dBA L_{eq} at a distance of 300 feet from construction activities. It is likely that construction associated with the project that is considered to be short-term could occur within 300 feet of residential land uses. Table XII-8 indicates that noise levels could exceed 65 dBA L_{eq} at distances of 1,400 feet, and it is also likely that long-term (more than 10 day) construction activities would occur within this distance of residential land uses.

Note that should construction occur outside of the hours of 7 a.m. to 7 p.m. (when these construction-specific standards apply), the general *nighttime* maximum allowable noise levels shown in Table XII-5 (e.g., the maximum allowable receiving noise level for a residential land use for 20 minutes out of an hour between 10 p.m. to 7 a.m. is 45 dBA). Noise from construction would exceed 45 dBA at distances of several thousand feet from the construction activity.

Impacts in the City of Oakland Noise Ordinance related to construction noise would be potentially significant.

Compliance with Standards in the City of Hayward

In the City of Hayward, the noise ordinance states that no individual device or piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source. Many pieces of equipment, including generators, a scraper, a tractor, a grader and a pile driver, would exceed this level. The Noise Ordinance for the City of Hayward also states that the noise level at any point outside of the property plane shall not exceed 86 dBA. It is likely that these limits would be exceeded considering that noise levels could be up to 94 dBA L_{eq} at a distance of 50 feet from construction activity. Impacts in the City of Hayward related to construction noise would be potentially significant.

Level of Significance after Mitigation for All Jurisdictions

With implementation of Measures NOISE-1 and NOISE-2, impacts related to construction noise would be less than significant.

Operational Noise

The new multiuse regional trail facility proposed under the project would accommodate bicyclists and pedestrians and motorized vehicles would not be allowed. Use by pedestrians and bicyclists could generate intermittent daytime noise sources typical of a pathway in an urban setting. Noise generated by users on the path may include human voices or barking dogs. These sources would not noticeably change the average noise level within the vicinity of the project because they would be intermittent, and because the users of the pathway would likely be moving along the path rather

than staying still for extended periods of time. Further, existing noise from BART trains running on the adjacent overhead BART tracks would likely overshadow any noise generated by users of the path. Therefore, the long-term, operational phase of the project would not expose persons to or generate noise levels in excess of local standards.

b. Less Than Significant. The use of heavy-duty construction equipment could generate localized ground-borne vibration and noise at buildings adjacent to the project construction areas. Ground-borne vibration rarely causes damage to normal buildings, with the occasional exception of blasting during construction and pile driving at very close distances.

If required for construction, the use of high-vibration generating equipment such as a jack hammer or pile driver that could create perceptible ground borne vibration would not be sustained for this type of project, and would be of a short duration. Further, the project does not require the blasting of rock formations or the use of heavy impact equipment for driving piles. Any vibration from conventional earth moving and paving equipment would be less significant, if at all noticeable. As vibration levels experienced in the vicinity of the project would be low, and as high-vibration generating activities would be of short duration, impacts related to excessive vibration would also be less than significant. Therefore, overall impacts related to groundborne vibration or noise levels are less than significant.

c. Less than Significant. As described under **a.** above, the project could generate intermittent daytime noise sources typical of a pathway in an urban setting (such as noise from human voices or barking dogs). These sources would not be expected to have a meaningful effect on the average noise level in the vicinity of the project, as they would be intermittent, and as the users of the pathway would likely be moving along the path rather than staying still for extended periods of time. The intermittent and incremental noise generated by users of the path would not be expected to generate a substantial permanent increase in ambient noise levels. Therefore, impacts related to substantial permanent increases in ambient noise levels are less than significant.

d. Less Than Significant With Mitigation. Construction of the project would result in temporary and periodic increases in noise levels in the project vicinity. However, with implementation of Measures NOI-1 through NOI-3, Construction would be limited to daytime hours (during which time construction noise is exempt from the noise standards of the City of San Leandro and of Alameda County), and construction noise would be limited to the thresholds contained in the noise ordinances of the city in which the construction activity is occurring. Although there would be temporary increases in noise resulting from project construction, Measures NOI-1 through NOI-3 would ensure that construction noise would comply with the local standards, and would, therefore, not be considered substantial. Therefore, with implementation of Measures NOI-1 through NOI-3, impacts related to temporary or periodic increases in ambient noise would be less than significant.

e. No Impact. Segments of the project corridor are located within approximately 1.5 miles of the Oakland International Airport. Other portions of the project area are located within approximately 1.8 miles of the project corridor. According to the Oakland International Airport Land Use Compatibility Plan (ALUCP) (Alameda County 2010), the project corridor is outside of the 60 CNEL contour for this airport (refer to Figure 3-3 of the ALUCP). In addition, according to the Airport Land Use Compatibility Plan for the Hayward Executive Airport (Alameda County 2010), the project corridor is outside of the 60 CNEL contour for this airport as well (refer to Figure 3-3 of the ALUCP). The project corridor is outside of the 60 CNEL contour for all nearby airports. Therefore, there

would be no impact related to the exposure of persons to excessive aircraft noise from public use airports.

f. No Impact. No segments of the project corridor are located within 2 miles of a private airstrip and, therefore, would not expose people residing or working in the project area to excessive airport-related noise levels. Therefore, there would be no impact related to the exposure of persons to excessive aircraft noise from private airstrips.

Avoidance, Minimization, and Mitigation Measures

Measure NOI-1: Limit Construction Noise to Daytime Hours Consistent with the Noise Ordinance of the Applicable Jurisdiction

Depending on the jurisdiction in which a particular segment is located, construction activities shall be limited to weekday hours between 7 a.m. and 7 p.m. or 9 a.m. and 8 p.m. on weekends and Federal holidays, consistent with the City of Oakland Ordinance (Section 17.120.050); or the hours between 7 a.m. and 7 p.m. on weekdays, or between 8 a.m. and 7 p.m. on Saturday and Sunday, and no construction allowed on Federal holidays, consistent with the City of San Leandro Noise Ordinance (Section 4- 11-1130); or the hours between 7 a.m. and 7 p.m. Monday to Saturday and 10 a.m. and 6 p.m. on Sundays and Federal holidays, consistent with the City of Hayward Noise Ordinance (HMC Sec. 4-1.02 et seq.); or weekday hours between 7 a.m. and 7 p.m. and 8 a.m. and 5 p.m. on weekends, consistent with the Alameda County Noise Nuisance Ordinance (Chapter 6.60).

Measure NOI-2: Implement City of Oakland Standard Conditions of Approval for Construction Noise in all Jurisdictions

The project sponsor shall implement the City of Oakland Standard Conditions of Approval, as described below:

Standard Condition of Approval Noise-3: Days/Hours of Construction Operation. Ongoing throughout demolition, grading, and/or construction. The project applicant shall require construction contractors to limit standard construction activities as follows:

a) Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.

b) Any construction activity proposed to occur outside of the standard hours of 7:00 am to 7:00 pm Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.

c) Construction activity shall not occur on Saturdays, with the following possible exceptions:

   i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction

activities shall only be allowed on Saturdays with the priori written authorization of the Building Services Division.

ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.

d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

e) No construction activity shall take place on Sundays or Federal holidays.

f) Construction activities include but are not limited to: truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a nonenclosed area.

g) Applicant shall use temporary power poles instead of generators where feasible.

Standard Condition of Approval Noise -4: Noise Control. Ongoing throughout demolition, grading, and/or construction. To reduce noise impacts due to construction, the project applicant shall require construction contractors to implement a site-specific noise reduction program, subject to the Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:

a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).

b) Except as provided herein, Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

c) Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.

d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

Standard Condition of Approval Noise-5: Noise Complaint Procedures. Ongoing throughout demolition, grading, and/or construction**.** Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the Building Services Division a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

a) A procedure and phone numbers for notifying the Building Services Division staff and Oakland Police Department; (during regular construction hours and off-hours);

b) A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);

c) The designation of an on-site construction complaint and enforcement manager for the project;

d) Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity; and
e) A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

Standard Condition of Approval Noise-6: Pile Driving and Other Extreme Noise Generators. Ongoing throughout demolition, grading, and/or construction. To further reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90dBA, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division to ensure that maximum feasible noise attenuation will be achieved. This plan shall be based on the final design of the project. A third-party peer review, paid for by the project applicant, may be required to assist the City in evaluating the feasibility and effectiveness of the noise reduction plan submitted by the project applicant. The criterion for approving the plan shall be a determination that maximum feasible noise attenuation will be achieved. A special inspection deposit is required to ensure compliance with the noise reduction plan. The amount of the deposit shall be determined by the Building Official, and the deposit shall be submitted by the project applicant concurrent with submittal of the noise reduction plan. The noise reduction plan shall include, but not be limited to, an evaluation of implementing the following measures. These attenuation measures shall include as many of the following control strategies as applicable to the site and construction activity:

a) Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;
b) Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
c) Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;
d) Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and
e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.

Measure NOI-3: Implement City of Oakland and City of Hayward Noise Standards

The project proponent and/or its construction contractors shall ensure noise levels generated by construction activities are in compliance with the applicable local standards in the City of Oakland and in the City of Hayward where daytime construction activities are not considered to be exempt but are instead governed by construction-specific numerical noise standards. These standards are as follows.

In the City of Oakland:

- Short-term construction (less than 10 days) must not generate noise in excess of 80 dBA at residential land uses during the daytime hours of 7 a.m. and 7 p.m. Noise levels at commercial and Industrial land uses during these daytime hours must not exceed 85 dBA for short-term construction. Note that consistent with Measure NOI-1 above, nighttime construction would not be permitted in the City of Oakland.
- Long-term construction (10 days or longer) must not generate noise in excess of 65 dBA at residential land uses during the daytime hours of 7 a.m. and 7 p.m. Noise levels at commercial and Industrial land uses during these daytime hours must not exceed 70

dBA for short-term construction. Note that consistent with Measure NOI-1 above, nighttime construction would not be permitted in the City of Oakland.

In the City of Hayward:

- During the hours of 7 a.m. to 7 p.m. on weekdays and Saturdays, and 10 a.m. and 6 p.m. on Sundays and holidays, no individual device or piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source. Note that consistent with Measure NOI-1 above, construction occurring outside of the daytime hours described above would not be permitted in the City of Hayward.
- In addition, the noise level at any point outside of the property plane shall not exceed 86 dBA during the aforementioned "daytime" hours. Note that consistent with Measure NOI-1 above, construction occurring outside of the daytime hours described above would not be permitted in the City of Hayward.

Measures and procedures that can be implemented to ensure compliance with these standards are identified in Measure NOI-2 above.

XIII. Population and Housing	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Affected Environment

The project is located within the cities of Oakland, San Leandro, and Hayward and unincorporated areas of Alameda County (including Ashland and Cherryland). Population statistics for the project vicinity are shown in Table XIII-1 below.

Table XIII-1. Population in the Project Vicinity

Area	Population
Alameda County total	1,584,983
Oakland	408,073
San Leandro	88,329
Hayward	152,401
Ashland CDP (County Unincorporated area)	24,226
Cherryland CDP (County unincorporated area)	15,470
Source: U.S Census Bureau, 2011-2015 American Community Survey 5-Year Estimates.	

Discussion

a. Less Than Significant. The project would not involve the construction of any housing or infrastructure and would not have growth inducing impacts. It would serve the existing local community which is already densely developed. The communities served by the project are already designated for urban residential, commercial, industrial, and transportation uses and the project would not induce changes to these designations. Therefore, impacts related to population growth are less than significant.

b and c. No Impact. Land for the project corridor is owned and maintained by BART, UPRR, city and county governments, PG&E, and private individuals. The project is largely within the existing transportation ROW and would not result in the displacement of any existing housing or people. Therefore, there is no impact related to displacement of existing housing or people.

Avoidance, Minimization, and Mitigation Measures

None required.

XIV. Public Services	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Affected Environment

The project is located in urban areas served by existing public services, including the City of Oakland, San Leandro, and Hayward police and Alameda County Sherriff for public safety and security services. The area is also served by the Oakland, Hayward, and Alameda County fire departments.

Discussion

a. Less Than Significant. The project would not result in an increase in population or facilities that would require the provision of fire or police services, schools, parks, or other public facilities, or result in the need for improvements to existing facilities. The project includes improving bicycle and pedestrian facilities, which would improve non-motorized transport. Therefore, impacts related to public services would be less than significant.

Avoidance, Minimization, and Mitigation Measures

None required.

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XV. Recreation	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. 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?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Community Impact Assessment, East Bay Greenway Project, Alameda County, California* (ICF 2017g).

The project would construct a new regional trail facility, providing opportunities areas for landscaping, programmed recreational uses, and redevelopment over time. This would complement and provide connection to existing local and regional park in the project area.

City parks located adjacent to the project include Peralta Park off E. 10th Street adjacent to the Lake Merritt channel; Stonehurst Recreational Area at San Leandro Boulevard and 105th Avenue; and Siempre Verde Park at San Leandro Boulevard and Park Street. The only park that is located within the project footprint is Nuestro Parquecito Park on E. 10th Street between Jefferson Street and Tennyson Road. There are no Regional, State, or Federal Parks adjacent to the project corridor. The closest regional park is the Martin Luther King Jr. Regional Shoreline, which is located about a mile away from the project.

Discussion

a. Less Than Significant. The project entails creating a dedicated pathway for bicycle and pedestrian use. It would serve the transportation needs of existing residents and visitors in the cities of Oakland, Hayward, San Leandro, and Alameda County. The project could increase the use of existing on-street bicycle and pedestrian facilities by providing increased connectivity for both transportation and recreational use. Access to regional transit, schools, downtown areas, and other destinations would be increased. There would also be increased safety by providing a facility that is physically separated from vehicle traffic and minimizes potential conflicts between trail users. It is not anticipated that such an increase in use would result in the physical deterioration of existing facilities. Therefore, impacts related to use of existing parks and recreation facilities are less than significant.

b. Less Than Significant With Mitigation. The project would not affect any of the parks adjacent to the bikeway; with the possible exception of Nuestro Parquecito Park (affected under the RwT option). Potential routes have been considered to connect the bikeway with the existing gravel path in Nuestro Parquecito Park. The RwT option could widen the existing concrete path, from its existing 5 feet width to 10 feet width plus a 2 feet shoulder. The trail would also connect to the

EBRPD Bay Trail. Although the project could result in minor alterations to this park, these changes are anticipated to be a positive enhancement. Therefore, impacts related to construction or expansion of recreational facilities outside the proposed project itself are less than significant. Implementation of the project itself, could result in limited and temporary impacts on aesthetics, air quality, biological resources, cultural resources, hazardous materials, and noise during the construction period. Implementation of these mitigation would ensure that the project would not result in adverse physical impacts. Construction of the project would be a beneficial impact by providing a new recreational facility and connecting to existing parks and trails.

Avoidance, Minimization, and Mitigation Measures

None required.

XVI. Transportation/Traffic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b. Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e. Result in inadequate emergency access?	☐	☐	☒	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Traffic Impact Study, East Bay Greenway Project, Alameda County, California* (CHS 2017).

The project corridor is bounded by the Lake Merritt BART Station in Oakland to the north, the South Hayward BART Station in Hayward to the south, and generally runs east of and parallel to the BART corridor via local streets (primarily E. 10th Street and E. 12th Street) before joining into the UPRR ROW south of the Fruitvale BART Station. The project corridor crosses 30 arterial and local streets in Oakland, San Leandro, and Hayward. As part of the project, 22 intersections along where the project corridor would be located on local streets would be modified to improve safety and accessibility for pedestrian and bicyclists. Improvements to intersections include modifying roadway lane geometries, signal timing, and lane width reductions.

Regional and Local Roadway Network

Regional Roadways

There are six major State and regional roadways in the project vicinity, with five of the major roadways intersecting the project corridor. The following is a brief description of these roadways.

- **Interstate 880** (I-880) is located within a mile of the project corridor and generally runs parallel to the project corridor from Oakland to Hayward.
- **State Route 77 (42nd Avenue)** intersects the project corridor in Oakland, between 41st Avenue and High Street.
- **State Route 61** and **State Route 112 (Davis Street)** intersects the project corridor in San Leandro, between West Estudillo Avenue and Lille Avenue.
- **Interstate 238** (I-238) intersects the project corridor in Hayward, between Ashland Avenue and East Lewelling Boulevard.
- **State Route 185 (14th Street)** would serve as a portion of the project corridor on 14th Street in San Leandro between San Leandro Boulevard and Hesperian Boulevard.

Local Roadways

The majority of local traffic in the project vicinity is carried on nearby arterial roadways. The following is a brief description of these roadways.

- **E. 10th Street** runs in an east-west direction in Oakland and is composed of one travel lane in each direction and parallel on-street parking on both sides of the street in the project vicinity.
- **E. 8th Street** runs in an east-west direction in Oakland and is composed of three travel lanes in each direction and parallel on-street parking along the north side of the street in the project vicinity.
- **E. 12th Street** runs in an east-west direction in Oakland and is composed of two travel lanes in each direction, and a Class II bicycle facility and parallel on-street parking along the north side of the street in the project vicinity.
- **San Leandro Street** runs in an east-west direction in Oakland and is composed of two travel lanes in each direction and intermittent parallel on-street parking on both sides of the street in the project vicinity.
- **San Leandro Boulevard** runs in a north-south direction in San Leandro and is composed of two travel lanes in each direction, and a Class II bicycle facility and intermittent parallel on-street parking on both sides of the street in the project vicinity.
- **Grand Street** runs in a north-south direction in Hayward and is and is composed of two travel lanes in each direction and parallel on-street parking on both sides of the street in the project vicinity.

Intersection Collisions

Table XVI-1 presents intersection collision data between December 2011 and December 2016 for collisions that occurred within a 500-foot radius of the project corridor.

Table XVI-1. Intersection Collision Data within 500 Feet of Project Corridor (2011–2016)

Collision Type	Number of Collisions	Injuries	Fatalities
Vehicle v. vehicle	536	765	7
Vehicle v. bicyclist	69	66	2
Vehicle v. pedestrian	96	97	2
Five year combined total	701	928	11
Source: CHS 2017.			

Pedestrian and Bicycle Facilities

There are existing pedestrian facilities in the form of sidewalks and various Class I, II, and III bicycle facilities[6] in the project area. Sidewalks are generally available on the local roadways in the project area. Table XVI-2 presents the existing bicycle facilities in the project area.

Table XVI-2. Existing Bicycle Facilities Crossing Project Corridor

Project Corridor Cross Street	Facility Type
Oakland	
10th Street/Peralta Park (west)	Class I
10th Street/Peralta Park (east)	Class I
2nd Avenue	Class III
16th Avenue	Class II
Fruitvale Avenue	Class II
105th Avenue	Class III
San Leandro	
Park Street	Class II
Williams Street	Class II
San Leandro Boulevard	Class II
Halcyon Drive	Class II
Hesperian Boulevard	Class II
Alameda County (Unincorporated)	
Grove Way	Class II
Sunset Boulevard	Class II
Hayward	
A Street	Class II
Orchard Avenue	Class III
Source: CHS 2017.	

[6] *Class I* facilities are off-road paths or trails separated from vehicle traffic; *Class II* facilities consist of on-street striped lanes for one-way bike travel; and *Class III* facilities are bike routes on roadways shared with vehicle traffic.

There are proposed plans for future bicycle facilities to cross the project corridor in the cities of Oakland, San Leandro, and Hayward as well as in unincorporated Alameda County. The City of Oakland plans to add Class II facilities that would intersect the project corridor at the following 11 cross streets: 4th Avenue, 5th Avenue, 14th Avenue, 23rd Avenue, 35th Avenue, 38th Avenue, High Street, Seminary Avenue, 66th Avenue, 81st Avenue, and 98th Avenue. The City of San Leandro plans to add bicycle facilities that would intersect the project corridor at the following five cross streets: Peralta Avenue (Class III), Davis Street (Class II), Washington Avenue (Class I), 143rd Avenue (Class III), and 159th Avenue (facility type not defined). Alameda CTC plans to add a Class II facility intersecting the project corridor at Lewelling Boulevard, and the City of Hayward plans to construct a Class II facility and pedestrian bridge at Tennyson Road. There are no implementation dates for these proposed future bicycle facilities.

In addition, the proposed Fruitvale Alive! Gap Closure Streetscape project would improve bicycle and pedestrian accessibility and safety along the Fruitvale Avenue corridor in Oakland. There is no set construction and operation date for the Fruitvale Alive! improvement.

Transit Facilities

The project area is well-served by public transit provided by Alameda-Contra Costa Transit (AC Transit) and BART. Local bus service in the project area is provided by AC Transit, serving the cities of Oakland, San Leandro, and Hayward. AC Transit operates 42 bus routes on weekdays and 32 bus routes on weekends within 0.5 mile from the project corridor. Regional rapid transit service in the project area is provided by BART, connecting the four Bay Area counties of Alameda, Contra Costa, San Francisco, and San Mateo. BART operates three weekday and weekend routes along the seven stations (Lake Merritt, Fruitvale, Coliseum, San Leandro, Bay Fair, Hayward, and South Hayward Stations) in the project area.

The proposed AC Transit East Bay Bus Rapid Transit (BRT) project would introduce a new bus service along a 9.5-mile corridor between downtown Oakland and the San Leandro BART Station, and intersect the project area. Construction for the AC Transit BRT begin in 2016 and is set for an opening date in late 2017.

Discussion

a and b. Less Than Significant Impact. Twenty-seven study intersections in the vicinity of the project corridor were selected for analysis based on the potential to be affected by project construction and implementation. The study intersections were analyzed during the weekday AM and PM peak hours, and as described in the TIS, intersection operations were evaluated using the level of service (LOS)[7] calculation method. Table XVI-3 presents the LOS and delay analysis results for the study intersections for the weekday AM and PM peak hours under Baseline Conditions[8] and Project Conditions. In 2016, the City of Oakland removed LOS as the City's operational metric of transportation performance for roadway, replacing it with vehicle miles travelled. However, for the

[7] The LOS of each intersection qualitatively describes the operations of the transportation facility. Levels of service ranges from LOS A, indicating free-flow conditions with little or no delay, to LOS F, representing oversaturated conditions with excessive delay. LOS E described conditions at capacity.

[8] For the purposes of this study, *Baseline Conditions* are defined as similar to existing conditions, but with local geometric modifications at some project intersections due to other local infrastructure projects (AC Transit East Bay BRT and Fruitvale Alive! Gap Closure Streetscape project) expected to be completed prior to the project.

purposes of informing operational characteristics relevant to the project design, this analysis assigns LOS to the intersections in Oakland.

As shown in Table XVI-3, under Baseline Conditions, most study intersections would operate within local jurisdictional LOS standards of LOS D or better. Five intersections exceed LOS D under Baseline Conditions, including:

- Intersection 4a: 14th Avenue/E. 8th Street/E. 12th Street (EB) in the PM peak hour (LOS E)
- Intersection 4b: 14th Avenue/E. 8th Street/E. 12th Street (WB) in the PM peak hour (LOS E)
- Intersection 8: 25th Avenue/E. 12th Street in the AM and PM peak hours (LOS E)
- Intersection 13: 54th Avenue/San Leandro Street in the AM and PM peak hours (LOS F)
- Intersection 23: 105th Avenue/San Leandro Street in the AM peak hour (LOS F)

The project would establish a trail facility for bicyclists and pedestrians, separated from vehicles, utilizing existing bikeways on public streets and constructing new bikeways within the BART and UPRR ROW. The project is not anticipated to generate additional vehicle trips, as the project itself promotes alternative modes of transportation and would increase the effectiveness of the circulation system by adding new bicycle and pedestrian connections. A small temporary increase in traffic is anticipated during project construction from vehicles and workers accessing the project area and staging areas. During project construction, temporary closure of traffic lanes in the vicinity of the project corridor may be required to facilitate the construction of project features. However, construction workers and flaggers would ensure that detours are identified as needed and that through access for all modes of transportation would be maintained throughout the construction period.

At 22 intersections in the vicinity of the project corridor, the project would also improve roadway lane geometries, signal timing, and lane width reductions to increase safety and accessibility for pedestrians and bicyclists. As shown in Table XVI-3, implementation of the project would not significantly affect most study intersections. Of the five intersections that exceeded LOS D under Baseline Conditions, the project would result in no change to the LOS (Intersections 4a, 4b, and 23) or improve LOS (Intersections 8 and 13). Specifically, improvements to study intersections LOS entail:

- Intersection 8, 25th Avenue/E. 12th Street: LOS E in the AM and PM peak hours under Baseline Conditions would be improved to LOS A in the AM and PM peak hours under Project Conditions.
- Intersection 13, 54th Avenue/San Leandro Street: LOS F in the AM and PM peak hours under Baseline Conditions would be improved to LOS D in the AM peak hour and LOS E in the PM peak hour under Project Conditions. Although intersection LOS would be improved, the LOS would still exceed LOS D.

However, the project would also result in one intersection to decrease LOS and exceed LOS D under Project Conditions:

- Intersection 5, 22nd Avenue/E. 12th Street: LOS D in the AM and PM peak hours under Baseline Conditions would be decreased to LOS E in the AM and PM peak hours under Project Conditions.

Table XVI-3. Intersection Level of Service – Baseline Conditions[9] versus Project Conditions

Intersection Level of Service – Baseline Conditions versus Project Conditions										
			Baseline Conditions				Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	5th Avenue/E. 10th Street	Signal	14.6	B	20.1	C	17.6	B	28.1	C
2	9th Avenue/E. 8th Street/E. 10th Street	One Way Stop	12.9	B	11.6	B	12.1	B	9.9	A
3	11th Avenue/8th Street Street/E 11th Street	One Way Stop	17.9	C	18.2	C	13.4	B	18.0	C
4a	14th Avenue/E. 8th Street/E. 12th Street (EB)	Signal	37.1	D	**59.5**	**E**	36.9	D	**59.2**	**E**
4b	14th Avenue/E. 8th Street/E. 12th Street (WB)	Signal	35.0	C	**70.0**	**E**	45.4	D	**62.8**	**E**
5	22nd Avenue/E. 12th Street	Signal	49.5	D	39.2	D	**75.3**	**E**	**69.1**	**E**
6	23rd Avenue/E. 12th Street	Signal	11.5	B	11.5	B	11.7	B	11.8	B
7	Miller Street/E. 12th Street	Two Way Stop	12.5	B	11.3	B	3.0	A	2.5	A
8	25th Avenue/E. 12th Street	Two Way Stop	**47.3**	**E**	**48.2**	**E**	4.5	A	4.3	A
9	29th Avenue/E. 12th Street	Signal	19.0	B	24.1	C	20.1	C	24.1	C
10	Fruitvale Avenue/E. 12th Street	Signal	35.2	D	37.6	D	36.2	D	44.6	D
11	High Street/San Leandro Street	Signal	31.2	C	31.8	C	31.2	C	31.8	C
12	50th Avenue/San Leandro Street	Signal	16.1	B	17.9	B	20.6	C	30.5	C
13	54th Avenue/San Leandro Street	Two Way Stop	**119.3**	**F**	**58.0**	**F**	31.9	D	**45.4**	**E**
14	Seminary Avenue/San Leandro Street	Signal	23.1	C	16.7	B	48.8	D	22.1	C
15	66th Avenue/San Leandro Street	Signal	42.8	D	38.1	D	45.9	D	44.0	D
16	69th Avenue/San Leandro Street	Signal	19.1	B	13.0	B	19.8	B	13.3	B
17	75th Avenue/San Leandro Street	Signal	36.9	D	26.8	C	36.9	D	26.8	C
18	Hegenberger Road on-ramp/San Leandro Street/ 73rd Avenue	Signal	9.4	A	7.0	A	10.9	B	9.1	A
19	81st Avenue/San Leandro Street	Signal	11.9	B	9.2	A	11.9	B	9.2	A
20	85th Avenue/San Leandro Street	Signal	28.1	C	26.3	C	28.8	C	26.4	C

[9] *Baseline Conditions* are defined as similar to existing conditions, but with local geometric modifications at some project intersections due to other local infrastructure projects (AC Transit East Bay BRT and Fruitvale Alive! Gap Closure Streetscape project) expected to be completed prior to the project.

Intersection Level of Service – Baseline Conditions versus Project Conditions										
			Baseline Conditions				Project Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
21	92nd Avenue/San Leandro Street	Signal	15.4	B	7.6	A	15.9	B	7.8	A
22	98th Avenue/San Leandro Street	Signal	20.1	C	21.1	C	20.1	C	21.3	C
23	105th Avenue/San Leandro Street	All Way Stop	**69.1**	**F**	28.5	D	**69.1**	**F**	28.5	D
24	Williams Street/San Leandro Boulevard	Signal	33.7	C	26.0	C	52.5	D	55.0	D
25	Marina Boulevard/San Leandro Boulevard	Signal	38.2	D	35.1	D	39.7	D	42.0	D
26	Castro Street/San Leandro Boulevard	Two Way Stop	11.8	B	11.2	B	12.1	B	11.5	B
27	A Street/Grand Street/Western Boulevard	Signal	20.5	C	20.8	C	20.5	C	20.8	C

Source: CHS 2017.

Notes: **Bold** indicates unacceptable LOS conditions (LOS E or F).

In 2016, the City of Oakland removed LOS as the City's operational metric of transportation performance for roadway, replacing it with vehicle miles travelled. However, for the purposes of informing operational characteristics relevant to the project design, this analysis assigns LOS to the intersections in Oakland.

Intersection delay and LOS for Two-Way stop-controlled intersections are described in terms of the critical minor approach.

Intersection delay and LOS for Signal and All Way Stop intersections are described in terms of the overall intersection.

Delay = delay in seconds per vehicle; LOS = level of service; Signal = signalized intersection.

However, Intersection 5 is located within the jurisdiction of the City of Oakland, which no longer uses LOS as the operational metric of transportation performance for roadways. Although LOS is deteriorated at this intersection, this would not conflict with local jurisdictional standards for measuring transportation performance. Therefore, overall impacts related to construction and operation of the project conflicting with applicable plans, ordinances, policies, or programs measuring the effectiveness for the performance of the circulation system are less than significant.

c. No Impact. The nearest airports to the project corridor are the Oakland International Airport, located approximately 1.5 miles to the west, and the Hayward Executive Airport, located approximately 1.4 miles to the west. The Airport Land Use Compatibility Plans for both airports identify the project corridor as being located at the boundary of each airport's airport influence area (Alameda County Community Development Agency 2010, 2012). However, the project involves no changes that would result in a change to air traffic patterns, including either an increase in air traffic levels or project features that would obstruct air traffic patterns or result in substantial safety risks. There are no impacts related to changes in air traffic patterns.

d. Less Than Significant. The project is intended to reduce existing hazards within the transportation network by establishing a designated facility that would provide physical separation and protection between vehicles and bicyclists or pedestrians. The project would also include crossings at intersections and midblock locations including traffic control (stop signs and signals) and other modifications to ensure safe and accessible operation; connections to existing sidewalks and pathways along the project corridor; lighting, fencing, barrier railings, and other features needed to ensure safety and security; bridge structures and retaining walls; and landscaping. These features are intended to reduce potential collisions between vehicles, bicyclists, and pedestrians. The project features would be designed in accordance with relevant safety guidelines identified by Alameda County and the cities of Oakland, San Leandro, and Hayward. Therefore, impacts related to substantially increasing hazards due to a design feature or incompatible uses are less than significant.

e. Less Than Significant. During project construction, temporary closure of traffic lanes in the vicinity of the project corridor may be required to facilitate the construction of project features. There could be slight delays to emergency access due to temporary lane closures and construction vehicles accessing the project corridor. However, construction activities would be short-term and temporary, and any emergency vehicles would be waved during lane closures. All temporary traffic controls would be in accordance with the standard procedures of the local jurisdictions. Post-construction, emergency access along the project corridor would be similar to existing conditions. The project is designed to provide a dedicated trail for bicyclists and pedestrians, separated from vehicles, and would not result in impede emergency access. Therefore, impacts related to inadequate emergency access are less than significant.

f. No Impact. The project entails constructing a trail facility for bicyclists and pedestrians, separated from vehicles, utilizing existing bikeways on public streets and constructing new bikeways within the BART and UPRR ROW. The project would also include features such as traffic controls (stop signs or signals) at intersections and midblock crossing locations; connections to existing sidewalks and pathways along the project corridor; and lighting, fencing, barrier railings, to ensure the safety and security of trail users. The project is intended to increase pedestrian and bicycle safety by reducing the potential for collisions with vehicles and improve access to regional transit. Although portions of the project corridor are located within the UPRR ROW, the project would not impede or

decrease the safety of BART service or other transit services within the project vicinity. The project would be compatible with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities. There are no impacts related to conflict with adopted policies, plans, or programs regarding transit or bike/pedestrian facilities.

Avoidance, Minimization, and Mitigation Measures

None required.

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XVII. Tribal Cultural Resources	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Affected Environment

Unless otherwise noted, information presented in this section is summarized from the *Archaeological Study Report, East Bay Greenway Project, Alameda County, California* (ICF 2017f).

ICF performed consultation under Assembly Bill (AB) 52 on behalf of the Alameda CTC. On, July 13, 2017, AB 52 correspondence letters were submitted to the six Native American contacts mentioned above, as Alameda CTC has not yet compiled contact information for the tribes formally requested tribal consultation for the first phase of planning under the California Environmental Quality Act (Public Resources Code section 21080.3.1 subdivisions [b], [d]), and for the mitigation of potential impacts to tribal, cultural, and environmental resources.

Discussion

a and b. Less Than Significant. Although none of the contacts responded via mail as of the writing of this document; one contact - Ann Marie Sayers, Chairperson of the Indian Canyon Mutson Band of Costanoans - responded to telephone outreach performed on August 9, 2017. Chairperson Sayers agrees that XP1 is a reasonable approach to identification in such an urban area and further requested that a Native American monitor and an archaeological monitor be present for any earth moving activities conducted in archaeologically sensitive areas. She mentioned that there are a

number of OSHA-certified native monitors in the valley. Therefore, because no other tribal cultural resources have been identified, impacts related to tribal cultural resources are less than significant.

Avoidance, Minimization, and Mitigation Measures

Not required.

XVIII. Utilities and Service Systems	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the proposed project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d. Have sufficient water supplies available to serve the proposed project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☒	☐
e. Result in a determination by the wastewater treatment provider that serves or may serve the proposed project that it has adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Affected Environment

A variety of local and regional purveyors in the project area provide and maintain utility and service system facilities associated with electricity, water, stormwater, wastewater, solid waste, communications and natural gas. Relocation of existing underground utilities, including but not limited to water, wastewater, electric/gas, and telephone/cable/internet may be required.

The proposed facilities would be located within or adjacent to existing road ROWs and would be integrated into the existing stormwater system. The project area is in a highly developed and disturbed area; therefore, the project would not substantially alter the existing drainage pattern on the project area. Drainage patterns would be similar to existing patterns at the site. In portions of the corridor where the rail is on an embankment, retaining walls would be required. The project provides opportunities for general landscaping including shrubs and trees, hardscape improvements, green infrastructure, and linear open space areas. Improvements would focus on general landscaping and stormwater infrastructure within ROW areas, at trail access points, and at

trail intersections with surface streets. The R2T option offers more opportunities for these improvements because of the greater availability of ROW.

Discussion

a. No Impact. The project consists of constructing a regional trail facility consisting of Class I and Class IV facilities that would be provided on a continuous, 16-mile corridor using the BART and UPRR Oakland Subdivision corridor ROW and public streets to promote non-motorized travel. The project would not generate any wastewater that would be directed to a wastewater facility. Therefore, the project would not exceed wastewater treatment requirements of the Region 2 San Francisco Regional Water Quality Control Board. There would be no impacts related to wastewater treatment exceedances.

b. Less Than Significant. Water supply for construction activities (e.g., dust control, concrete mixing, material washing) would come from nearby hydrants or existing surface supplies to the project area and/or be trucked to the site. In addition, the project would not require water or wastewater treatment as no potable water or restroom facilities would be provided as part of the project's construction or operation. The project would not include installation of any uses that would require extensive irrigation or generate wastewater. Therefore, impacts related to construction of new water or wastewater treatment facilities or expansion of existing facilities are less than significant.

c. Less Than Significant. The most notable infrastructure proposed by this project, in term of drainage impacts, are the trail facilities themselves. Both Class I and Class IV trail facilities would be constructed of either asphalt or concrete with widths of 17 feet to 34 feet for the R2T option and 10 feet to 14 feet for the RwT option. The project provides opportunities for general landscaping, hardscape improvements, green infrastructure, linear open space areas, and stormwater infrastructure within ROW areas. These features which would minimize surface runoff rates and volumes, allow stormwater to infiltrate into the soil, and other drainage issues on-site. The proposed trail facilities would be located within or adjacent to existing road ROWs and would be integrated into the existing stormwater system and new storm drainage elements and expansion of existing drainage lines would be limited. Therefore, impacts related to construction of new stormwater drainage facilities or expansion of existing facilities are less than significant.

d. Less Than Significant. The project would involve the development of a bicycle and pedestrian pathway, which would not generate a substantial demand for water supplies either as part of construction or operation. The project includes landscaped areas such as landscaped buffers, medians, and islands. Water may be needed for irrigation of the proposed landscaped areas. However, this need is anticipated to be minimal and would be served by municipal water supply. The project would not require new or expanded water supply entitlements, or result in any new demands on existing water sources. Therefore, impacts related to sufficient water supplies are less than significant.

e. Less Than Significant. The project would involve the development of a bicycle and pedestrian pathway, which would not generate a substantial demand for wastewater treatment. The project would not require water or wastewater treatment as no potable water or restroom facilities would be provided as part of the project's construction or operation. The project would not directly

generate any wastewater requiring wastewater treatment. Therefore, impacts related to wastewater treatment are less than significant.

f. Less Than Significant. Short-term waste generation would result from construction of the project. Waste materials resulting from the project construction would consist primarily of earth/soil excavated for the bicycle and pedestrian pathway, and some construction waste (excess materials from paving, and installation of sign posts, bridge footings, and sidewalks). It is anticipated that the following types of waste would be generated during construction: non-hazardous metal waste, non-hazardous non-metal waste (e.g., concrete rubble, organic waste [vegetation], boxes and crates, refuse from construction workers), and trenching spoils (e.g., rubble, soil, broken asphalt). Potential for hazardous materials is discussed in Section VIII. These wastes would need to be disposed of in local or regional facilities. Non-hazardous metal and non-metal waste would either be hauled to local disposal centers for recycling or taken to landfills. Spoils from trenching and excavation would be reused to the maximum extent possible. In addition, the project would comply with Alameda County's C&D ordinance, which requires at least 75 percent of the asphalt, concrete and earth debris generated by a project to be diverted from landfills via reuse or recycling. During operation of the project, it is not anticipated that substantial solid waste would be generated. It is anticipated that C&D waste generated by the project would be taken to a local transfer facility (e.g., the Davis Street Resource Recover Complex and Transfer Station in San Leandro), which facilitates the transfer of solid waste to local landfills and, thus, generally do not experience capacity issues. Potential solid waste disposal locations include Vasco Road Sanitary Landfill in Livermore and Altamont Landfill & Resource Recovery in Livermore. Vasco Road Sanitary Landfill has a remaining capacity of 7.379 million cubic yards (CalRecycle 2017a). Altamont Landfill & Resource Recovery has a remaining capacity of 65.4 million cubic yards (CalRecycle 2017b). The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs during construction and operation. Therefore, impacts related to sufficient landfill capacity are less than significant.

g. No Impact. The project would comply with all federal, state, and local statutes and regulations related to solid waste. There would be no impact related to compliance with solid waste regulations.

Avoidance, Minimization, and Mitigation Measures

Not required.

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XIX. Mandatory Findings of Significance		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Does the proposed project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the proposed project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c.	Does the proposed project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a. Less Than Significant with Mitigation Incorporated. The project entails constructing a regional trail facility that would improve non-motorized transportation and connectivity for pedestrians and bicyclists. With implementation of avoidance, minimization, and mitigation measures included in this Initial Study would ensure that construction and operation of the project would not degrade the quality of the environment such that protected biological species and habitat or significant cultural resources would be threatened or eliminated. Therefore, the impact is less than significant with mitigation incorporated.

b. Less Than Significant Impact. As stated under item a, the project entails constructing a regional trail facility that would improve non-motorized transportation and connectivity for pedestrians and bicyclists. It would improve safety, and provide enhanced recreational and transportation uses for local residents. The project would be located on existing roadways in urbanized areas. All project bridge structures would be clear-span and no in-water work is required. Implementation of the project would not substantially change existing land uses. Furthermore, the project entails a transportation and recreation enhancement, and would not result in individually limited, but cumulatively considerable impacts. All environmental impacts that could occur as a result of short-term construction would be reduced to a less-than-significant level through implementation of avoidance, minimization, and mitigation measures recommended in this Initial Study. Long-term operation of the project would increase the amount of impervious surface, however, when viewed in

conjunction with other closely related past, present, and/or reasonably foreseeable projects, long-term impacts would be less than significant.

c. Less Than Significant with Mitigation Incorporated. Potential human health risks associated with air quality, geologic hazards, flood hazards, fire hazards, hazardous wastes, or noise would either be less than significant or mitigated to a less-than-significant level. Therefore, the impact is less than significant with mitigation incorporated.

Avoidance, Minimization, and Mitigation Measures

Refer to avoidance, minimization, and mitigation measures included in the Initial Study. For convenience, the measures that would reduce project impacts to a less-than-significant level are provided, as follows.

Measure AES-1: Implement Project Amenities and Landscaping

Measure AES-2: Apply Aesthetic Design Treatments to Bridges and Retaining Walls

Measure AES-3: Minimize Retaining Wall Design at Jackson Street

Measure AES-4: Relocate or Replace Affected Trees

Measure AES-5: Apply Aesthetic Treatments to Fencing

Measure AES-6: Limit Construction Near Residences to Daylight Hours

Measure AES-7: Apply Minimum Lighting Standards

Measure AQ-1: Implement California Department of Transportation Standard Specifications

Measure AQ-2. Implement BAAQMD Basic Control Measures to Control Construction-Related Dust

Measure BIO-1: Develop and Implement Worker Awareness Training

Mitigation Measure BIO-2: Implement Western Pond Turtle Impact Avoidance Measures

Measure BIO-3: Implement Nesting Bird Impact Avoidance Measures

Measure BIO-4: Implement Bat Impact Avoidance Measures

Measure BIO-5: Implement Fish Impact Avoidance Measures

Measure BIO-6: Implement Environmentally Sensitive Area Fencing Installation

Measure BIO-7: Implement Invasive Plants Avoidance Measures

Measure BIO-8: Implement Water Quality Protection Measures

Measure BIO-9: Implement Tree Protection Measures

Measure-CUL-1: Perform Extended Phase I Archaeological Investigations

Measure CUL-2: Stop Work if Buried Cultural Resources Are Discovered

Measure CUL-3: Establish and Follow Procedures in Case of Accidental Discovery of a Paleontological Resource

Measure CUL-4: If Human Remains Are Discovered, Comply with State Laws Relating to Human Remains.

Measure HAZ-1: Assess Bridge Structures for Lead-Based Paint and Asbestos-Containing Materials and Include Provisions in Standard Best Management Practices

Measure HAZ-2: Conduct a Preliminary Investigation and Screening for Aerially Deposited Lead

Measure HAZ-3: Conduct a Preliminary Investigation and Screening for Soils Along Railroad ROW

Measure HAZ-4: Screen for Soil Contamination During Construction

Measure NOI-1: Limit Construction Noise to Daytime Hours Consistent with the Noise Ordinance of the Applicable Jurisdiction

Measure NOI-2: Implement City of Oakland Standard Conditions of Approval for Construction Noise in all Jurisdictions

Measure NOI-3: Implement City of Oakland and City of Hayward Noise Standards

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Chapter 3
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No references were necessary for Mineral Resources.

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No references were necessary for Population and Housing.

XIV. Public Services

No references were necessary for Public Services.

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XIX. Mandatory Findings of Significance

No references were necessary for Mandatory Findings of Significance.

XX. Earlier Analysis

No references were necessary for Earlier Analysis.

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Appendix A

Concept Design Plans

A1: Rail-to-Trail CDP

A2: Rail-with-Trail CDP

Appendix B
List of Technical Reports

- Archaeological Survey Report for the East Bay Greenway Project. Pending. Prepared by Kerry Boutte, for Alameda County Transportation Commission
- Traffic Impact Study (TIS), East Bay Greenway Project, Alameda County, California. Prepared for Alameda County Transportation Commission
- Community Impacts Assessment for the East Bay Greenway Project. Pending. Prepared by Shilpa Trisal, Project Manager, for Alameda County Transportation Commission
- Noise Technical Memorandum for the East Bay Greenway Project (Caltrans Noise Memo). July. Prepared by David Buehler, Noise Technical Specialist, for Alameda County Transportation Commission
- Water Quality Technical Memorandum for the East Bay Greenway Project. August. Prepared by WRECO, for Alameda County Transportation Commission
- Historic Property Survey Report for the East Bay Greenway Project. December. Prepared by multiple authors, for Alameda County Transportation Commission
- Historical Resources Evaluation Report for the East Bay Greenway Project. Pending. Prepared by Kathryn Haley, Architectural Historian, for Alameda County Transportation Commission
- Natural Environment Study-Minimal Impacts for the East Bay Greenway Project. Prepared by Ross Wilming and Eric Christensen, Biologists, for Alameda County Transportation Commission
- Air Quality Technical Memorandum for the East Bay Greenway Project. September. Prepared by Shannon Hatcher, Air Quality Specialist, for Alameda County Transportation Commission
- Visual Impact Assessment for the East Bay Greenway Project. July. Prepared by Jennifer Stock, Landscape Architect, for Alameda County Transportation Commission

A hardcopy of technical reports can be viewed or requested at the Alameda CTC office.