Oakland Alameda Access Project

Natural Environment Study (Minimal Impact)/No Effect Determination

Caltrans District 4
Alameda County, California
EA 04-0G360
04-ALA-880 PM 30.47/31.61
04-ALA-260 PM R0.78/R1.90

March 2020

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Summary

Located within the cities of Oakland and Alameda in Alameda County, the Oakland Alameda Access Project (OAAP), the proposed project (Project), would improve access between Interstate 880 and Interstate 980 (I-880/I-980), the Posey and Webster Tubes, downtown Oakland, and the City of Alameda. The Project involves the removal and modification of existing freeway ramps, modification of the Posey Tube exit in the City of Oakland, construction of a Class I bike path from the Posey Tube to a new 6th Street boulevard, implementation of various "complete streets" improvements to facilitate mobility across I-880 between downtown Oakland and Jack London neighborhoods, and construction of minor bicycle and pedestrian improvements at the Posey Tube approach in Alameda. A single-build alternative is proposed to meet the Project's purpose to improve mobility and connectivity.

This Natural Environment Study – Minimal Impacts (NES-MI) provides technical information about the potential impacts of the Project on biological resources in compliance with the National Environmental Policy Act and the California Environmental Quality Act.

As part of the environmental analysis, Biological Study Areas (BSAs) were established in Oakland and in Alameda to determine the potential Project impacts to biological resources. The BSAs encompass the Project limits at both sites and a 100-foot buffer zone in order to determine potential indirect impacts such as noise and air quality issues that may be generated by construction. Field surveys were conducted in both BSAs between 2015 and 2019 to identify biological resources within the BSAs. This document includes avoidance and minimization measures (AMMs) and best management practices to protect biological resources that could occur in the BSAs.

The Oakland and Alameda BSAs both consist of urban habitat and associated commercial and residential structures, paved roadways, and ornamental landscaped vegetation. The primary vegetation communities in both BSAs include urban, annual grassland, and ruderal. The Oakland BSA has a narrow strip of saline emergent vegetation/estuarine habitat just above the mean high tide line in Lake Merritt Channel. Just beyond but adjacent to the Alameda BSA, there is an approximately 500-ft-long swale that supports sparse saline emergent wetland vegetation is located.

Within the Oakland BSA, Lake Merritt Channel is a potentially jurisdictional "Waters of the U.S." Additionally, saline emergent wetlands were identified near the Alameda BSA, and these wetlands may be considered to be "Waters of the U.S." Lake Merritt Channel and the two saline emergent wetlands also qualify as "Waters of the State." However, no construction activities will take place in, or immediately adjacent to, Lake Merritt Channel or the saline emergent wetlands.

A total of 45 special-status plant species (including federally listed, state-listed, and/or California Native Plant Society List 1, 2, 3 or 4) have historical occurrence records within a 5-mile radius of the BSAs. None of these species evaluated have the potential to occur within the BSAs based on a lack of suitable habitat, regional extirpation, and/or botanical survey results.

A total of 47 special-status wildlife species (including federally-listed and state-listed) and regulated habitats have potential to occur within a 5-mile radius of the BSAs. Based on the evaluation conducted for this NES-MI, the following special-status species have the potential to occur: peregrine falcon (*Falco peregrinus*), roosting bats, and migratory nesting birds.

Bats are protected by Fish and Game Code §2000, 2002, 2014, and 4150 and under California Code of Regulations 251.1. Pallid bat (*Antrozous pallidus*), silver-haired bat (*Lasionycteris noctivagans*), and hoary bat (*Lasiurus cinereus*) could roost in trees or vegetation, while pallid bat and Townsend's big-eared-bat (*Corynorhinus townsendii*) could roost in structures within the BSAs. Preconstruction surveys for bats are included in the Project AMMs.

Suitable habitat for peregrine falcons, a State fully protected species and protected under the Migratory Bird Treaty Act (MBTA) is present in the Oakland BSA. If a peregrine falcon's nest is located within a 500-feet radius of the BSAs, consultation with the California Department of Fish and Wildlife (CDFW) will be required.

Birds protected under the MBTA and California Fish and Game Code were observed within the BSAs. Additionally, there is high potential for snowy egrets (*Egretta thula*) and black-crowned night herons (*Nycticorax nycticorax*) to nest within urban street trees, particularly trees near the intersection of Oak Street and 9th Street in the Oakland BSA. Pre-construction nesting bird surveys will be conducted and AMMs will be implemented to avoid impacts to nesting migratory birds. These AMMs include, but are not limited to:

- If construction occurs during the bird nesting season (February 1 – September 30), pre-construction nesting bird surveys will be conducted. If an active bird nest is identified, a protective buffer will be established around the nest. The standard buffer will be 50 feet for passerines (perching songbirds), 100 feet for egret/heron rookeries, 200 feet for raptors (birds of prey), and 500 feet for peregrine falcon. The buffer zones will be delineated with high-visibility environmental fencing or demarcated with pin flags or ribbon, as applicable based on-site conditions. If it becomes necessary for work to occur in closer proximity to a nest, the Project biologist may develop a nest monitoring plan in coordination with Caltrans and CDFW that will include continual monitoring of the nest as construction moves closer. If at any time the biologist determines that activities may cause nest abandonment, construction activity in that area must cease.

- Preserving trees and native shrubs in place to the extent practicable;
- Conducting Worker Environmental Awareness Training regarding potential sensitive species that could occur in or near the BSAs, such as peregrine falcon, roosting bats, and migratory birds; and
- Prior to vegetation removal and construction, pre-construction surveys for bats will be conducted.

The Project will have no potential to impact federally listed species, critical habitat, wetlands or "Other Waters of the U.S.," or "Waters of the State."

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List of Abbreviated Terms

ac	acre
AMM	Avoidance and Minimization Measure
BMP	Best Management Practices
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
FESA	Federal Endangered Species Act
F.G.C.	Fish and Game Code
I-	Interstate
ITP	Incidental Take Permits
HWY	Highway
lf	linear feet
MBTA	Migratory Bird Treaty Act
NB	southbound
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NES-MI	Natural Environment Study/Minimal Impact
NOAA	National Oceanic and Atmospheric Administration
NWI	National Wetlands Inventory
Project	Oakland Alameda Access Project
RWQCB	Regional Water Quality Control Board
ROW	Right-of-Way
SB	southbound
SR	State Route
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USDA	U.S. Department of Agriculture

USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VegCAMP	Vegetation Classification and Mapping Program

Chapter 1 Introduction

1.1 Project Description

The proposed project (Project), the Oakland Alameda Access Project (OAAP), is located in the cities of Oakland and Alameda in Alameda County, California. The project proposes to improve access along I-880 and in and around the Tubes, downtown Oakland, and the City of Alameda. Within the approximately 1-mile-long project, I-880 (PM ALA 30.47 to PM 31.61) and SR-260 (PM ALA R0.78 to R1.90) are major transportation corridors. Also, the I-880 freeway viaduct is a physical barrier, limiting bicycle and pedestrian connectivity between downtown Oakland and Chinatown to the north and the Jack London District and Oakland Estuary to the south. Existing local street patterns across I-880 are intertwined with on- and off-ramps and the Tubes connecting Oakland and Alameda affecting the cross-freeway circulation of motorists, bicyclists, and pedestrians.

Figure 1 shows the project footprint. See Figure 1a and Figure 2 for the Project areas within Oakland and Figure 3 for the Project areas within Alameda. All figures are presented in Appendix A.

1.2 Purpose and Need

The purpose of the Project is to:

- Improve multimodal safety and reduce conflicts between regional and local traffic;
- Enhance bicycle and pedestrian accessibility and connectivity within the project study area;
- Improve mobility and accessibility between I-880, SR-260 (Tubes), City of Oakland downtown neighborhoods, and City of Alameda;
- Reduce freeway-bound regional traffic and congestion on local roadways and in area neighborhoods.

Access between the freeway and the roadway networks between I-880 and the Tubes is limited and indirect, and access to/from the cities of Oakland and Alameda is circuitous. Existing access to I-880 from Alameda and the Jack London District requires loops through several local streets and intersections, routing vehicles through the downtown Oakland Chinatown neighborhood, which has the following operational impacts on local streets:

- Streets in and around the downtown Oakland Chinatown area have a high volume of pedestrian activity and experience substantial vehicle-pedestrian conflicts, and the I-880 viaduct limits bicycle and pedestrian connectivity between downtown Oakland and the Jack London District.

- SB I-880 traffic heading to Alameda must exit at the Broadway/Alameda off-ramp, then travel south along 5th Street for more than a mile — through nine signalized and unsignalized intersections — before reaching the Webster Tube at 5th Street/Broadway.

- WB I-980 traffic heading to Alameda must exit at the Jackson Street off-ramp and circle back through Chinatown through seven signalized and unsignalized intersections to reach the Webster Tube.

- NB I-880 traffic heading to Alameda must exit at the Broadway off-ramp and form a queue on Broadway between 5th and 6th streets, which backs up onto the ramp. Alternatively, drivers may loop through Chinatown to access the Webster Tube.

1.2.1 No-Build Alternative

Under the No-Build Alternative, there would be no improvements to bicycle or pedestrian connectivity or safety. Freeway traffic to/from the cities of Oakland and Alameda would continue to use city streets through Oakland and Chinatown, which are areas with a high volume of pedestrian activity. Vehicle-pedestrian or -bicycle conflicts from traffic traveling through city streets would continue. The I-880 viaduct would continue to impede connectivity between downtown Oakland and the Jack London District, and access would not be improved for bicycles and pedestrians traveling between Oakland and Alameda.

1.2.2 Build Alternative

Under the Build Alternative, Caltrans and ACTC propose to remove and modify the existing freeway ramps and to modify the Posey Tube exit in Oakland. The Build Alternative would improve access to NB and SB I-880 from the Posey Tube via a right turn-only lane from the Posey Tube to 5th Street and a new horseshoe connector at Jackson Street below the I-880 viaduct that would connect to the existing NB I-880/Jackson Street on ramp. The existing WB I-980/Jackson Street off ramp would be reconstructed and shifted to the south.

The Webster Tube entrance at 5th Street and Broadway would be shifted to the east to create more space for trucks to make the turn from Broadway into the Webster Tube. A bulb-out would be constructed to extend the sidewalk, reducing the crossing distance and allowing improved visibility of pedestrians on the southeast corner.

The NB I-880/Broadway off-ramp would be removed and the NB I-880/Oak Street off-ramp to 6th Street would be widened. The NB I-880/Oak Street intersection would become the main NB I-880 off-ramp to downtown Oakland and to Alameda. 6th Street would become a one-way through street from Oak Street to Harrison Street and a two-way street from Harrison Street to Broadway.

The proposed project would include the addition of a Class IV two-way cycle track on 6th Street between Oak and Washington streets and on Oak Street between 3rd and 9th streets. Bicycle and pedestrian improvements would be constructed at the Tubes' approaches in Oakland and Alameda, and the Webster Tube westside walkway would be opened to pedestrians. This would improve connectivity to existing and future planned bicycle paths in the City of Oakland and implement various "complete streets" improvements to create additional opportunities for non-motorized vehicles and pedestrians to cross under I-880 between downtown Oakland, the Jack London District, and Alameda.

Additional details on the Build Alternative improvements:

1. **Construction of a new horseshoe connector under I-880 at Jackson Street.**

   Vehicles exiting the Posey Tube would have direct access to NB I-880 via the proposed horseshoe connector. Vehicles heading to NB and SB I-880 would use the right-turn-only lane at the Posey Tube exit to turn onto eastbound 5th Street. Access to a new horseshoe connector would be provided from the left side of 5th Street and would loop below the I-880 viaduct to connect to the existing NB I-880/Jackson Street on-ramp. Traffic heading to SB I-880 would continue eastbound on 5th Street to the SB I-880/Oak Street on-ramp. Figure 1a shows the new horseshoe connector under I-880 at Jackson Street.

   Construction of the new right-turn-only lane onto 5th Street would require new retaining walls along the right side of the Posey Tube exit replacing the historic Posey Tube wall. The horseshoe connector would provide a direct route between the Posey Tube and NB I-880/ EB I-980 and SB I-880, substantially improving connectivity and minimizing the need for freeway-bound vehicles to travel through Chinatown to access the ramps. This configuration would also reduce intersection and bicycle-pedestrian conflicts.

   Posey Tube traffic heading to Chinatown and downtown Oakland would remain in the left lane and continue onto Harrison Street or turn left onto 6th Street to reach downtown via Broadway. A new left-turn pocket to accommodate the turn onto 6th Street would be constructed requiring removal of a section of the historic Posey Tube western exit wall.

2. **Reconstruction of the existing WB I-980/Jackson Street off-ramp.**

   To provide space for unimpeded movement from the Posey Tube to the new horseshoe connector, the WB I-980/Jackson Street off-ramp would be realigned to the south. Figure 1a shows the relocated Jackson Street off-ramp. The realigned off-ramp would touch down at-grade on 5th Street at the Alice Street intersection. Off-ramp and 5th Street traffic would

continue to be separated by a landscaped median past the condominium building at 428 Alice Street. 5th Street would be converted to a two-way street to accommodate condominium residents allowing vehicles to turn left or right onto 5th Street.

3. Removal of the existing NB I-880/Broadway off-ramp viaduct structure including the bridge deck and supporting columns.

Removing the NB I-880/Broadway off-ramp structure would provide the space for complete street improvements on 6th Street. It would also restore an element of the City of Oakland's street grid system by providing a continuous 6th Street between Oak Street and Broadway. Figure 1a shows where the existing NB I-880/Broadway off-ramp would be removed. This would provide for a more efficient street network, and it would allow traffic to be more evenly distributed on Oakland city streets. Also, it would improve traffic operations at the Broadway/6th Street and Broadway/5th Street intersections by eliminating the stream of traffic exiting the Broadway off-ramp and heading to the Webster Tube entrance. Instead, this traffic would use 6th Street and turn left at Webster Street to access the Webster Tube.

4. Widening of the NB I-880/Oak Street off-ramp.

The existing Oak Street off-ramp would be widened from a one- to a two-lane exit by restriping the NB I-880 mainline and reconfiguring the ramp terminus. Figure 2 shows the proposed widening at the NB I-880/Oak Street off-ramp and restriping on NB I-880. At the Oak Street intersection, the ramp would be further widened from one left-turn-only pocket lane, one through and left-turn lane, and one through and right-turn lane to provide one left-turn-only (SB) pocket lane, one through westbound (WB) lane, one through (WB) and right-turn (NB) lane, and one right-turn-only (NB) lane. Two new retaining walls would be constructed along the widened ramp's new edge of the shoulder. In advance of the Oak Street exit, NB I-880 would be restriped from four to five lanes, including a standard 1,400-foot-long auxiliary lane to accommodate the additional traffic resulting from the Broadway off-ramp removal.

5. Modification of 5th Street/Broadway access to the Webster Tube.

The 5th Street/Broadway entrance to the Webster Tube would be moved slightly east (refer to Figure 1a. Also, the 5th Street crosswalk on the east side of Broadway would be shifted east and considerably shortened, and the signal phasing would be modified to include a pedestrian-led signal phase for eastbound pedestrian traffic. This would improve safety by giving pedestrians priority over turning traffic. Also, this would improve truck access to the Webster Tube and minimize conflicts with other vehicular traffic.

6. Construction of a new through 6th Street connecting Oak Street to Broadway.

Improvements to 6th Street would be accomplished by turning the street into a one-way street in the westbound direction from Oak Street to Harrison Street and a two-way street from Harrison Street to Broadway (refer to Figure 1a). The lanes would be a minimum of 11 feet wide. There would be a minimum of two through lanes with additional turn pockets at

intersections in the westbound direction. There would be one lane in the eastbound direction from Harrison Street to Broadway.

A new sidewalk would be constructed along the south side between Broadway and Oak Street. Segments of the existing sidewalk along the north side between Oak Street and Broadway would be reconstructed to a minimum of 10 feet wide between Harrison and Alice streets to provide continuity for pedestrians. A continuous Class IV two-way cycle track would also be provided between Oak and Washington streets. Parking spaces would be provided along portions of this roadway.

7. Construction of a two-way bicycle/pedestrian path and walkway from Webster Street in Alameda to 6th Street in Oakland through the Posey Tube and from 4th Street in Oakland through the Webster Tube to Mariner Square Loop in Alameda.

The path would begin at Webster Street and Constitution Way in Alameda, would continue through the Posey Tube on the existing eastside walkway, and would exit the Tube via a new ramp with a hairpin turn at 5th Street. Figure 3shows the proposed bicycle and pedestrian improvements. The path in Alameda connecting to the Posey Tube would be realigned and widened. The path in Oakland would wrap around the back of the Portal building on 4th Street and continue onto Harrison Street. It would continue onto a Class I two-way bicycle/pedestrian path under I-880 just west of Harrison Street and connect to the Class IV two-way cycle track on 6th Street between Oak and Washington streets. The new bicycle and pedestrian ramp exit from the Posey Tube would require removal of the existing historic Posey Tube staircase to provide street level ADA-compliant access from the Tube.

The proposed project would improve access between Oakland and Alameda by opening the Webster Tube maintenance walkway to bicycle and pedestrian travel. The walkway would connect to the proposed path under I-880 at 4th Street (near the Posey Tube Portal building).It would continue onto 4th Street to Webster Street, and it would turn north through the existing parking lot on the west side of the Webster Tube entrance before making a hairpin turn to connect to the westside walkway inside the Tube.

On the Alameda side, the walkway would connect to existing bicycle and pedestrian facilities at Mariner Square Loop and Willie Stargell Avenue. The existing sidewalk within Neptune Park would be widened to match the proposed sidewalk to the north. Improvements inside the Tube would include widening the existing walkway, upgrading the existing railings, and relocating call boxes and fire extinguishers.

8. Modification of 5th, 7th, Madison, Jackson, Harrison, Webster, Oak, and Franklin streets.

The street modifications (refer to Figure 1a) would include replacing the dual right turns at the 7th Street/Harrison Street intersection with a single right-turn-only lane and removing the free right turn (where the island allows cars to turn right without stopping) at the 7th Street/ Jackson Street intersection. These would no longer be needed because Alameda traffic bound for NB/SB I-880 would be better served by the right turns from the Posey Tube to 5th Street. With the removal of the free right turns, vehicles would observe the traffic signal before

turning right. With the curb extension proposed at this location, the pedestrian crossing distance would be shortened, which would decrease vehicle-pedestrian conflicts. In addition, a PHB beacon would be installed on 7th Street across the street from the Chinese Garden Park. There would also be restrictive right-turn movements to reduce bicycle and vehicle conflicts at the 5th/Broadway, 6th/Webster, 6th/Harrison, 6th/Jackson, 6th/Madison, 5th/Jackson, 8th/Oak, and 7th/Oak intersections.

A continuous sidewalk would be installed along the perimeter of Chinese Garden Park. Additional improvements, including landscaping modifications, could occur adjacent to the southern boundary of the park and would be coordinated through the City of Oakland.

Jackson Street between 5th and 6th streets would be converted from two- to one-way travel lanes in the northbound direction, and it would provide an emergency-only access lane.

Retaining Walls and Excavation

The proposed improvements would include construction of several new retaining walls along the NB I-880 Jackson Street on-ramp, WB I-980 Jackson Street off-ramp, NB I-880 Oak Street off-ramp, and new horseshoe connector. Retaining wall construction would minimize the need for right-of-way (ROW) acquisition. Table 1 lists the retaining walls needed for the proposed project including their locations and approximate dimensions. Table 2 lists the excavation depths of other proposed project features.

Table 1. Retaining Wall Locations and Dimensions (Oakland)

Wall Number	Location	Approx. Length (feet)	Height (feet)	Anticipated Excavation Depth (feet)
1	Supporting Harrison Street as Posey Tube right lane runs onto 5th Street	215	8-12	36
2	Supporting existing fill in front of the existing abutment at Harrison Street	65	8-30	13
3	Supporting the I-880 mainline	410	24-32	28
4	Supporting the Jackson Street abutment	145	17	2
4A	Supporting the Jackson Street abutment	60	10	20
4B	Supporting the Jackson Street abutment	60	14	20
5	Supporting cut slope south of 6th Street and parallel to existing NB I-880 Broadway off-ramp	510	4-22	44
6	Supporting Posey Tube bicycle/pedestrian switchback on the exit's east side	105	10	32
7	Supporting along the NB I-880 Oak Street off-ramp to accommodate an additional left-turn pocket	215	4-10	6
8R	Supporting reconstruction of the WB I-980 Jackson Street off-ramp (north wall)	230	24	32
8L	Supporting reconstruction of the WB I-980 Jackson Street off-ramp (south wall)	225	22	6
9	Supporting additional left-turn pocket for traffic from the Posey Tube at Harrison Street and 6th Street intersection	95	8	12
10	Supporting NB I-880 Oak Street off-ramp widening	399	12	4

Table 2. Excavation Depths

Feature	Description	Excavation Depth (feet)
OAKLAND		
Bike Path	Assumed pavement depth = 0.5’ PCC, 0.5’ CL 2 aggregate base (AB)	1
Roadway	Assumed pavement depth =0.75’ hot mix asphalt (HMA) (type A), 0.75’ class 2 AB, 1’ class 2 aggregate subbase (AS)	2.5
WB I-980 Jackson Street Off-ramp	New bents (columns) and an abutment	50
ALAMEDA		
Bike Path	Assumed pavement depth = 0.5’ PCC, 0.5’ class 2 AB	1
Roadway	Assumed pavement depth =0.75’ HMA (type A), 0.75’ class 2 AB, 1’ class 2 AS	2.5
Overhead Sign Foundation	Truss single-post Type V with assumed span length = 32’	20

Property Acquisitions

The proposed project would require the transfer of ROW from the following public entities: City of Oakland and City of Alameda. It would also require a permanent maintenance easement from Laney College to maintain a retaining wall for the Oak Street off-ramp. The Build Alternative would not result in the displacement of any residences or businesses.

Utilities

Existing Pacific Gas and Electric (PG&E) overhead distribution electric lines along 5th and Harrison streets would be relocated as part of the Build Alternative. Some of these overhead lines would be placed underground. Utility relocations may require trenching to a depth of approximately 6 feet. Positive location (potholing) would be performed to verify the location of mapped utilities. Table 3 lists proposed utility work for the Build Alternative.

Table 3. Proposed Utilities, Operational Elements, and Drainage Systems

Location	Type of Work	Utility/Service System	Size
Harrison Street from 4th to 5th streets	Relocate existing overhead utilities underground. Relocate fire hydrant.	*Pacific Gas & Electric (PG&E):* Electric *American Telephone and Telegraph Company (AT&T):* Telecom *East Bay Municipal Utility District (EBMUD*	Overhead lines (both) 6" water line
	Relocate fire hydrant.	*EBMUD:* Water	6" water line
5th Street from Harrison to Jackson streets	Protect existing underground utilities in place. Possible permanent relocation.	*EBMUD:* Water *City of Oakland:* Sewer and storm drain *PG&E:* Gas *AT&T:* Fiber optic	4", 6" water lines 8" sewer lines 21", 24" storm drain 2" gas lines
5th Street from Webster to Harrison streets	Protect existing underground utilities in place. Possible temporary relocation.	*EBMUD:* Water *City of Oakland:* Sewer and storm drain *PG&E:* Gas	4", 6" water lines 8" sewer lines 24" storm drain 1-1/4" gas lines
Posey Tube Walkway	Protect existing underground utilities in place. Possible permanent relocation.	*EBMUD:* Water *City of Oakland:* Sewer and storm drain *PG&E:* Gas *AT&T:* Fiber optic	10" water lines 8" sewer lines 24" storm drain 1-1/4", 2" gas lines
	Install new lines.	*Caltrans:* Street lighting and drainage	New – TBD
6th Street from Oak Street to Broadway	Install new lines.	*EBMUD:* Water *City of Oakland:* Sewer and storm drain *PG&E:* Gas	New – TBD Existing lines will be relocated if is determined they are in conflict.
	Protect in place.	*PG&E:* 115 kilovolt (kV) Electric	Unknown size
Jackson Street Horseshoe	Install new lines.	*Caltrans:* Street lighting and storm drains	New – TBD
Intersections • 3rd/Oak	Modify traffic and bicycle signals.	*City of Oakland:* Traffic signals and lighting	N/A

• 5th/Broadway • 5th/Jackson • 5th/Oak • 6th/Harrison • 6th/Broadway • 7th/Harrison • 7th/Jackson • 7th/Oak • 8th/Oak • 9th/Oak			
Intersections • 6th/Jackson • 6th/Webster • 6th/Franklin • 6th/Oak • 7th/Alice	Install new traffic signals. Install a PHB at 7th/Alice.	*City of Oakland:* Traffic signals and lighting	N/A

Construction Schedule

Construction activities would last approximately 36 months. Construction is expected to begin in mid-2023. There would be two major stages with several phases in each. The first stage would include construction of the Jackson Street horseshoe and associated improvements on the southside of I-880 as well as the widening of the walkway in the Webster Tube. The second stage would include widening of the NB I-880/Oak Street off-ramp, removal of the Broadway NB I-880 off-ramp, and construct 6th Street improvements with associated elements on the northside of I-880.

Construction equipment would be staged in areas underneath I-880 that are owned by Caltrans and currently leased as parking lots. Construction activities would be completed during the day; however, nighttime work would be needed to minimize impacts to traffic, especially in the Webster Tube. Caltrans would continue to coordinate with the cities of Oakland and Alameda to develop and implement a Transportation Management Plan (TMP) and other measures to minimize construction impacts on the human and natural environment. As part of the TMP, a shuttle may be needed to transport bicyclists and pedestrians between Oakland and Alameda during construction.

The proposed project contains a number of standardized project measures which are employed on most, if not all, Caltrans projects. They were not developed in response to any specific environmental impacts resulting from the proposed project.

1.3 Project Location

The Project is located in the Oakland West United States Geological Survey (USGS) 7.5 Minute quadrangle in the cities of Oakland and Alameda in the County of Alameda. The Project is found in the Mount Diablo meridian: Section 35, Township 1S, Region 4W; and Section 2, Township 2S, Region 4W. The entire Project is surrounded by commercial development mixed with residential communities. The Oakland Project limits (north) connect to the Alameda Project limits (south) via the Posey and Webster Tubes, which run beneath the Oakland Estuary.

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Chapter 2 Study Methods

2.1 Regulatory Requirements

The following Federal regulatory requirements and laws apply to the proposed Project:

- National Environmental Policy Act (NEPA) (42 United States Code § 4321)
- Federal Endangered Species Act (FESA) (16 United States Code § 1531)
- Migratory Bird Treaty Act (MBTA) (16 United States Code §§ 703-712)

The following State regulatory requirements and laws apply to the proposed Project:

- California Environmental Quality Act (CEQA) (Public Resources Code, Division 13 § 21000 et seq.)
- California Endangered Species Act of 1984 (CESA) Fish and Game Code § 2050 et seq.
- Protection of Migratory Birds (Fish and Game Code §§ 3503 and 3800)
- Protection of Bats (Fish and Game Code § 2000 ,2002, 2014 and 4150), and under California Code of Regulations § 251.1.

2.2 Studies Required

Biological study areas (BSAs) were established that encompassed the Project limits and surrounding areas potentially inhabited by regional special-status species that could be affected directly or indirectly by the Project (Figure 5). A BSA is defined as the area (land and water) that may be directly, indirectly, temporarily, or permanently impacted by construction and construction activities. The BSA does not include underground portions of the Webster or Posey tubes, as these manmade structures located under the waters of San Francisco Bay have no potential to contain biological resources.

Biological surveys and studies were performed to satisfy the requirements of NEPA and CEQA, to document all special-status species that potentially occur in the BSAs, and to identify all potential Project impacts on protected resources or critical habitats. Special-status species include those listed as endangered, threatened, or rare under FESA or CESA; plants listed as rare by California Native Plant Society (CNPS); migratory birds protected under the MBTA; and State Species of Special Concern (SSC).

2.2.1 Database and Literature Searches

Information about habitat types and special-status species that can occur in the BSAs was obtained from the following sources:

- U. S. Fish and Wildlife Service (USFWS) online database for federally threatened and endangered species (USFWS 2017a; updated 2020).
- National Oceanic and Atmospheric Administration (NOAA) Fisheries California Species List Tools (NOAA Fisheries 2020).
- California Department of Fish and Game (CDFW), California Natural Diversity Database (CNDDB 2017; updated 2020).
- CNPS Online Inventory of Rare and Endangered Plants (CNPS 2017; updated 2020).

These databases were queried for all occurrence records within the following four USGS quadrangles: Oakland West, Oakland East, San Leandro, and Hunters Point. Because these four quadrangles are within 5-miles of both the Oakland and Alameda BSAs, the database results apply equally to both BSAs.

The USFWS and NOAA Fisheries databases were utilized to query all federally endangered, threatened, candidate, and proposed animal and plant species as well as designated critical habitat (defined as habitats determined to be essential for the survival of that species) with known occurrences in the BSAs.

Results from the USFWS and CNDDB databases were refined using available scientific literature, aerial imagery, site visits, and CNPS databases to determine which special-status species have the potential to occur in the BSA and to be affected by the proposed Project. If suitable habitat was not present for a sensitive species within the BSAs, the species was not given consideration beyond its inclusion on the special-status species tables.

The results of all database queries are presented in Appendix B.

2.2.2 Personnel and Survey Dates

Biological surveys were conducted to determine the presence or absence of special-status plants and wildlife, along with potential habitat for special-status species. Each BSA was surveyed using the pedestrian method, by walking accessible portions of the BSA, and photo-documenting existing habitat conditions as well as potential habitat for special-status species. General notes were also collected, including observed plants and wildlife. All species observed during biological surveys are listed in Appendix C. Representative site photographs collected during biological surveys are provided in Appendix D. The results of tree surveys are presented in Appendix E.

The credentials for survey personnel are:

- Sandra Etchell, B.A., Biology; M.S. Environmental Management; 24 years of experience

- Jared Elia, B.S. Environmental Science; 13 years of experience
- Gregory Wattley, B.S., Biology; M.S. Environmental Biology; 14 years of experience
- Scott Elder, B.S., Environmental Geography; 6 years of experience
- Cuyler Stapelmann, B.S., Conservation and Resource Studies; 9 years of experience

2.2.2.1 OAKLAND BSA SURVEYS

Table 4 summarizes the survey types, dates, and Project personnel involved with biological surveys conducted to date within the Oakland BSA.

Table 4. Biological Field Surveys in the Oakland Biological Study Area

Survey Type	Date(s)	Areas Surveyed	Personnel
Botanical and Wildlife	August 14, 2015	Oakland portion of the BSA, along I-880	S. Etchell S. Elder
Botanical and Wildlife	November 4, 2015	Oakland portion of the BSA, along I-880	S. Elder J. Elia
Wetlands Delineation	January 15, 2016	Oakland portion of the BSA	J. Elia
Botanical, Wildlife and Wetlands	July 11, 2017	Oakland portion of the BSA at Lake Merritt channel	S. Elder J. Elia
Botanical and Wildlife	December 20, 2017	Oakland portion of the BSA along I-880	J. Elia S. Elder G. Wattley
Wetlands Delineation	September 16, 2019	Oakland portion of the BSA along Oak Street	G. Wattley
Trees	October 22, 2019	Oakland portion of the BSA	C. Stapelmann

2.2.2.2 ALAMEDA BSA SURVEYS

Table 5 summarizes the survey types, dates, and Project personnel involved with biological surveys conducted to date within the Alameda BSA.

Table 5. Biological Field Surveys in the Alameda Biological Study Area

Survey Type	Date(s)	Areas Surveyed	Personnel
Botanical and Wildlife	December 18, 2015	Alameda portion of the BSA	S. Elder J. Elia
Wetlands Delineation	January 15, 2016	Alameda portion of the BSA	J. Elia
Wetlands Delineation and Botanical Surveys	March 30, 2018	Alameda portion of the BSA	J. Elia G. Wattley
Trees	October 22, 2019	Alameda portion of the BSA	C. Stapelmann

2.3 Agency Coordination

There has been no agency coordination to date.

2.4 Limitations That May Influence Results

The BSAs are primarily within public areas and accessible; however, portions of the BSA were located in private property or areas off-limits to pedestrians, such as freeway on- and off-ramps.

Chapter 3 Environmental Setting

3.1 Physical and Biological Conditions in the Biological Study Area

3.1.1 Physical Conditions

3.1.1.1 Precipitation and Data Analysis

Both the Oakland and Alameda BSAs are in Alameda County and experience the same climate patterns. According to the Köeppen climate classification system, the BSAs experience a Mediterranean climate, characterized by hot, dry summers and mild, moist winters (George, no date). Precipitation generally occurs between mid-October and mid-April. A climate summary report obtained from the closest NOAA weather station (Western Regional Climate Center 2018) with similar elevation and topography indicates the following:

Oakland International Airport (046335)

- Average annual rainfall for Oakland is 18.03 inches
- Average minimum and maximum temperatures are 50.0 and 65.0º F

Precipitation data for Oakland were reviewed for the years between 1948 and 2016. The maximum average temperature is 73.4 ºF in September; the lowest average temperature is 55.3 ºF in January. The wettest month of the year is January with an average rainfall of 3.71 inches, and the driest month is July with an average of 0.04 inches.

3.1.1.2 Hydrology

The proposed Project lies on either side of Oakland Estuary, which is connected to San Francisco Bay. The National Wetland Inventory (NWI: USFWS 2017b) map depicts waterbodies present within and surrounding the BSAs (Figure 6). These include Lake Merritt Channel, Oakland Estuary, and unnamed ponds.

Oakland BSA

Runoff within the Oakland BSA primarily collects along the roadway shoulders, conveys into underground storm drainage systems, and flows into Lake Merritt Channel and Oakland Estuary (Sowers 2000; Schaaf and Wheeler 2008).

Lake Merritt Channel connects Lake Merritt to the Oakland Estuary. A pump station and tide gate regulate the tidal exchanges between Lake Merritt Channel and Oakland Estuary. During the summer, water levels within Lake Merritt Channel are kept high for recreational activities. In the winter, the water levels are kept low to accommodate storm flows. The tide gate and pump

station that regulate these water levels are located upstream (north) of the BSA at the 7th Street crossing.

Alameda BSA

As in the Oakland BSA, runoff within the Alameda BSA collects along the roadway shoulders, conveys into underground storm drainage systems, and flows towards the Oakland Estuary (Sowers 2000; Schaaf and Wheeler 2008).

3.1.1.3 TOPOGRAPHY AND SOILS

The elevations of the BSAs range from approximately sea level to 35 feet. The flat portions of the BSAs near sea level were reclaimed from relic tidal marshlands (Sowers 2014). Figure 7 shows a topographic map of the Project location.

Oakland BSA

The Oakland BSA is located on the southern slope of the knoll that supports Downtown Oakland. The BSA also includes flatter sections as it approaches the east and west margins of the BSA (Sowers 2014). The elevation ranges from approximately 5 feet to 35 feet (USGS 2001).

According to the *Soil Survey of Alameda County, California, Western Part* (USDA 2017), the following soil types are associated with the Oakland BSA:

Urban Land – This soil type consists of urban lands covered by buildings, roadways, parking lots, and other structures found in the Oakland and Alameda BSA. The soil in this area is made up of heterogeneous fill derived from various sources. A lot of areas in the BSA have been classified under this mapped soil designation, which consists of reclaimed land adjacent to the San Francisco Bay. According to the USDA (2017), this soil type has not been assigned a Hydrologic Soil Group.

Urban Land – Baywood Complex – A majority of the Oakland BSA is mapped as containing Urban Land – Baywood complex soil. This soil type consists of a mixture of approximately 60% urban land, 35% Baywood sandy loam, and 5% of various other soil types. Elevations for this soil complex range between 10 to 60 feet. Slopes range from 0 to 8%, with a majority between 2 to 5%. Runoff is slow to medium, and permeability is rapid. The Hydrologic Soil Group is A. If left bare, wind erosion can become a hazard.

Alameda BSA

The Alameda BSA is located on Alameda Island. The main topographic feature is a ridgeline that runs down the middle of the island in a northwest-southeast direction (Schaaf and Wheeler 2008). The Alameda BSA is located on the northern side of the ridgeline, where the terrain

gently slopes toward Oakland Estuary. Elevations in this section range from sea level to approximately 10.6 feet (USGS 2001).

The majority of the Alameda BSA is also Urban Land-Baywood complex, and also contains the Urban Land soil type. In addition, the *Soil Survey of Alameda County, California, Western Part* (USDA 2017), indicates that the following soil type is associated with the Alameda BSA:

Xerorthents, Clayey – This soil type consists of clayey material used as fill for construction sites. These soils are typically dark brown to grayish brown in color. The texture is mainly heavy clay loam, but also includes some silty-clay and clays. The soil profile consists of up to 15% asphalt, concrete, sandstone, and glass debris. Permeability is slow to very-slow; also, runoff is very slow. The Hydrologic Soil Group is D.

3.1.2 Biological Conditions

For this Project, the BSAs consist mainly of urban and developed areas; sensitive biological resources are not expected to be present.

3.1.2.1 VEGETATION COMMUNITIES

This section describes the vegetation communities within the BSAs. It contains a list of all of the species, including vegetation observed at each location.

Urban

Vegetation associated with urban habitats is found throughout areas where there are residential and commercial developments. In this habitat type, vegetation is sparse and very disturbed. It consists mainly of manicured lawns, ornamental trees and shrubs, mixed with buildings (commercial and residential), and does not provide suitable habitat for sensitive plants.

Oakland BSA – Urban vegetation is present within the Oakland BSA. Trees observed in this community included eucalyptus (*Eucalyptus* spp.), Southern magnolia (*Magnolia grandiflora*), acacia (*Acacia* ssp.), and myoporum (*Myoporum laetum*). Some public parks in the northern portion of the BSA had mature native trees including coast live oaks (*Quercus agrifolia*) and Monterey pine (*Pinus radiata*). Landscape shrubs included oleander (*Nerium oleander*), pampas grass (*Cortaderia jubata*), and rosemary (*Rosmarinus officinalis*). Herbaceous species included dandelion (*Taraxacum* sp.), English ivy (*Hedera helix*) and blue bunchgrass (*Festuca idahoensis*). This habitat is found in small, isolated patches, and located north of I-880 between Harrison Street and Alice Street. No special-status wildlife species were observed within this habitat type in the BSA.

Alameda BSA – The Alameda portion of the BSA also primarily consists of urban habitat. Trees observed in the urban habitat areas included eucalyptus (*Eucalyptus sideroxylon*), acacia,

sycamore (*Plantanus* sp.), and Monterey pine. Shrubs included pampas grass and Himalayan blackberry (*Rubus armeniacus*). Wildlife species observed there included Anna's hummingbird, yellow-rumped warbler (*Setophaga coronata*), mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), black phoebe (*Sayornis nigricans*), American crow, house finch (*Haemorhous mexicanus*), California towhee (*Melozone crissalis*), western gull (*Larus occidentalis*), and feral cat (*Felis catus*). No special-status wildlife species were observed within this habitat type in the BSA.

Annual Grassland

Annual grasslands consist of non-native or naturalized annual grasses, such as wild oats (*Avena sp.*), barley (*Hordeum sp.*), and brome species (*Bromus sp.*), including soft chess (*Bromus hordeaceus*). The species composition varies widely depending on weather but the habitat generally has a water deficit for four to eight months annually (Barbour et al. 2007). Grasses germinate in the fall, but do not grow vigorously until temperatures increase. By the summer, fields typically contain a large amount of dead plant material.

Oakland BSA – The Oakland BSA contains small patches of annual grassland interspersed throughout the BSA. The acreage for annual grasslands was not calculated due to the insignificant size of grasslands present but it lies within the mapped urban areas.

Alameda BSA – The Alameda BSA has approximately 1.7 acres of grassland habitat. This habitat is located on the southeast side of the Alameda portion (in a historically, disturbed, undeveloped area) of the BSA. There is a fenced parcel in this section which had been a part of the Union Pacific Railroad (UPRR) alignment. Habitat in this area is dominated with non-native grasses, shrubs and trees including coyote brush (*Baccharis pilularis*), cutleaf geranimum (*Geranium dissectum*), Italian ryegrass (*Festuca perennis*), narrow leaved plantain (*Plantago lanceolata*), mallow (*Malva* sp.), Pacific bentgrass (*Agrostis avenacea*), and wild oats (*Avena fatua*). Wildlife observed in the grasslands included mourning dove and bushtit (*Psaltriparus minimus*).

Ruderal

Ruderal plant communities consist of varied, often temporary, collections of mostly non-native plants along roadsides or other disturbed areas. Shallow soils may be underlain by gravel and compacted or hard-pan surfaces, preventing many plants from establishing. Aggressive, invasive weeds, such as brome grasses and thistles typically thrive in ruderal habitats (Holland and Keil 1995). Ruderal areas along the I-880 corridor and along roadways in the Alameda portion of the BSA contained sweet fennel (*Foeniculum vulgare*), bristly ox-tongue (*Helminthotheca echioides*), and pearly everlasting (*Anaphalis margaritacea*). Ruderal vegetation exists in disturbed locations throughout the urban areas, and due to the lack of suitable habitat for

special-status species and its similarity to urban communities, it has not been mapped separately but is within the mapped urban areas.

Saline Emergent Wetlands

Saline emergent wetland consists of salt or brackish marsh growing on intertidal flats from mean sea level to extreme high tide. Cordgrass (*Spartina alterniflora*) grows in the areas of highest salinity, transitioning to pickleweed (*Salicornia pacifica*) and then to saltgrass (*Distichlis spicata*) in the least frequently inundated parts of the habitat (Springer 1988). Saline emergent wetland has been subject to submergence from sea level rise for several thousand years (Springer 1988). The San Francisco Bay area contains the majority of this habitat in the state (Holland and Keil 1995).

Oakland BSA – Lake Merritt Channel connects the Oakland Estuary and Lake Merritt. A narrow fringe of saline emergent vegetation is present just above the mean high tide line. Vegetation consisted of pickleweed (*Salicornia pacifica*), saltgrass, marsh jaumea (*Jaumea carnosa*), and gumplant (*Grindelia stricta*).

Alameda BSA – An approximately 500-foot-long tidally influenced swale is just outside the Alameda BSA. The swale is oriented parallel to and east of Mariner Square Drive. The swale supports sparse saline emergent vegetation including salt grass, pickleweed, and an occasional gumplant. Wildlife species observed included white-crowned sparrow (*Zonotrichia leucophrys*), American crow (*Corvus brachyrhynchos*), raccoon (*Procyon lotor*), and mosquitofish (*Gambusia affinis*).

Estuarine

Estuarine habitats are diverse coastal waterbodies containing a mixture of seawater and freshwater. They may have continuous influxes from both marine and landward sources, such as estuaries, tidal flats, eel-grass meadows, or tidal marshes. These habitats may also be enclosed, rarely receiving salt water, such as coastal lagoons (Smith 1988) and it is extremely sensitive to sea level rise. Estuarine wetlands are highly productive ecosystems, supporting large numbers of invertebrates, fish, and birds (Barbour et al. 2007).

Oakland BSA – A narrow fringe of saline emergent vegetation is present just above the mean high tide line in Lake Merritt Channel. Vegetation consisted of pickleweed (*Salicornia pacifica*), saltgrass, marsh jaumea, and gumplant (*Grindelia stricta*). There is a total of 0.02 acres of estuarine habitat in the Oakland BSA. Species observed in the estuarine waters included striped bass (*Morone saxatilis*) and bat ray (*Myliobatis californica*).

Alameda BSA – There is no estuarine habitat in the Alameda BSA.

3.1.2.2 HABITAT CONNECTIVITY

The BSAs do not provide habitat connectivity for wildlife due to the presence of dense urbanization. Wildlife that dwell in urban environments, such as raccoons, skunks, and opossums typically establish small territories that they seldom venture from.

Oakland BSA – Deer, foxes, and coyotes may be present in the hilly terrain east of Oakland but the vast networks of freeways and streets would present hazardous or fatal results if these species enter urban areas such as those contained within the BSA. Lake Merritt Channel may provide habitat connectivity for some species of fish that pass through the area into Lake Merritt.

Alameda BSA – The Alameda BSA provides limited habitat connectivity for urban wildlife such as raccoons and opossums.

3.2 Regional Species and Habitats of Concern

3.2.1 Sensitive Natural Communities

Sensitive natural communities are recurring associations of plants and animals found in particular locations with specific physical conditions. Natural Communities of Special Concern are communities with assemblages of plants, animals, and natural resources that may have high species diversity, high productivity, limited distribution, decreasing range, or unusual characteristics. Natural Communities of Special Concern present in or near the BSAs, as designated by CDFW, may include wetlands and "Waters of the U.S.," "Other Waters of the State," protected trees, riparian habitats, and essential fish habitats (EFH). In order to identify and address natural communities of special concern, CDFW developed the Natural Community Conservation Planning (NCCP) program to focus on conservation planning of sensitive natural resources.

The NCCP program (established from F.G.C. Section 2800) seeks to combine CDWF's objective with public and private shareholders interest to invest in a broad-based ecosystem approach relative to planning and longevity of the State of California's biological diversity. The NCCP program attempts to identify and provide protection of plants, wildlife, and critical habitats. The NCCP program is used by the California mandated Vegetation Classification and Mapping Program (VegCAMP) that requires CDFW to develop and maintain a vegetation mapping system in accordance with Fish and Game Code Section 1940. Sensitive natural communities mapped using VegCAMP are maintained in the CNDDB.

A CNDDB online database search resulted in a total of three sensitive natural communities that occur within the four USGS quadrangles within a 5-mile radius of the BSAs. The natural communities listed and their proximity to the BSAs are included in Table 6.

Table 6. Natural Communities of Special Concern in the BSAs

Sensitive Natural Community	Present in BSAs	Proximity to BSAs
Northern Coast Salt Marsh	No	Occurrence 51, Arrowhead Marsh, is located approximately 3.7 miles south of the BSAs. Occurrence 19, a marsh situated along the shoreline, west of I-80 extending from Emeryville then west along the north side of I-80 to the end of the shoreline beneath the westbound span of the Bay Bridge, is located 1.7 miles north of the BSAs.
Northern Maritime Chaparral	No	Occurrence 12, Huckleberry Ridge on East Bay Regional Park Land, is located 5 miles northeast of the BSAs.
Serpentine Bunchgrass	No	Occurrence 12, Redwood Regional Park, is located approximately 5.3 miles east of the BSAs.

3.2.2 Special-Status Plant Species

A list of sensitive plant species potentially occurring within the Project vicinity was developed based on information compiled from CNDDB, CNPS, species distribution, and habitat data. Biologists determined it is highly unlikely that special-status plants would occur in the BSAs based upon the types of habitat that each listed species occupies, historical records, and on observations made during site surveys. In general, historical and ongoing disturbance within the BSAs has degraded the integrity of the historical vegetation communities, limiting the potential for many special-status plants to occur in the BSAs.

Combined, the CNDDB, CNPS, and USFWS databases list a total of 45 special-status plants (including federally listed, State-listed, and/or CNPS List 1, 2, 3, and 4) that have occurrence records within a 5-mile radius of the BSAs. Table 7 lists the special-status plants generated from these databases and provides explanations for the potential presence or absence of these plants. The table provides the names and listed status of each species, descriptions of their preferred habitats, and their likelihood of occurrence in the BSAs. An effects determination is provided for federally listed species.

The results from all database queries are presented in Appendix B. A map of CNDDB plant occurrences is also provided in Appendix B.

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Table 7. Potential for Special-Status Plants to Occur within the Biological Study Areas (BSAs)

Scientific Name Common Name	Listing Status Fed/State/CNPS			Flowering Period	Habitat Preferences	Potential to Occur within the BSAs	FESA Effects Determination
Amsinckia lunaris Bent-flowered fiddleneck	--	--	1B.2	Mar-Jun	Coastal bluff scrub, cismontane woodland**, valley and foothill grassland**; elev. 3-500 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Arctostaphylos pallida Pallid manzanita	FT	SE	1B.1	Dec-Mar	Broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub in siliceous shale, sandy or gravelly; elev. 185-465 m.	**None**. No forest, woodland, chaparral, or scrub habitat present.	Not present. No effect.
Astragalus tener var. *tener* Alkali milk-vetch	--	--	1B.2	Mar-Jun	Playas, **valley and foothill grasslands** in adobe clay, vernal pools with alkaline soils; elev. 1-60 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Balsamorhiza macrolepis Big-scale balsamroot	--	--	1B.2	Mar-Jun	Chaparral, cismontane woodland, **valley and foothill grassland** sometimes in serpentinite soils; elev. 90-1555 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Calochortus umbellatus Oakland star-tulip	--	--	4.2	Mar-May	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, **valley and foothill grassland** often in serpentine soil; elev. 100-700 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Carex comosa bristly sedge	--	--	2B.1	May-Sep	Coastal prairie, marshes and swamps along lake margins, **valley and foothill grassland**; elev. 0-625 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a

Scientific Name **Common Name**	**Listing Status Fed/State/CNPS**			**Flowering Period**	**Habitat Preferences**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Castilleja ambigua var. *ambigua* Johnny-nip	--	--	4.2	Mar-Aug	Coast bluff scrub, coastal prairie, coastal scrub, **marshes** and swamps, **valley and foothill grassland,** vernal pools; elev. 0-435 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Centromadia parryi ssp. congdonii Congdon's tarplant	--	--	1B.1	May-Oct	**Valley and foothill grassland** in alkaline soils; elev. 0-230 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Chloropyron maritimum var. *palustre* Point Reyes bird's-beak	--	--	1B.2	Jun-Oct	**Coastal salt marshes** and swamps; elev. 0-10 m	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Chorizanthe cuspidata var. *cuspidata* San Francisco Bay spineflower	--	--	1B.2	Apr-Aug	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub in sandy soil; elev. 3-215 m.	**None**. No scrub, dunes, or prairie habitat in BSAs.	n/a
Chorizanthe robusta var. *robusta* Robust spineflower	FE	--	1B.1	Apr-Sep	Cismontane woodland, coastal dunes, coastal scrub. Sandy terraces and bluffs or in loose sand; elev. 3-120 m.	**None**. No woodlands, dunes or scrub habitats in BSAs.	Not present. No effect.
Clarkia concinna ssp. *automixa* Santa Clara red ribbons	--	--	4.3	Apr-Jul	Chaparral, cismontane woodland; elev. 90-1500 m.	**None**. No chaparral or woodlands present in BSAs.	n/a
Clarkia franciscana Presidio clarkia	FE	SE	1B.1	May-Jul	Coastal scrub, valley and foothill grassland in serpentinite soil; elev. 0-20 m.	**None**. No scrub habitat or serpentine soils present in BSAs.	Not present. No effect.

Scientific Name Common Name	Listing Status Fed/State/CNPS			Flowering Period	Habitat Preferences	Potential to Occur within the BSAs	FESA Effects Determination
Dirca occidentalis Western leatherwood	--	--	1B.2	Jan-Apr	Broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, mesic riparian woodland; elev. 25-425 m.	**None**. No forests, chaparral, or woodland habitats in the BSAs.	n/a
Eriogonum luteolum var. *caninum* Tiburon buckwheat	--	--	1B.2	May-Sep	Chaparral, cismontane woodland, coastal prairie, **valley and foothill grassland** in sandy to gravelly serpentinite soil; elev. 0-700 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Eryngium jepsonii Jepson's coyote thistle	--	--	1B.2	Apr-Aug	**Valley and foothill grassland**, vernal pools in clay soil; elev. 3-300 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Extriplex joaquinana San Joaquin spearscale	--	--	1B.2	Apr-Oct	Chenopod scrub, meadows and seeps, playas, **valley and foothill grassland** in alkaline soils; elev. 1-835 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Fissidens pauperculus Minute pocket moss	--	--	1B.2	n/a	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and in stream banks; elev. 10-100 m.	**None**. No forest habitat present.	n/a
Fritillaria liliacea Fragrant fritillary	--	--	1B.2	Feb-Apr	Cismontane woodland, coastal prairie, coastal scrub, **valley and foothill grassland** often in serpentinite soil; elev. 3-410 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a

Scientific Name Common Name	Listing Status Fed/State/CNPS			Flowering Period	Habitat Preferences	Potential to Occur within the BSAs	FESA Effects Determination
Gilia capitata ssp. *chamissonis* Blue coast gilia	--	--	1B.1	Apr-Jul	Coastal dunes, coastal scrub; elev. 2-200 m.	**None**. No dunes or scrub habitat present.	n/a
Gilia millefoliata Dark-eyed gilia	--	--	1B.2	Apr-Jul	Coastal dunes; elev. 2-30 m.	**None**. No dune habitat present.	n/a
Helianthella castanea Diablo helianthella	--	--	1B.2	Mar-Jun	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, **valley and foothill grassland**; elev. 60-1300 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Hemizonia congesta ssp. *congesta* Congested headed hayfield tarweed	--	--	1B.2	Apr-Nov	Northern coastal scrub, **valley and foothill grassland**. Sometimes serpentinite; elev. 20-560 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Heteranthera dubia Water star-grass	--	--	2B.2	Jul-Oct	Alkaline, still or slow-moving **marshes** and swamps. Requires a pH of 7 or higher, usually slightly eutrophic waters; elev. 30-1495 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Hoita strobilina Loma Prieta hoita	--	--	1B.1	May-Oct	Chaparral, cismontane woodland, mesic riparian woodland usually in serpentinite soil; elev. 30-860 m.	**None**. No chaparral or woodland habitat present.	n/a
Holocarpha macradenia Santa Cruz tarplant	FT	SE	1B.1	Jun-Oct	Coastal prairie, coastal scrub, **valley and foothill grassland**; elev. 10-220 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	Not present. No effect.
Horkelia cuneata var. sericea	--	--	1B.1	Apr-Sep	Closed-cone coniferous forest, maritime chaparral, coastal dunes,	**None**. No forest, chaparral, or dune habitat present.	n/a

Scientific Name Common Name	Listing Status Fed/State/CNPS			Flowering Period	Habitat Preferences	Potential to Occur within the BSAs	FESA Effects Determination
Kellogg's horkelia					coastal scrub in sandy or gravelly openings; elev. 10-200 m.		
Lasthenia conjugens Contra Costa goldfields	FE	--	1B.1	Mar-Jun	Cismontane woodland, playas in alkaline soils, **valley and foothill grassland**, vernal pools in mesic soils; elev. 0-470 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	Not present. No effect.
Layia carnosa Beach layia	FE	SE	1B.1	Mar-Jul	Coastal dunes, coastal scrub in sandy soil; elev. 0-60 m.	**None**. No dune or scrub habitat present.	Not present. No effect.
Leptosiphon acicularis Bristly leptosiphon	--	--	4.2	Apr-Jul	Chaparral, cismontane woodland, coastal prairie, **valley and foothill grassland**; elev. 55-1500m	**None**. BSAs are in historically disturbed urban areas. his species was not observed during botanical surveys.	n/a
Leptosiphon rosaceus Rose leptosiphon	--	--	1B.1	Apr-Jul	Coastal bluff scrub; elev. 0-100 m.	**None**. No scrub habitat present.	n/a
Meconella oregano Oregon meconella	--	--	1B.1	Mar-Apr	Coastal prairie, coastal scrub; elev. 250-620 m.	**None**. No prairie or scrub habitat present.	n/a
Micropus amphibolus Mount Diablo cottonseed	--	--	3.2	March-May	**Valley and foothill grassland**, cismontane woodland, broadleaved upland forest. Bare, grassy or rocky slopes; elev. 50-800 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Monolopia gracilens Woodland woolythreads	--	--	1B.2	Mar-Jul	Broadleafed upland forest in openings, chaparral in openings, cismontane woodland, north coast coniferous forest in openings, valley and foothill grassland in serpentine soils; elev. 100-1200 m.	**None**. No forest, chaparral, or woodland habitat present. No serpentine soil present in BSAs.	n/a

Scientific Name **Common Name**	**Listing Status Fed/State/CNPS**			**Flowering Period**	**Habitat Preferences**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Plagiobothrys chorisianus var. chorisianus Choris' popcorn-flower	--	--	1B.2	Mar-Jun	Chaparral, coastal prairie, mesic coastal scrub; elev. 15-160 m.	**None**. No prairie or scrub habitat present.	n/a
Plagiobothrys diffusus San Francisco popcorn-flower	--	SE	1B.1	Mar-Jun	Coastal prairie, **valley and foothill grassland**; elev. 60-360 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Polygonum marinense Marin knotweed	--	--	3.1	Apr-Oct	**Coastal salt or brackish marshes** and swamps; elev. 0-10 m	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Sanicula maritima Adobe sanicle	--	Rare	1B.1	Feb-May	Chaparral, coastal prairie, meadows and seeps, **valley and foothill grassland** in clay and serpentinite soils; elev. 30-240 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Spergularia macrotheca var. *longistyla* Long-styled sand-spurrey	--	--	1B.2	Feb-May	Meadows and seeps, **marshes** and swamps in alkaline soil; elev. 0-255 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Streptanthus albidus ssp. *peramoenus* Most beautiful jewel-flower	--	--	1B.2	Mar-Oct	Chaparral, **valley and foothill grassland**, cismontane woodland. Serpentinite outcrops, on ridges and slopes; elev. 120-730 m.	**None**. No serpentine soil present in BSAs.	n/a
Stuckenia filiformis ssp. alpine Slender-leaved pondweed	--	--	2B.2	May-Jul	Assorted shallow freshwater marshes and swamps; elev. 300-2150 m.	**None**. No freshwater marshes or swamps present in BSAs.	n/a

Scientific Name Common Name	Listing Status Fed/State/CNPS			Flowering Period	Habitat Preferences	Potential to Occur within the BSAs	FESA Effects Determination
Suaeda californica California seablite	FE	--	1B.1	Jul-Oct	**Coastal salt marshes** and swamps; elev. 0-15 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	Not present. No effect.
Trifolium hydrophilum Saline clover	--	--	1B.2	Apr-Jun	Marshes and swamps, **valley and foothill grassland**, vernal pools. Mesic, alkaline sites; elev. 0-300 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Triphysaria floribunda San Francisco owl's-clover	--	--	1B.2	Apr-Jun	Coastal prairie, coastal scrub, **valley and foothill grassland** usually in serpentinite soils; elev. 10-160 m.	**None**. BSAs are in historically disturbed urban areas. This species was not observed during botanical surveys.	n/a
Viburnum ellipticum Oval-leaved viburnum	--	--	2B.3	May-Jun	Chaparral, cismontane woodland, lower montane coniferous forest; elev. 215-1400 m.	**None**. No suitable habitat present.	n/a

Notes:
General Habitat Descriptions are based upon definitions utilized by the CNPS online Inventory of Rare and Endangered Plants (2019). Habitats present within the BSAs are emphasized with bold print.

Status Legend:
BSA = Biological Study Area
CNPS = California Native Plant Society
CNDDB = California Natural Diversity Database
FE = Listed as endangered under the Federal Endangered Species Act (FESA)
FT = Listed as threatened under the FESA
SE = Listed as endangered under the California Endangered Species Act (CESA)
ST = Listed as threatened under the CESA
Rare = State listed as rare by the CNPS Rare Plant Scientific Advisory
CT = Candidate Threatened
FP = Fully Protected

CNPS Rare Plant Ranks:
1B = Plants Rare, Threatened, or Endangered in California and elsewhere
2B = Plants Rare, Threatened, or Endangered in California but More Common Elsewhere
3 = Plants about Which More Information is Needed – A Review List

4 = Watch list: Plants of limited distribution
CNPS Threat Ranks:
0.1 – Seriously threatened in California
0.2 – Moderately threatened in California

Rationale Definitions:
In this report, evaluation of potential presence is based upon the types of habitat that each listed species occupies and on observations made during the 2015-2019 site surveys.
None = No possibility for occurrence.
Not likely = Habitat may be present, but this wildlife species has not been documented in the BSAs other than historical museum specimen records; however, potential for its presence cannot be ruled out entirely.
Low = Suitable habitat present; not likely to occur due to environmental constraints but cannot be ruled as absent.
Moderate = Potential to occur based on habitat suitability and documented records in the BSA region.
High = Species has been documented within the BSAs

3.2.3 Special-Status Wildlife Species

A total of 47 special-status wildlife species and protected habitats have potential to occur within the BSAs, as indicated by the CNDDB and USFWS online databases. Based on evaluation, it was determined that 6 special-status wildlife species could occur in the BSAs. Table 8 lists the special-status wildlife generated from the database searches and provides descriptions for the potential presence or absence of the wildlife, listed status, required habitats, and their likelihood of occurrence in the BSA. An effects determination is provided for federally listed species.

The results from all database queries are presented in Appendix B. A map of CNDDB wildlife occurrences is also provided in Appendix B.

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Table 8. Potential for Special-Status Wildlife to Occur within the Biological Study Area (BSAs)

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Invertebrates					
Bombus occidentalis Western bumble bee	--	CE	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease. Within California, the current range of this species is considered to be the far northeastern corner of the state.	**None**. Outside current range of this species.	n/a
Callophrys mossii bayensis San Bruno elfin butterfly	FE	--	Coast, mountainous areas, grassy ground cover, near San Bruno Mountain, San Mateo County.	**None**. Outside of the range of this species.	Not present. No effect.
Euphydryas editha bayensis Bay checkerspot bufferfly	FT	--	Restricted to native grasslands on outcrops of serpentinite soil in the vicinity of San Francisco Bay.	**None**. No serpentine soil or outcrops present in the BSAs.	Not present. No effect.
Fish					
Acipenser medirostris Green sturgeon – southern DPS	FT	SSC	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers at temperatures between 8 and 14 degrees Celsius. Preferred spawning substrate is large cobble; but can range from clean sand to bedrock.	**None.** This species could occur in the Inner Channel Harbor and Oakland Estuary, which is beyond the BSAs. The Project will not impact those areas.	Not present. No effect.

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Critical Habitat for Green sturgeon – southern DPS	FT	SSC	Estuarine, salt marsh, and freshwater streams.	**None.** Not present within the BSAs.	Not present. No effect.
Oncorhynchus mykiss irideus Steelhead –- central California coast DPS	FT	--	Occurs from Russian River south to Soquel Creek and to, but not including, Pajaro River. Also found in San Francisco Bay and San Pablo Bay basins.	**None.** This species could occur in the Inner Channel Harbor and Oakland Estuary, which is beyond the BSAs.	Not present. No effect.
Critical Habitat for Steelhead –- central California coast DPS	FT	--	Creeks with dense riparian cover.	**None.** Not present within the BSAs.	Not present. No effect.
Oncorhynchus mykiss irideus Steelhead – Central Valley DPS	FT	--	Populations in the Sacramento and San Joaquin rivers and their tributaries.	**None.** This species could occur in the Inner Channel Harbor and Oakland Estuary, which is beyond the BSAs.	Not present. No effect.
Oncorhynchus tshawytscha Chinook salmon – Central Valley spring run ESU	FT	ST	Populations occur in the Sacramento and San Joaquin rivers and their tributaries. Spring-run Chinook migrate far upstream in the spring, shelter in deep, cool pools, waiting to spawn until fall when temperatures decrease. After hatching, juveniles spend at least one summer in freshwater rearing areas, so the stream must have either perennial flow or cool intermittent pools with subsurface flow during the dry season.	**None.** This species could occur in the Inner Channel Harbor and Oakland Estuary, which is beyond the BSAs.	Not present. No effect.

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Oncorhynchus tshawytscha Chinook salmon – Sacramento River winter run ESU	FE	SE	Occur in the San Francisco Bay Estuary. Winter-run chinook migrate through Sacramento River to spawning grounds from December to July. Spawning is limited to the river from between the Red Bluff Diversion and Keswick Dam in Redding.	**None.** This species could occur in the Inner Channel Harbor and Oakland Estuary, which is beyond the BSAs.	Not present. No effect.
Critical Habitat for Chinook salmon – Sacramento River winter run ESU	FE	SE	Large freshwater rivers.	**None.** Not present within the BSAs.	Not present. No effect.
Essential Fish Habitat for Salmonids (coho and chinook)	--	--	San Francisco Bay and tributaries.	**None.** Salmonids could occur in the Inner Channel Harbor and Oakland Estuary, which are beyond the BSAs.	n/a
Hypomesus transpacificus Delta smelt	FT	SE	Inhabits Sacramento-San Joaquin Delta, seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Seldom found at salinities greater than 10 ppt. Most often at salinities less than 2 ppt.	**None.** This species could occur in the Inner Channel Harbor and Oakland Estuary, which are beyond the BSAs.	Not present. No effect.
Spirinchus thaleichthys Longfin smelt	FC	ST, SSC	Anadromous. Capable of adapting/tolerating a wide range of salinities. Found in open waters of estuaries. Prefer salinities of 15-30 ppt, but can be found in completely freshwater to almost pure seawater.	**None.** This species could occur in the Inner Channel Harbor and Oakland Estuary, which is beyond the BSAs.	Not present. No effect.

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Eucyclogobius newberryi Tidewater goby	FE	SSC	**Brackish water habitats** along the Calif. coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels. They rarely move into marine or freshwater habitat.	**Low.** There is a CNDDB occurrence (#89) in Lake Merritt, but Lake Merritt and Lake Merritt Channel would not be impacted by the Project. Water quality BMPs would prevent any impact to tidewater goby habitat from stormwater runoff.	No effect.
Essential Fish Habitat for Groundfish	--	--	Marine and estuarine areas, including all of San Francisco Bay and Petaluma River.	**None.** Habitat for groundfish could occur in the Inner Channel Harbor and Oakland Estuary, which are beyond the BSAs.	--
Essential Fish Habitat for Coastal Pelagics	--	--	Marine and estuarine areas, including all of San Francisco Bay and Petaluma River.	**None.** Habitat for coastal pelagic fish species could occur in the Inner Channel Harbor and Oakland Estuary, which are beyond the BSAs.	--
Amphibians					
Ambystoma californiense California tiger salamander	FT	ST	In the coast region, populations are scattered from Sonoma County to Santa Barbara County. Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	**None**. No suitable breeding pools or uplands habitat is present. This species is not known to occur within a 5-mile radius of the BSAs. Occurrence 529 is for a museum specimen collected in Alameda in 1886 but there are no records since that time.	Not present. No effect.
Rana boylii Foothill yellow-legged frog	--	CT, SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	**None**. No suitable habitat present. Outside of the range of this species.	n/a
Rana draytonii California red-legged frog	FT	SSC	Occurs in a variety of ponds, sloughs, low-gradient streams, and low-salinity lagoons. Adults may forage in, and migrate through, terrestrial grasslands, riparian woodlands, and forests, but	**None**. No stream habitat suitable for breeding is present in the BSAs; there are no CNDDB records within a 5-mile radius.	Not present. No effect.

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
			require weedy, slow moving or standing water that persists through most of the dry season for successful reproduction. Introduced bullfrogs and predatory fish are implicated in the decline of red-legged frogs throughout their range.		
Reptiles					
Emys marmorata Western pond turtle	--	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**None**. No suitable aquatic habitat present in the BSAs. The only CNDDB record within a 5-mile radius is for a museum specimen collected in Lake Temescal with no date listed.	n/a
Chelonia mydas Green sea turtle	FT	--	Require beaches for nesting, open ocean convergence zones, and coastal areas for benthic feeding.	**None**. No coastal marine habitat present.	Not present. No effect.
Masticophis lateralis euyxanthus Alameda whipsnake	FT	ST	Typically found in chaparral and scrub habitats, but would also use adjacent grassland, oak savanna and woodland habitats.	**None**. The BSAs are outside of the range of this species.	Not present. No effect.
Birds					
Aquila chrysaetos Golden eagle	--	FP	Found in rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**None**. No suitable nesting habitat within BSAs. It is highly unlikely that this species would nest in a highly urbanized area.	n/a

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Circus hudsonius Northern harrier	--	SSC	Coastal salt & freshwater marsh. Nest & forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge. Nest built of a large mound of sticks in wet areas.	**None**. No suitably sized grasslands or marshes available for undisturbed nesting habitat within BSAs.	n/a
Elanus leucurus White-tailed kite	--	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**None**. Large trees in the BSAs could provide nesting habitat but the highly urbanized BSAs are an unlikely nesting location. The only CNDDB record within a 5-mile radius is for a pair that nested at the Berkeley Yacht Club in 1994 (occurrence 59) at a location approximately 4.6 miles north.	n/a
Falco peregrinus anatum American peregrine falcon	DL	DL, FP	Found near wetlands, lakes, rivers or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nests consist of a scrape or a depression or ledge in an open site.	**Low.** The nearest CNDDB record (54) is for a nest observed at a location approximately 2.2 miles southeast of the south end of the Oakland BSA. Tall buildings in the Oakland could provide suitable nesting habitat for this species.	n/a
Coturnicops noveboracensis Yellow rail	--	SSC	Summer resident in eastern Sierra Nevada in Mono County. Occurs in freshwater marshlands.	**None.** The BSAs are not within the breeding range of this species. They occasionally may be observed wintering in freshwater marshes along the San Francisco Bay.	n/a
Laterallus jamaicensis coturniculus California black rail	--	ST, FP	Inhabits freshwater marshes, wet meadows and shallow margins of **saltwater marshes** border larger bays. Needs water depths of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat.	**None**. No suitable nesting habitat within BSAs.	n/a

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Rallus obsoletus obsoletus California Ridgway's rail	FE	SE, FP	**Salt-water & brackish marshes** traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	**None**. No suitable nesting habitat within BSAs.	Not present. No effect.
Charadrius alexandrinus nivosus Western snowy plover	FT	SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**None**. No suitable nesting habitat within BSAs.	Not present. No effect.
Rynchops niger Black skimmer	--	SSC	Nests on gravel bars, low islets, and sandy beaches in unvegetated sites. Nesting colonies usually have fewer than 200 pairs.	**None.** No gravel bars, islets, or sandy beaches within BSAs.	n/a
Sternula antillarum browni California least tern	FE	SE, FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**None**. The BSAs are in an urbanized area and do not provide suitable space for colony nesting.	Not present. No effect.
Athene cunicularia Burrowing owl	--	SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by long-growing vegetation. Nest in burrows – dependent on burrowing mammals, mainly California ground squirrel.	**None**. The BSAs are entirely within urban areas. There are no open grasslands, or scrublands present.	n/a

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Geothlypis trichas sinuosa Saltmarsh common yellowthroat	--	SSC	Resident of the San Francisco Bay region, in fresh and **salt water marshes**. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**None**. No fresh or saltwater marshes present within BSAs.	n/a
Melospiza melodia pusillula Alameda song sparrow	--	SSC	Resident of **salt marshes** bordering south arm of San Francisco Bay. Inhabits Salicornia marshes; nests low in Grindelia bushes (high enough to escape high tides) and in Salicornia.	**None**. No saltwater marshes present within BSA.	n/a
Mammals					
Scapanus latimanus parvus Alameda Island mole	--	SSC	Only known from Alameda Island. Found in a variety of habitats, especially annual & perennial grasslands. Prefers moist, friable soils. Avoids flooded soils.	**None**. There are no CNDDB or other records for this species since 1958.	n/a
Sorex vagrans halicoetes Salt-marsh wandering shrew	--	SSC	**Salt marshes** of the south arm of San Francisco Bay. Medium high marsh 6-8 ft above sea level where abundant driftwood is scattered among *Salicornia spp*.	**None**. There are no salt marshes within BSAs nor are there any CNDDB occurrences for this species on Alameda Island.	n/a
Antrozous pallidus Pallid bat	--	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low**. This species could roost in structures or trees in the BSAs. The nearest CNDDB record (144) from 1932 is for a female bat collected in Redwood Canyon approximately 7 miles southeast of the BSAs.	n/a

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Corynorhinus townsendii Townsend's big-eared bat	--	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Low**. Could be present in buildings in vicinity of Project site but no buildings would be altered as part of the Project.	n/a
Lasionycteris noctivagans Silver-haired bat	--	F.G.C.	Primarily occupies coastal and montane forests. Forages over streams, ponds, and open brushy areas. Roosts in hollow trees beneath exfoliating bark, abandoned woodpecker cavities.	**Low.** This species could nest in trees within the BSAs.	n/a
Lasiurus cinereus Hoary bat	--	F.G.C.	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	**Low.** This species could nest in trees within the BSAs.	n/a
Nyctinomops macrotis Big free-tailed bat	--	SSC	Found in low-lying arid areas in Southern California. Needs high cliffs or rocky outcrops for roosting. Feeds principally on large moths.	**None.** The BSAs are outside of the range of this species.	n/a
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	--	SSC	Occurs in forest habitats of moderate canopy and moderate-to-dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves, and other material.	**None.** There are no areas within the BSAs that provide dense understory. This species was not observed during wildlife surveys.	n/a
Reithrodontomys raviventris Salt-marsh harvest mouse	FE	SE, FP	Only in the **saline emergent wetlands** of San Francisco Bay and its tributaries. Pickleweed is primary habitat. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	**None**. No suitable habitat present.	Not present. No effect.

Scientific Name **Common Name**	**Status Fed/State**		**Habitat Requirements**	**Potential to Occur within the BSAs**	**FESA Effects Determination**
Taxidea taxus American badger	--	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils & open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**None**. No suitable habitat present.	n/a
Pinnipeds Seals and sea lions	MMPA	--	Marine and estuarine waters.	**None**. There is no suitable marine and estuarine habitat or known haul-out sites within the BSA.	n/a

Acronyms
DPS = Distinct Population Segment
ESU = Evolutionary Significant Unit
ppt = parts per trillion
FE = Listed as endangered under the Federal Endangered Species Act (FESA)
FSC = Federal Species of Concern cited by NOAA-Fisheries
FT = Listed as threatened under FESA
SE = Listed as endangered under CESA
ST = Listed as threatened under CESA
SSC = Designated as a Species of Special Concern by CDFW under the California Environmental Quality Act (CEQA)
FP = Fully Protected under the California Fish and Game Code (F.G.C.).
C = Candidate under consideration for threatened (T) or endangered (E) status
Proposed = Proposed for threatened (T) or endangered (E) status
F.G.C. = Protected under nongame mammal provisions in the California Fish and Game Code
DL = Delisted
MMPA = Protected under Marine Mammal Protection Act

Potential to Occur/Rationale
None = No possibility for occurrence based on the known range of the species; no suitable habitat is present; or, low-quality habitat is present but the species is unlikely to occur due to environmental constraints.
Low = Marginal to suitable habitat present within or adjacent to the BSA, but the species has not been documented or recently documented within a 5-mile radius of the BSAs.
Moderate = Suitable habitat is present within or adjacent to the BSAs, and the species has been recently documented within a 5-mile radius of the BSAs.
High = Suitable habitat is present within or adjacent to the BSAs, and the species has been recently documented within or in close proximity to the BSAs.

Chapter 4 Results: Biological Resources, Discussion of Impacts, and Mitigation

Project biologists conducted site surveys and performed various databases searches, and resource evaluations to determine the presence of special-status species, and their likelihood of occurrence within the BSAs. Biological evaluations were also performed to determine whether critical habitats were present or had the potential to occur in the BSAs. This chapter discusses these issues. In general, the proposed Project will have minimal impacts on the natural environment in Oakland or Alameda because the Project will occur within a previously disturbed footprint.

4.1 Natural Communities of Special Concern

As described in Section 3.2.1, Natural Communities of Special Concern are recurring associations of plants and animals found in particular locations with specific physical conditions. These communities may have high species diversity, high productivity, limited distribution, decreasing range, or unusual characteristics. The following section identifies potential impacts on natural communities of special concern within the BSA.

4.1.1 Survey Results

VegCAMP was used to perform searches for natural vegetative communities in the BSAs. As of March 15, 2018, careful searches of VegCAMP showed that this location (area encompassing the cities of Oakland and Alameda) has not yet been mapped. As shown in Table 6, several natural communities of special concern occur within 5-miles of the BSA (Northern coast salt marsh, Northern maritime chaparral, and serpentine bunchgrass), but none of these communities occur within either the Oakland or Alameda BSAs.

4.1.1.1 OAKLAND BSA

There are estuarine waters and saline emergent wetland habitats at Lake Merritt Channel within the BSAs that are protected sensitive natural communities.

4.1.1.2 ALAMEDA BSA

There are no sensitive natural communities present within the Alameda BSA.

4.1.2 Project Impacts

4.1.2.1 OAKLAND BSA

No work is planned for Lake Merritt Channel. Striping will occur on the existing roadway over the channel.

4.1.2.2 ALAMEDA BSA

No work is planned in or immediately adjacent to the saline emergent wetlands.

4.1.3 Avoidance and Minimization Measures/Compensatory Mitigation

4.1.3.1 OAKLAND BSA

Best Management Practices (BMPs) will be placed along the roadway to prevent construction-related debris and fluids from entering the waters of Lake Merritt Channel. No compensatory mitigation is planned because there will be no impacts to the estuarine waters.

4.1.3.2 ALAMEDA BSA

If construction occurs within 50 feet of the saline emergent wetlands adjacent to the Alameda BSA, silt fence will be placed between the Project limits and the wetlands. No compensatory mitigation is planned because there will be no direct impacts to the wetlands.

4.2 Description of Potential Wetlands and Other Waters of the U.S. and Waters of the State

This section is organized by feature types and includes a discussion of potential wetlands and "Other Waters of the U.S." that would be subject to USACE jurisdiction under Section 404 of the Clean Water Act (CWA).

4.2.1 Wetlands and Other Waters of the U.S. and Waters of the State

According to the U.S. Army Corps of Engineers (USACE; Federal Register 1986) and U.S. Environmental Protection Agency (USEPA; Federal Register 1982), wetlands are transitional areas (i.e., inundated for a long enough period of time to support vegetation adapted for life in saturated conditions) between aquatic resources and upland areas. These include swamps, marshes, bogs, and fens. Under 33 Code of Federal Regulations (CFR) Part 328.3(a) and 40 (CFR) part 230.3(s), "Waters of the U.S." are defined as:

"*All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.*"

The USACE has primary federal responsibility for administering regulations that concern waters and wetlands. The USACE acts under two statutory authorities. Wetlands and other water resources (e.g., rivers, streams, and natural basins) are a subset of "Waters of the U.S." and receive protection under Section 404 of the federal CWA. Additionally, the Rivers and Harbors Act (Sections 9 and 10) govern specified activities in "Waters of the U.S." including wetlands.

The California Water Code defines "Waters of the State" as "any surface water or groundwater, including saline waters, within the boundaries of the State" (Water Code Section 13050[e]). "Waters of the State" include all "Waters of the U.S." as well as isolated wetlands, disjunct streams, and stream areas above the OHWM either to the top of bank or farthest extent of riparian vegetation. The Regional Water Quality Control Board (RWQCB) and CDFW may exercise jurisdiction over impacts to "Waters of the State" and the RWQCB may also regulate discharges into the "Waters of the State."

4.2.2 Survey Results

4.2.2.1 OAKLAND BSA

No wetlands were identified within the Oakland BSA. Lake Merritt Channel is a potentially jurisdictional "Other Waters of the U.S." However, no construction activities will take place in the channel. Lake Merritt Channel also qualifies as "Waters of the State."

4.2.2.2 ALAMEDA BSA

Near the Alameda BSA, two saline emergent wetlands were delineated (Figure 8). Wetlands A and B, were determined to be outside of the BSA. The wetlands are connected by a culvert underneath Marina Parkway Road. Refer to the Aquatic Resources Delineation Report for more information on these wetlands (WRECO 2020).

Table 9. Saline Emergent Wetlands near the Alameda BSA

Aquatic Feature	Area (acres)	Area (square feet)	Length (linear feet)
Wetland A	0.014	607	47
Wetland B	0.06	2,716	335
Total	**0.074**	**3,323**	**382**

4.2.3 Project Impacts

4.2.3.1 OAKLAND BSA

No jurisdictional wetlands or "Other Waters of the U.S." will be impacted by the proposed Project.

4.2.3.2 ALAMEDA BSA

No jurisdictional wetlands or "Other Waters of the U.S." will be impacted by the proposed Project, because none are located within the Project footprint.

4.2.4 Avoidance and Minimization Measures/Compensatory Mitigation

4.2.4.1 OAKLAND BSA

BMPs will be placed along the roadway to prevent construction-related debris and fluids from entering the waters of Lake Merritt Channel. No compensatory mitigation is planned because there will be no impacts to "Other Waters of the U.S."

4.2.4.2 ALAMEDA BSA

If construction occurs within 50 feet of the saline emergent wetlands, silt fence will be placed between the Project limits and the wetlands to prevent construction-related debris from being inadvertently deposited into the wetlands. No compensatory mitigation is planned because there will be no impacts to the wetlands.

4.3 Special-Status Plant Species

Forty-five special-status plants species that resulted from the combined USFWS, CNPS, and CDFW database lists for the BSA quadrangles were evaluated for potential presence. Botanical surveys were conducted during each site visit between August 2015 to March 2018. None of the 45 special-status plants evaluated in Table 7 have the potential to occur within the BSAs based on a lack of suitable habitat, regional extirpation, and/or the results of botanical surveys.

4.4 Special-Status Wildlife

Forty-seven special-status wildlife species that resulted from the combined USFWS, NOAA Fisheries, and CDFW database lists for the BSA quadrangles were evaluated for potential presence. Reconnaissance surveys were conducted during each site visit between August 2015 to December 2017. Of the 47 wildlife species evaluated in Table 8, six were determined to have some potential to occur within the BSAs based on nearby CNDDB occurrences and habitat availability. These are the tidewater goby (*Eucyclogobius newberryi*), American peregrine falcon (*Falco peregrinus anatum*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), silver-haired bat (*Lasionycteris noctivagans*), and hoary bat (*Lasiurus cinereus*).

4.4.1 Tidewater Goby

Tidewater gobies are small fish that are adapted to a narrow salinity range found at the interface between fresh- and saltwater. Entrances of freshwater tributaries, such as Lake Merritt Channel, provide their preferred salinity ranges. They use aquatic vegetation such as sago pond weed and widgeon grass for shelter. Gobies migrate upstream into tributaries to reproduce. Migration occurs year-round but peaks in April-May. Although there are no records for tidewater gobies within the BSA, the record for Lake Merritt indicates that the goby used Lake Merritt Channel as a corridor to travel from the Oakland Estuary to Lake Merritt. Lake Merritt Channel with its tidal salinity fluctuations is suitable habitat for tidewater gobies.

4.4.1.1 SURVEY RESULTS

Oakland BSA – No tidewater gobies were observed during wildlife surveys. There is a CNDDB occurrence (#89) in Lake Merritt, but Lake Merritt and Lake Merritt Channel would not be impacted by the Project. Water quality BMPs would prevent any impact to tidewater goby habitat from stormwater runoff.

Alameda BSA –No suitable habitat was observed in Alameda.

4.4.1.2 PROJECT IMPACTS

With the implementation of AMMs described below, the proposed Project will have no impact on tidewater gobies.

4.4.1.3 AVOIDANCE AND MINIMIZATION MEASURES/COMPENSATORY MITIGATION

The project will implement erosion control measures and a Storm Water Pollution Prevention Plan (Table 10). The use of water quality BMPs will prevent indirect effects of the Project on tidewater goby habitat.

4.4.2 Peregrine Falcon

The American peregrine falcon is a state fully protected species and is also protected under the Migratory Bird Treaty Act. This species is found throughout North America in different terrestrial biomes. Habitats with cliffs are utilized by breeding falcons and they usually nest near water. They also can use towers, bridges, and buildings as nesting habitat (Wheeler 2003, White et al. 2002). Foraging occurs in open spaced habitats, with non-breeding falcons occupying these habitats as well.

4.4.2.1 SURVEY RESULTS

Oakland BSA – No peregrine falcons or falcon nests were observed during wildlife surveys. The tall buildings east of the BSA in downtown Oakland can potentially provide suitable nesting habitat for this species. The nearest CNDDB occurrence (54) is for a nest observed at a location approximately 2.2 miles southeast of the south end of the Oakland BSA.

Alameda BSA – No peregrine falcons or nests were observed during wildlife surveys. Compared to the Oakland BSA, this species is less likely to be present in the vicinity of the Alameda BSA because there are few high-rise structures suitable for nesting.

4.4.2.2 PROJECT IMPACTS

With the implementation of AMMs described below, the proposed Project will have no impact on peregrine falcon or its habitat.

4.4.2.3 AVOIDANCE AND MINIMIZATION MEASURES/COMPENSATORY MITIGATION

In addition to the AMMs listed in Table 10, the following AMMs will be implemented to prevent Project impacts to peregrine falcon:

- Pre-construction nesting bird surveys during bird breeding season (February 1 through September 30) will be conducted by a qualified biologist no more than 48 hours prior to the commencement of construction. If an active nest is found within 500-feet of the Project limits, the biologist will consult with CDFW to determine if AMMs are applicable.

- Conduct Worker Environmental Awareness Training regarding potential sensitive species that could occur in or near the BSAs, including peregrine falcon.

No impacts are anticipated and no compensatory mitigation is proposed.

4.4.3 Roosting Bats

In the State of California, some species of bats are considered SSC, including pallid bat, Townsend's big-eared bat, spotted bat (*Euderma maculatum*), western red bat (*Lasiurus blossevillii*), and western mastiff bat (*Eumops perotis*). In addition to regulatory agencies offering protection to these sensitive species, protection from harassment and destruction is also offered to their occupied habitats. Under California law, bat protection is offered under the F.G.C. Sections 20000, 2002, 2014 and 4150, and California Code of Regulations Section 251.1.

Roosting bats typically occupy a variety of habitats often associated with nearby water sources that attract insects and provide a supply of drinking water. Many bats in California can be found roosting in man-made structures including bridges, buildings, and mines. Special-status bats that may use man-made structures for roosting in the Oakland and Alameda BSAs include:

- Pallid bat
- Townsend's big-eared bat

Additionally, some species of bats almost exclusively roost in hollowed trees, peeling bark, and tree foliage. These species require trees for some or all of the following activities, depending on the species: thermal regulation, predator avoidance, maternity roosting, and for resting between foraging flights. Bat species that depend on trees for roosting and have potential to occur in the Oakland and Alameda BSAs include:

- Hoary bat
- Silver-haired bat

4.4.3.1 SURVEY RESULTS

No roosting bats species were observed during general biological surveys. However, no acoustic or focused surveys of vegetation were conducted in the BSAs. Nevertheless, in both the Oakland BSA and Alameda BSA, bats could roost in crevices and cracks beneath overpasses and on on/off ramps along the I-880 corridor as well as in trees and other vegetation.

4.4.3.2 PROJECT IMPACTS

There is a low potential for roosting bats to be present in structures and vegetation within both BSAs. Roosting bats could be affected during the modification or removal of roosting habitat.

4.4.3.3 AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

- Prior to vegetation removal, pre-construction surveys will be conducted for roosting bats in both BSAs. Pre-construction surveys will be conducted for bats that could roost beneath overpasses and highway infrastructure. If an active roost is observed, consultation with CDFW will occur to determine the appropriate avoidance measures to implement.

- Conduct Worker Environmental Awareness Training regarding potential sensitive species that could occur in or near the BSAs, including roosting and special-status bats.

No impacts are anticipated and therefore, no compensatory mitigation is proposed.

4.5 Migratory Birds

Under the MBTA and California F.G.C. Sections 3503 and 3800, migratory birds, their nests, and eggs are protected from disturbance or destruction. All birds are protected under the MBTA and California F.G.C. except for non-native species such as the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock pigeon (*Columbia livia*), as well as game species who are subject to limited protection Also, the Federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), prohibits the take of bald or golden eagles (or any part of these birds of prey) and their nests. Bird nesting habits vary and may include, trees, shrubs, man-made structures, and the ground. Incidental Take Permits (ITPs) are not issued under the MBTA and therefore, any and all proposed projects must take measures to avoid the "taking" of migratory and non-game birds, nests, or eggs.

4.5.1 Survey Results

Birds protected by the MBTA and California F.G.C. Sections 3503 and 3800 were observed within both the Oakland BSA and Alameda BSA. No focused nesting surveys have been conducted for the purposes of this report; however, there is a known rookery of snowy egret

(*Egretta thula*) and black-crowned night herons (*Nycticorax nycticorax*) within the Oakland BSA. Nesting has been documented near the intersection of Oak Street and 9th Street, extending north along Oak Street, west along 11th, 12th, and 13th streets, and east along 10th, 11th, and 12th streets (eBird 2017). These birds nest within urban street trees, primarily *Ficus* trees.

4.5.2 Project Impacts

All construction-related activities could result in the abandonment or destruction of migratory bird nests.

4.5.3 Avoidance and Minimization Efforts/Compensatory Mitigation

The following AMMs will be implemented to reduce potential impacts to nesting birds:

- If construction occurs during the bird nesting season (February 1 – September 30), pre-construction nesting bird surveys will be conducted. If an active bird nest is identified, a protective buffer will be established around the nest. The standard buffer will be 50 feet for passerines (perching songbirds), 100 feet for egrets and herons, 200 feet for raptors, and 500 feet for peregrine falcon. The buffer zones will be delineated with high-visibility environmental fencing or demarcated with pin flags or ribbon, as applicable based on-site conditions. If it becomes necessary for work to occur in closer proximity to a nest, the Project biologist may develop a nest monitoring plan in coordination with Caltrans and CDFW that will include continual monitoring of the nest as construction moves closer. If at any time the biologist determines that activities may cause nest abandonment, construction activity in that area must cease.

- Trees and native shrubs will be preserved in place to the extent practicable to avoid possible nest disruption.

- Conduct Worker Environmental Awareness Training regarding potential sensitive species that could occur in or near the BSAs, including migratory and nesting birds.

No impacts are anticipated to occur to migratory nesting birds and therefore, no compensatory mitigation actions are proposed.

Table 10. Avoidance and Minimization Measures

Avoidance and Minimization Measures	Description
Protect Environmentally Sensitive Areas	• Preserve and protect trees in place to the extent practicable. • Dispose of all spoils, excavated materials, and plant materials at a licensed and approved facility.
Conduct Worker Environmental Awareness Training	• Conduct Worker Environmental Awareness Training regarding potential sensitive species that could occur in or near the BSAs, including peregrine falcon, roosting bats, and migratory birds.
Implement Erosion Control Measures and Storm Water Pollution Prevention Plans	Storm Water Pollution Prevention Plans (SWPPP) and erosion control best management practices (BMPs) would be developed to minimize any wind erosion or storm water runoff. The SWPPP will provide guidance for design staff to include provisions for sediment removal, contracts to include measures to protect sensitive areas, and to prevent and minimize storm water and non-storm water discharges. Protective measures would include, but are not limited to these restrictions: • No discharge of pollutants from vehicle and equipment cleaning would be allowed into storm drains or watercourses. • Vehicle and equipment fueling, and maintenance operations would be at least 50 feet away from watercourses; except at established commercial gas stations or established vehicle maintenance facility. • Dust control will include the use of water trucks and dust palliatives to control dust in excavation and fill areas; and cover temporary stockpiles when weather conditions require. • Biodegradable coir rolls or straw wattles will be installed along, or at the base of slopes during work to capture sediment. • Protect graded areas from erosion using a combination of silt fences, biodegradable fiber rolls along toes of slopes or along edges of designated staging areas; also, biodegradable erosion control netting (such as jute or coir) as appropriate on slope areas.
Exotic and Invasive Weeds	• Exotic and invasive plants will be controlled to the maximum extent practicable. Heavy duty equipment will be washed clean and be free of organic plant material (including seeds and propagules) prior to entry and exit into the BSAs. • Staging and storage of equipment would be done in weed free areas to the extent feasible to limit exposure of seeds, and noxious weeds propagules from spreading to sensitive areas in the BSAs.

Table 10. Avoidance and Minimization Measures

Avoidance and Minimization Measures	Description
Implement Project Site Best Management Practices and Water Quality Protection	• Access routes and the number and size of staging and work areas would be limited to existing paved surfaces as practicable. • All food and food-related trash items will be placed in trash containers and removed from the site at the end of each day. • No pets, such as dogs, cats, owned by Project personnel will be allowed anywhere in the BSAs during construction to prevent harassment, mortality of native plants, wildlife, or destruction of habitats. • All equipment will be maintained in staging areas to avoid leaks (e.g. automotive fluids, gasoline, oils, or solvents). Hazardous materials such as fuels, oils, solvents, etc. will be stored in sealable containers a designated location (at least 100 feet from aquatic habitats). A Spill Response Plan (including emergency contacts) would be prepared and kept at the site to address all spill response and emergency issues. • No firearms will be allowed except for those allowed to be carried by authorized security personnel, local, State, or Federal law enforcement officials. • To the extent practicable, sediment discharge and construction runoff will be contained to the Project vicinity in areas away from watercourses, storm drains and sensitive biological areas.
Migratory Birds	• If trees or vegetation removal occur during the nesting season (February 1 – September 30), a pre-construction survey would be required to verify the presence or absence of migratory nesting birds. • If construction occurs during the bird nesting season (February 1 – September 30), pre-construction nesting bird surveys will be conducted. If an active bird nest is identified, a protective buffer will be established around the nest. The standard buffer will be 50 feet for passerines (perching songbirds), 100 feet for egrets/herons, 200 feet for raptors (birds of prey), and 500 feet for peregrine falcons. The buffer zones will be delineated with high-visibility environmental fencing or demarcated with pin flags or ribbon, as applicable based on-site conditions. If it becomes necessary for work to occur in closer proximity to a nest, the Project biologist may develop a nest monitoring plan in coordination with Caltrans and CDFW that will include continual monitoring of the nest as construction moves closer. If at any time the biologist determines that activities may cause nest abandonment, construction activity in that area must cease.
Permits	• ACTC will include a copy of all relevant permits within the construction package of the Project. The Project Engineer (PE) or designee will be responsible for implementing the conditions of all biological permits.
Roosting Bats	• The Worker Environmental Awareness Training will include bats with the potential to roost in the BSAs. • Conduct preconstruction surveys for roosting bats. If roosting bats are present within the Project limits, a buffer zone will be erected for avoidance and consultation with CDFW will occur to determine the appropriate avoidance measures.

Chapter 5 Conclusions and Regulatory Determination

5.1 Federal Endangered Species Act

Caltrans has assumed the Federal Highway Administrations responsibilities under FESA (16 U.S.C. 1531 et seq.) in accordance with 23 U.S.C. 327, as described in the *Memorandum of Understanding* between the *Federal Highway Administration and the California Department of Transportation* concerning the *State of California's Participation in the Project Delivery Program Pursuant to 23 U.S.C. 327* effective December 23, 2016.

Under this authority, Caltrans is authorized to make "no effect" determinations. This determination has been made for all federally listed species identified in the USFWS species lists requested for the proposed Project. Caltrans has determined this Project will have no effect on listed species, their habitats, or protected communities provided the required AMMs are followed. No adverse modification to any species critical habitat will occur as a result of the Project activities.

5.2 Other

5.2.1 Migratory Bird Treaty Act and Fish and Game Code §§ 3503 and 3800

Numerous bird species protected under the MBTA and State F.G.C. are likely to nest in structures and vegetation in the BSAs. To protect nesting birds, pre-construction nesting bird surveys will be conducted by a qualified biologist during the typical nesting season, February 1 through September 30. If an active nest is found, the biologist will establish protective buffers around the nests, which will remain in place until it is determined that the nest is no longer active. The standard buffer will be 50 feet for passerines (perching songbirds) and 200 feet for raptors (birds of prey). If a federal threatened or endangered species is found within the BSA, consultation will occur with USFWS. If a state-listed special-status species is found that was not addressed in this NES-MI, consultation will occur with CDFW.

5.2.2 Protection of Bats (F.G.C. § 20000,2002,2014 and 4150), and under California Code of Regulations § 251.1.

Bats could roost under bridges and in vegetation within the BSAs. Pre-construction surveys will be conducted by a qualified biologist to determine if roosting bats are present prior to work beneath the bridge structures, and prior to the removal of trees and other vegetation determined to provide suitable roosting habitat. If roosting bats are discovered in the Project limits, a protective buffer zone will be established by the biologist, and consultation will occur with CDFW to determine the appropriate actions.

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Chapter 6 References

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Appendix A Figures

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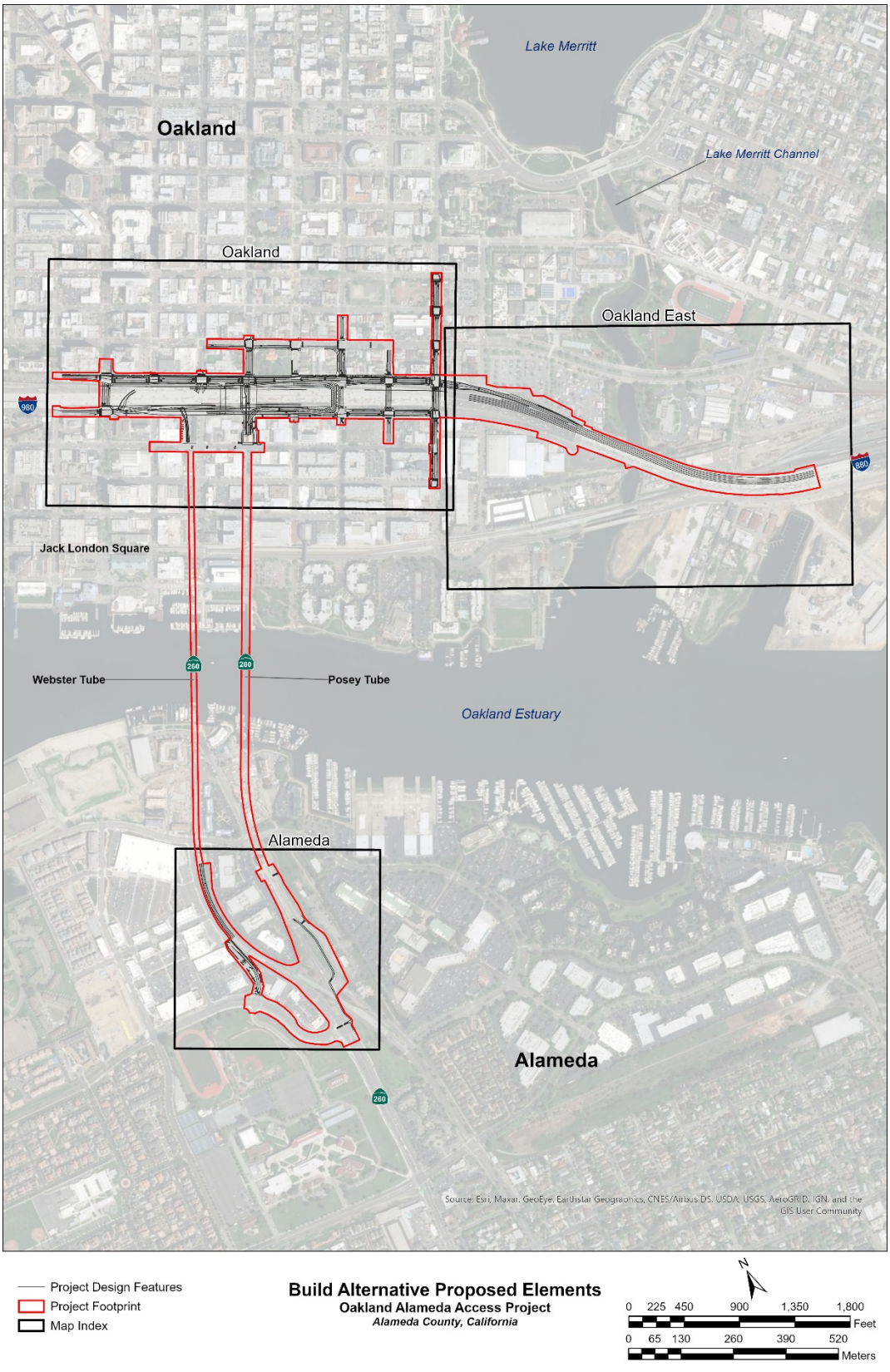

Figure 1. Project Footprint

Source: HNTB

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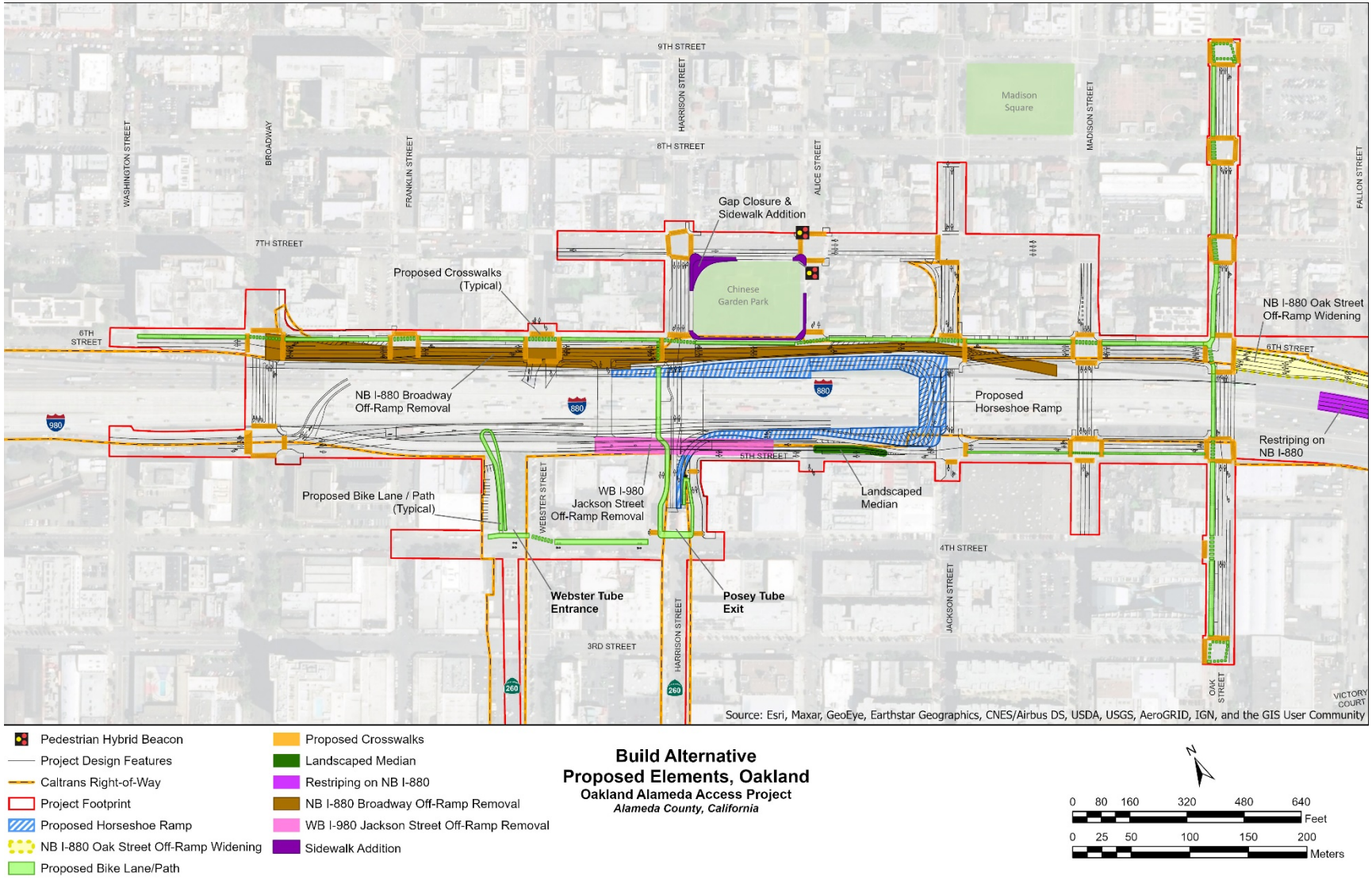

Figure 1a. Project Map (City of Oakland, west of Oak Street)

Source: HNTB

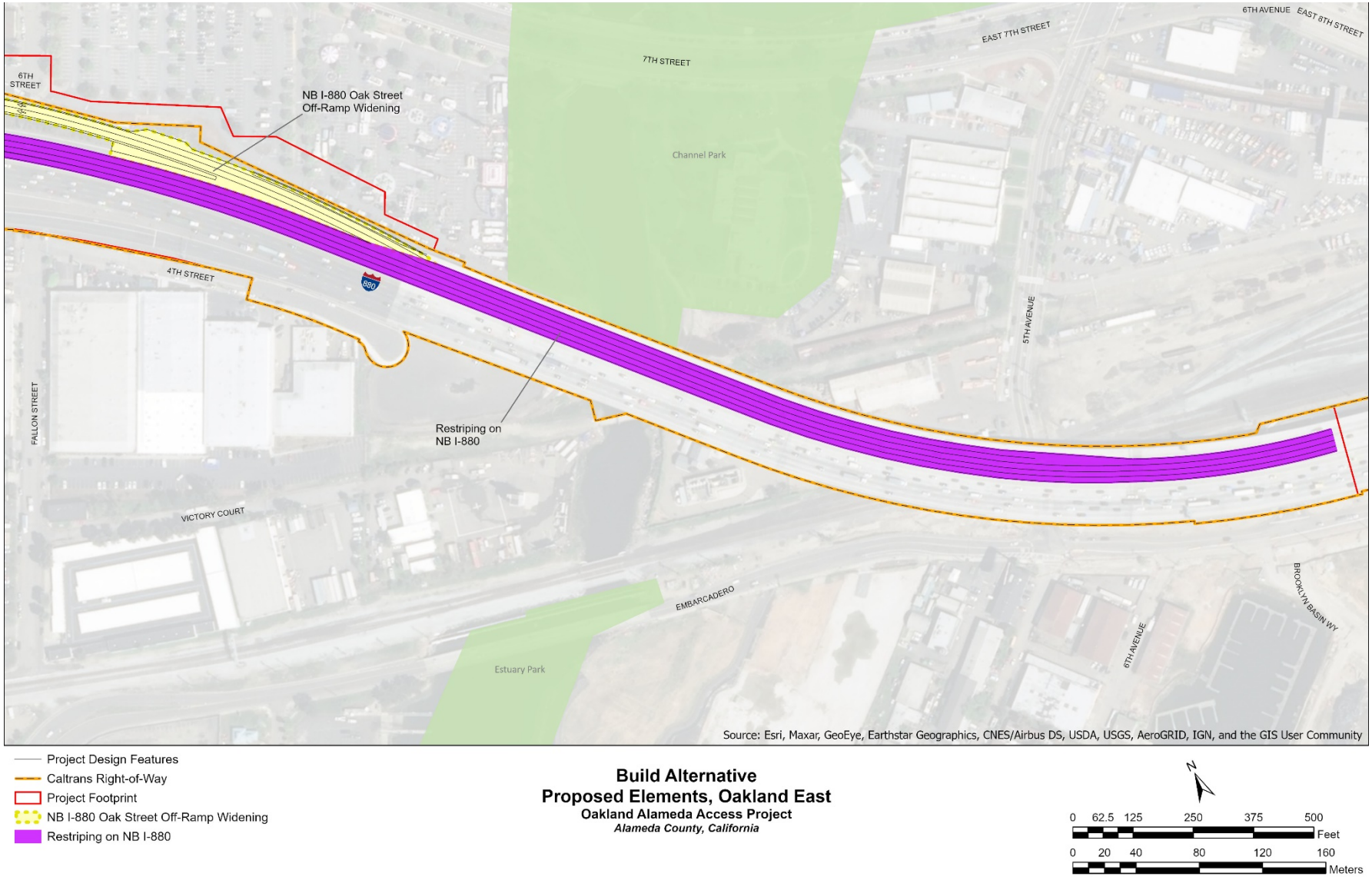

Figure 2. Project Map (City of Oakland, east of Oak Street)

Source: HNTB

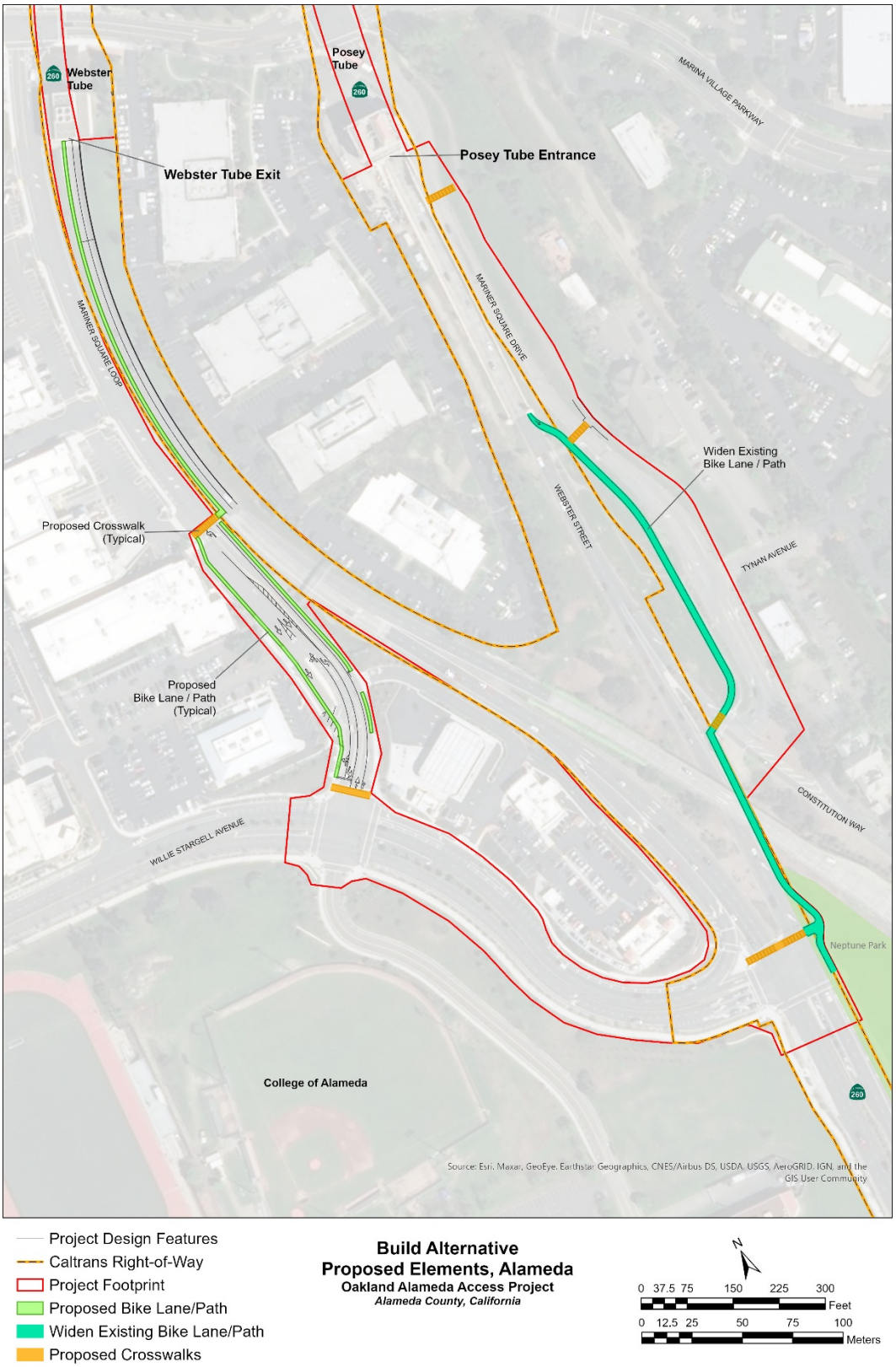

Figure 3. Project Map (City of Alameda)

Source: HNTB

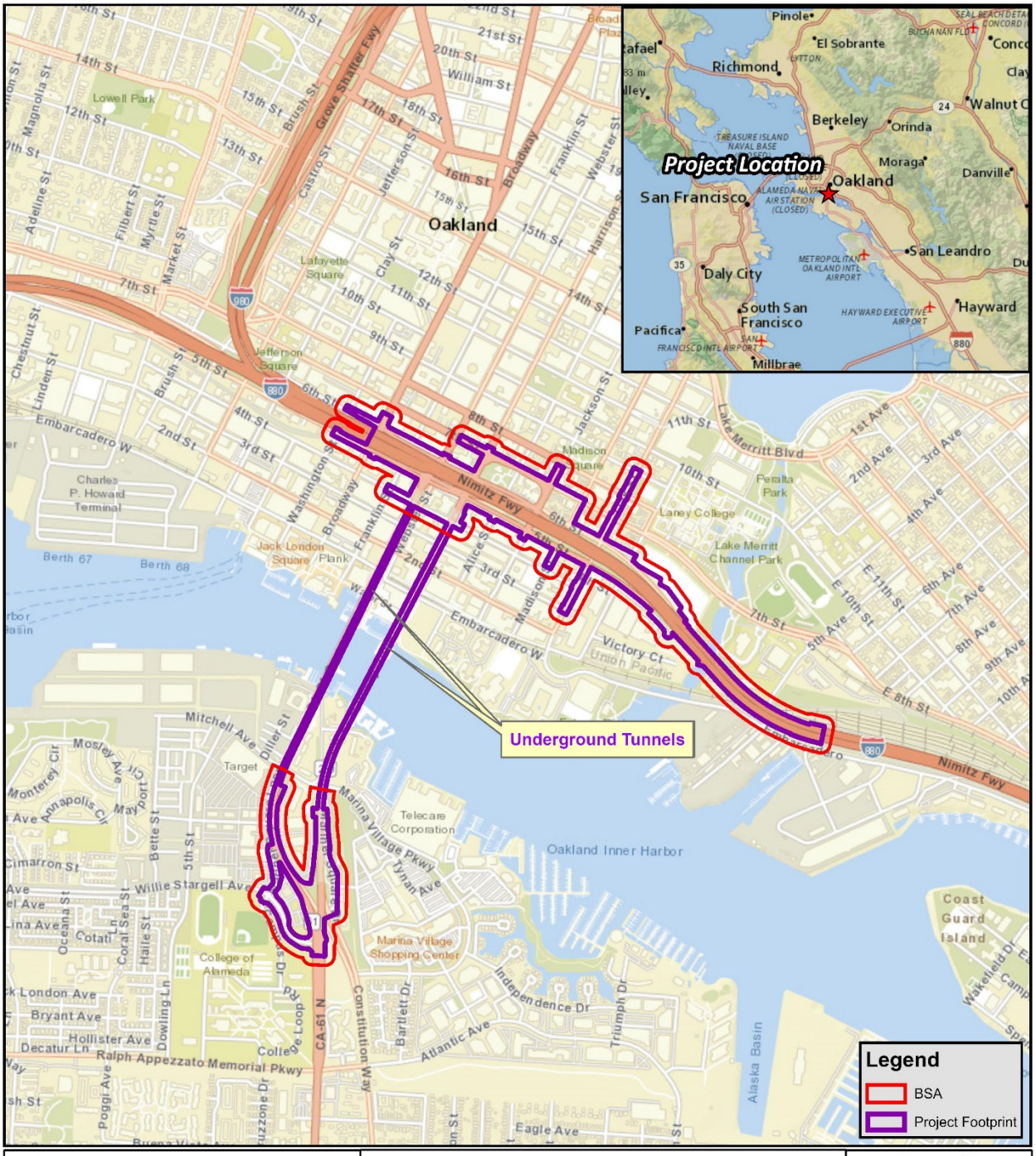

Figure 4. Biological Study Area

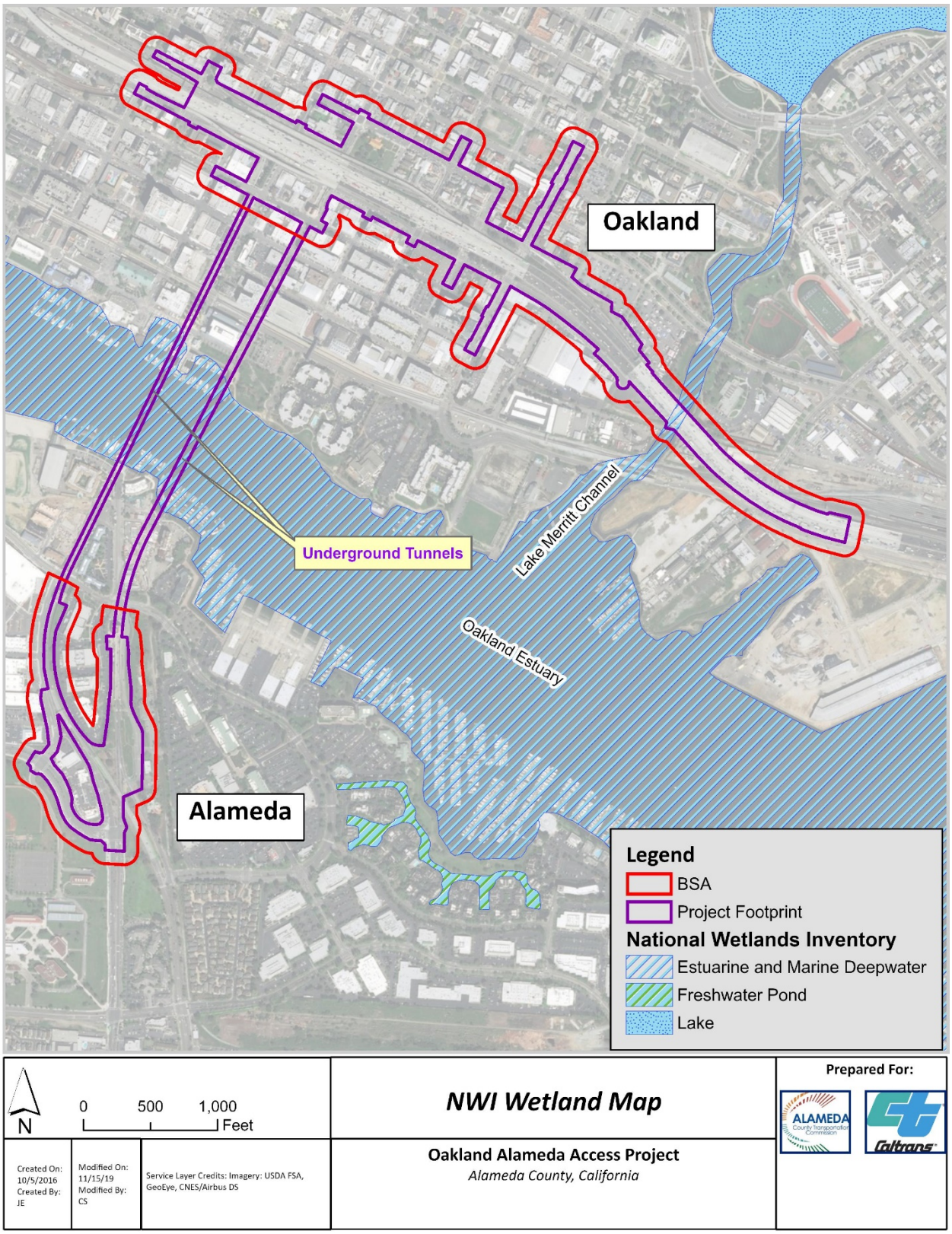

Figure 5. National Wetlands Inventory Map

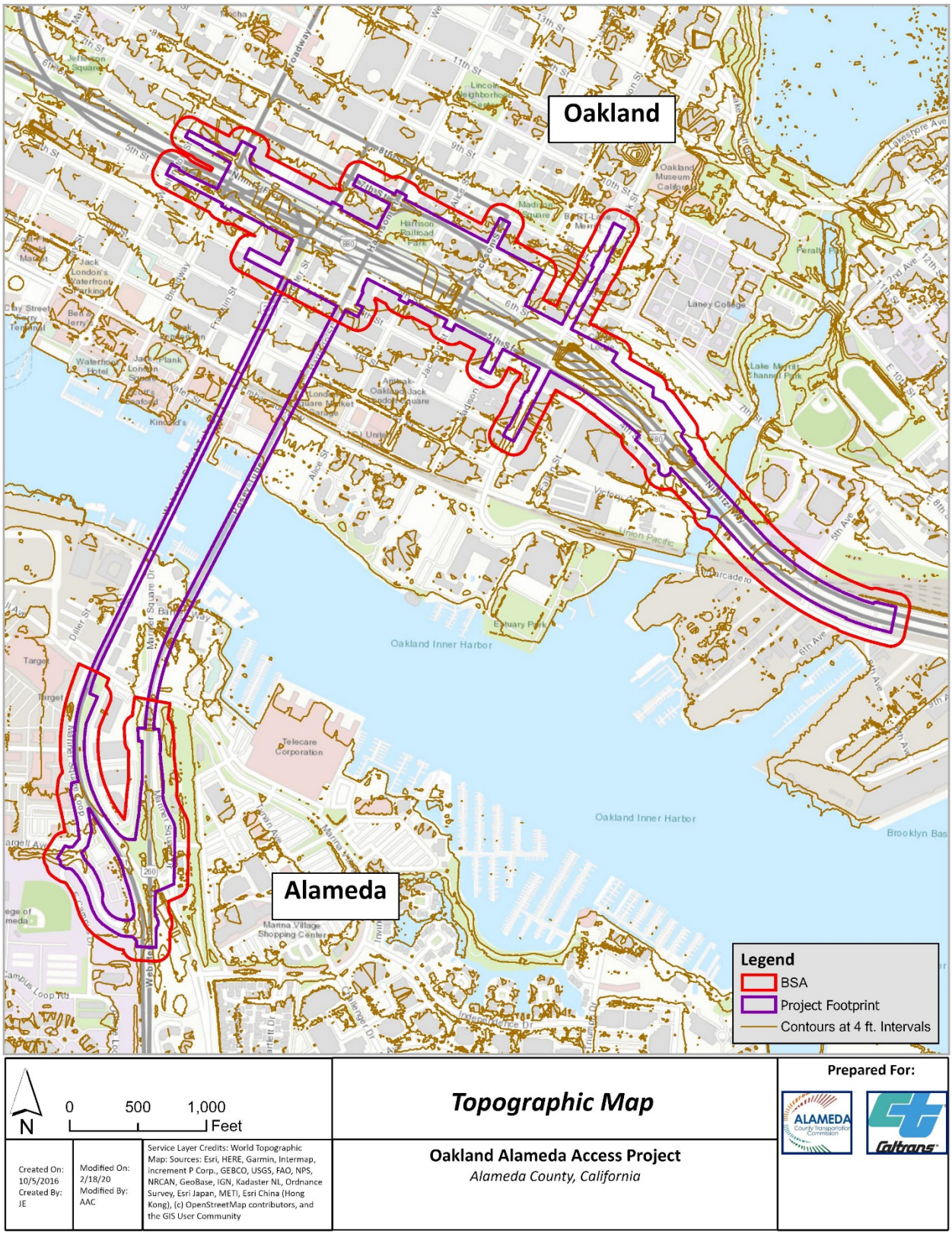

Figure 6. Topographic Map

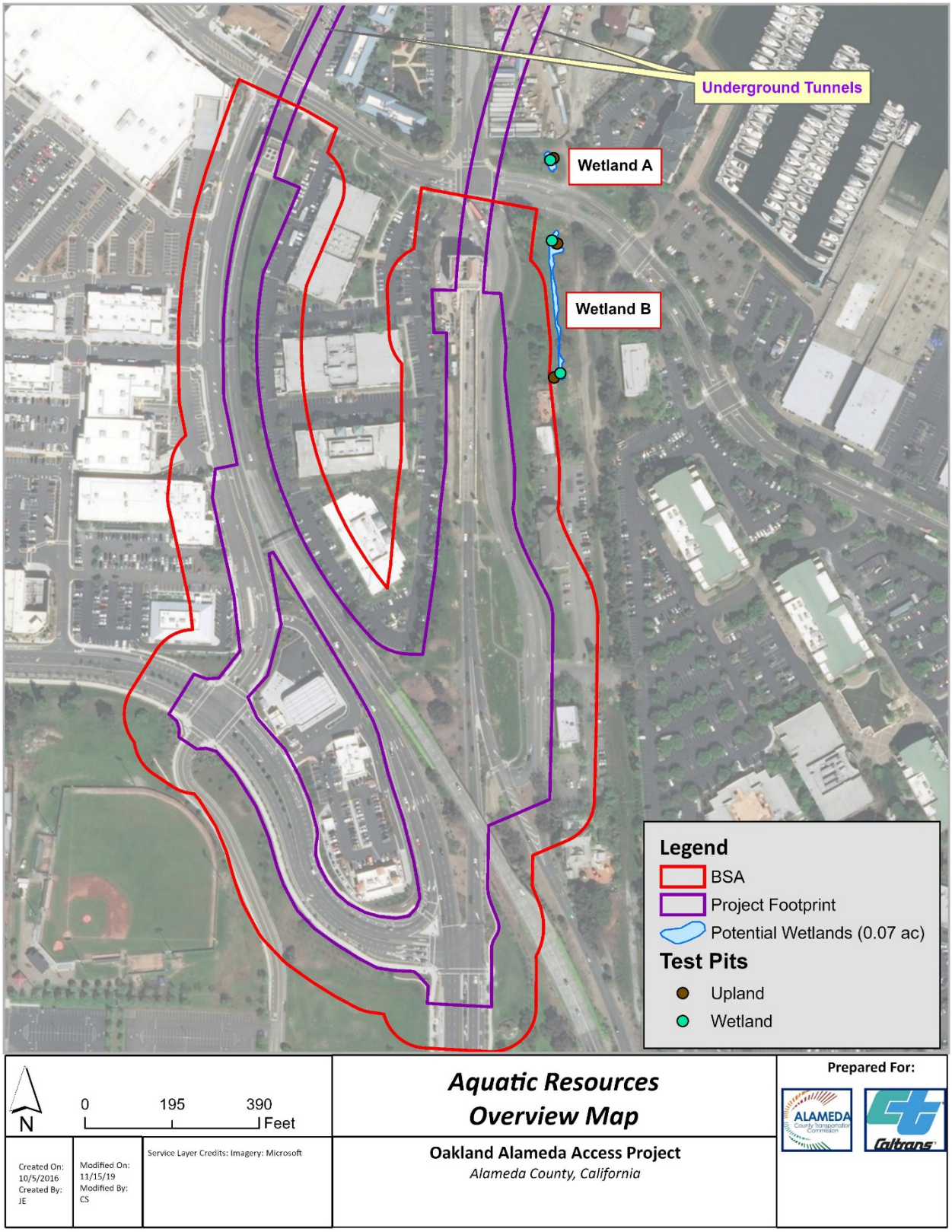

Figure 7. Aquatic Resources in and near the Alameda BSA

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Appendix B CNDDB, CNPS, and USFWS Species Lists

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Oakland East (3712272) OR Oakland West (3712273) OR San Leandro (3712262) OR Hunters Point (3712263))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Dipodomys heermanni berkeleyensis Berkeley kangaroo rat	AMAFD03061	None	None	G3G4T1	S1	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2S3	SSC
Microcina leei Lee's micro-blind harvestman	ILARA47040	None	None	G1	S1	
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Rynchops niger black skimmer	ABNNM14010	None	None	G5	S2	SSC
Scapanus latimanus parvus Alameda Island mole	AMABB02031	None	None	G5THQ	SH	SSC
Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Taxidea taxus	AMAJF04010	None	None	G5	S3	SSC
American badger						
Trachusa gummifera	IIHYM80010	None	None	G1	S1	
San Francisco Bay Area leaf-cutter bee						
Tryonia imitator	IMGASJ7040	None	None	G2	S2	
mimic tryonia (=California brackishwater snail)						

Record Count: 42

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Oakland East (3712272) OR Oakland West (3712273) OR San Leandro (3712262) OR Hunters Point (3712263))
 AND Taxonomic Group IS (Dune OR Scrub OR Herbaceous OR Marsh OR Riparian OR Woodland OR Forest OR Alpine OR Inland Waters OR Marine OR Estuarine OR Riverine OR Palustrine)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Coastal Salt Marsh						
Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
Northern Maritime Chaparral						
Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Serpentine Bunchgrass						

Record Count: 3

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Oakland East (3712272) OR Oakland West (3712273) OR San Leandro (3712262) OR Hunters Point (3712263))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Arctostaphylos pallida pallid manzanita	PDERI04110	Threatened	Endangered	G1	S1	1B.1
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081	None	None	G2T1	S1	1B.2
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
Clarkia franciscana Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Eriogonum luteolum var. caninum Tiburon buckwheat	PDPGN083S1	None	None	G5T2	S2	1B.2
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Fissidens pauperculus minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3	None	None	G5T2	S2	1B.1
Gilia millefoliata dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	PDAST4R065	None	None	G5T2	S2	1B.2
Heteranthera dubia water star-grass	PMPON03010	None	None	G5	S2	2B.2
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
Meconella oregana Oregon meconella	PDPAP0G030	None	None	G2G3	S2	1B.1
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061	None	None	G3T1Q	S1	1B.2
Plagiobothrys diffusus San Francisco popcornflower	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
Polygonum marinense Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
Sanicula maritima adobe sanicle	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
Spergularia macrotheca var. longistyla long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Stuckenia filiformis ssp. alpina slender-leaved pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
Suaeda californica California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2
Triphysaria floribunda San Francisco owl's-clover	PDSCR2T010	None	None	G2?	S2?	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Viburnum ellipticum	PDCPR07080	None	None	G4G5	S3?	2B.3
oval-leaved viburnum						

Record Count: 40

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

39 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3712272, 3712273 3712263 and 3712262;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S3	G3
Arctostaphylos pallida	pallid manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	1B.1	S1	G1
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	4.2	S3?	G3?
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S1S2	G3T1T2
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	1B.2	S2	G4?T2
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	1B.2	S1	G2T1
Chorizanthe robusta var. robusta	robust spineflower	Polygonaceae	annual herb	Apr-Sep	1B.1	S1	G2T1
Clarkia concinna ssp. automixa	Santa Clara red ribbons	Onagraceae	annual herb	(Apr)May-Jun(Jul)	4.3	S3	G5?T3
Clarkia franciscana	Presidio clarkia	Onagraceae	annual herb	May-Jul	1B.1	S1	G1
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	1B.2	S2	G2
Eriogonum luteolum var. caninum	Tiburon buckwheat	Polygonaceae	annual herb	May-Sep	1B.2	S2	G5T2
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Extriplex joaquinana	San Joaquin	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2

	spearscale						
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Gilia capitata ssp. chamissonis	blue coast gilia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G5T2
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Hoita strobilina	Loma Prieta hoita	Fabaceae	perennial herb	May-Jul(Aug-Oct)	1B.1	S2?	G2?
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	1B.1	S1	G1
Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	S1?	G4T1?
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	4.2	S4?	G4?
Meconella oregana	Oregon meconella	Papaveraceae	annual herb	Mar-Apr	1B.1	S2	G2G3
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.2	S1	G3T1Q
Plagiobothrys diffusus	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	1B.1	S1	G1Q
Polygonum marinense	Marin knotweed	Polygonaceae	annual herb	(Apr)May-Aug(Oct)	3.1	S2	G2Q
Sanicula maritima	adobe sanicle	Apiaceae	perennial herb	Feb-May	1B.1	S2	G2
Spergularia macrotheca var. longistyla	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May(Jun)	1B.2	S2	G5T2
Streptanthus albidus ssp. peramoenus	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	1B.2	S2	G2T2
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
Suaeda californica	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	1B.1	S1	G1
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	1B.2	S2?	G2?
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 11 September 2019].

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Questions and Comments

rareplants@cnps.org

List Date **September 11, 2019**
Source **Nmfs_wcr_ca_species_list_december_2016.kmz**

Quad Names **Oakland West, Oakland East, San Leandro, Hunters Point**
Quad Numbers **37122-G3, 37122-G2, 37122-F3, 37122-F2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat - **X**
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - **X**
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds - X

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2019-SLI-3002
Event Code: 08ESMF00-2019-E-09593
Project Name: Oakland Alameda Access Project

September 11, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

Project Summary

Consultation Code: 08ESMF00-2019-SLI-3002

Event Code: 08ESMF00-2019-E-09593

Project Name: Oakland Alameda Access Project

Project Type: TRANSPORTATION

Project Description: Improve multimodal access between Oakland, Alameda, and I-880

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.79144590012672N122.27560951440697W

Counties: Alameda, CA

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) *Masticophis lateralis euryxanthus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5524	Threatened
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
California Seablite *Suaeda californica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6310	Endangered
Santa Cruz Tarplant *Holocarpha macradenia* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6832	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654
http://kim_squires@fws.gov

In Reply Refer To:
Consultation Code: 08FBDT00-2019-SLI-0303
Event Code: 08FBDT00-2019-E-00695
Project Name: Oakland Alameda Access Project

September 11, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08FBDT00-2019-SLI-0303

Event Code: 08FBDT00-2019-E-00695

Project Name: Oakland Alameda Access Project

Project Type: TRANSPORTATION

Project Description: Improve multimodal access between Oakland, Alameda, and I-880

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.79144590012672N122.27560951440697W

Counties: Alameda, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) *Masticophis lateralis euryxanthus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5524	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
California Seablite *Suaeda californica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6310	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix C Observed Species

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Observed Wildlife Species within the BSA

Observed Wildlife	
Scientific Name	**Common Name**
Branta canadensis	Canada goose
Fulica americana	American coot
Larus ssp.	gull species
Columba livia	rock Dove
Zenaida macroura	mourning dove
Calypte anna	Anna's hummingbird
Sayornis nigricans	black phoebe
Corvus brachyrhynchos	American crow
Psaltriparus minimus	American bushtit
Dendroica coronata	yellow-rumped warbler
Pipilo crissalis	California towhee
Melospiza melodia	song sparrow
Zonotrichia leucophrys	white-crowned sparrow
Carpodacus mexicanus	house finch
Carduelis ssp.	goldfinch ssp
Passer domesticus	house sparrow
Danaus plexippus	monarch butterfly
Myliobatis californica	bat ray
Morone saxatilis	striped bass

Observed Vegetation Species within the BSA

Observed Vegetation		
Scientific Name	**Common Name**	**Native/Non-native**
Acacia sp.	acacia tree	Non-native
Adenostoma fasciculatum sp.	chamise	Native
Agrostis avenacea	Pacific bentgrass	Non-native
Anaphalis margaritacea	pearly everlasting	Native
Avena fatua	wild oats	Non-native
Brassica sp.	mustard sp.	Non-native
Cercis occidentalis	redbud	Native
Cortaderia jubata	pampas grass	Non-native
Cotula coronopifolia	brass buttons	Non-native
Distichlis spicata	saltgrass	Native
Ehrharta erecta	veldtgass	Non-native
Epilobium sp.	willow herb	Native
Equisetum sp.	horsetail	Native
Eschscholzia californica	California poppy	Native
Eucalyptus sp.	eucalyptus sp.	Non-native
Foeniculum vulgare	sweet fennel	Non-native
Geranium dissectum	cutleaf geranium	Non-native
Grindelia camporum	common gumplant	Native
Hedera helix	English ivy	Non-native
Helminthotheca echioides	bristly ox-tongue	Non-native
Hordeum brachyantherum	meadow barley	Native
Limonium californicum	California sealavender	Native
Magnolia grandiflora	southern magnolia	Non-native
Malva nicaeensis	bull mallow	Non-native
Medicago polymorpha	bur Clover	Native
Melilotus officinalis	yellow sweetclover	Non-native
Myoporum laetum	lollypop tree	Non-native
Nerium oleander	oleander	Non-native
Oxalis pes-caprae	Bermuda buttercup	Non-native
Pinus radiata	Monterey Pine	Native
Plantago coronopus	Plantain, cut leaf	Non-native
Plantago lanceolata	English plantain	Non-native
Quercus agrifolia	coast live oak	Native
Raphanus sativus	wild radish	Non-native
Rosa californica	California wildrose	Native
Rumex crispus	curly dock	Non-native
Salicornia virginica L.	pickleweed	Native
Salsola australis	Russian thistle	Non-native
Sequoia sempervirens	coast redwood	Native

Observed Vegetation		
Scientific Name	**Common Name**	**Native/Non-native**
Silybum marianum	milk thistle	Non-native
Solanum aviculare	New Zealand nightshade	Non-native
Taraxacum sp.	dandelion sp.	Non-native
Tribulus terrestris	puncture vine	Non-native
Vicia sativa	Spring vetch	Non-native

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Appendix D Representative Photos

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Representative Photographs

Photo 1. Oakland BSA, disturbed area below I-880, looking southeast

Photo 2. Broadway and 6th Street (Oakland BSA), looking southeast towards off-ramp

Photo 3. Disturbed Area (Oakland BSA) adjacent to I-880, looking southeast

Photo 4. Drainage swale under (Oakland BSA) I-880, looking northwest

Photo 5. Cars parked underneath I-880 (Oakland BSA), looking east

Photo 6. Landscape trees at Jackson Street off-ramp (Oakland BSA), looking northeast

Photo 7. Lake Merritt Channel (Oakland BSA), looking south

Photo 8. Oakland BSA underneath I-880, looking east

Photo 9. Alameda BSA, looking south

Photo 10. Alameda BSA, looking north

Photo 11. Saline emergent wetland outside Alameda BSA, looking south

Photo 12. Alameda BSA, looking south

Photo 13. Alameda BSA, looking northeast

Photo 14. Culvert at Barnhill Marine which connects Oakland Estuary to the BSA, looking south

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Appendix E Tree Survey Data

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Tree Survey Data
Oakland Alameda Access Project

Species	Location	Diameter at Breast Height (inches)	Comment	Latitude	Longitude
Pine	Oakland BSA	20	Inside fence	37.79597586	-122.2692007
Eucalyptus	Oakland BSA	15	Inside fence	37.79572982	-122.2686746
Eucalyptus	Oakland BSA	20	Inside fence	37.7957018	-122.2686118
Eucalyptus	Oakland BSA	15	Inside fence	37.79565622	-122.2684966
Eucalyptus	Oakland BSA	5, 5, 5, 4	Multi-stem, Inside fence	37.79559835	-122.2683803
Eucalyptus	Oakland BSA	10	Inside fence	37.79556956	-122.2683097
Eucalyptus	Oakland BSA	15	Inside fence	37.79555266	-122.2682777
Eucalyptus	Oakland BSA	20	Inside fence	37.79552391	-122.2681824
Eucalyptus	Oakland BSA	5, 10, 5	Multi-stem, Inside fence	37.79549999	-122.2681136
Eucalyptus	Oakland BSA	25	Inside fence	37.7953216	-122.2676956
Eucalyptus	Oakland BSA	10	Inside fence	37.79528609	-122.2676207
Eucalyptus	Oakland BSA	15	Inside fence	37.79514768	-122.2672982
Eucalyptus	Oakland BSA	10	Inside fence	37.79512767	-122.2672379
Eucalyptus	Oakland BSA	10	Inside fence	37.79511146	-122.2671828
Eucalyptus	Oakland BSA	20	Inside fence	37.79508011	-122.2671169
Eucalyptus	Oakland BSA	10	Inside fence	37.79505815	-122.26706
Eucalyptus	Oakland BSA	15	Inside fence	37.79503374	-122.2669951
Eucalyptus	Oakland BSA	10	Inside fence	37.79500993	-122.266928
Acacia	Oakland BSA	5, 5, 5, 4, 3, 2, 2	Multi-stem, Inside fence	37.79519682	-122.2674012
Eucalyptus	Oakland BSA	10	Inside fence	37.79557021	-122.266573
Eucalyptus	Oakland BSA	15	Inside fence	37.7956006	-122.2666414
Eucalyptus	Oakland BSA	15	Inside fence	37.79562252	-122.2667004
Eucalyptus	Oakland BSA	20	Inside fence	37.79565905	-122.2667558
Eucalyptus	Oakland BSA	15	Inside fence	37.79575194	-122.2670112
Eucalyptus	Oakland BSA	20	Inside fence	37.79577793	-122.2670677
Eucalyptus	Oakland BSA	15	Inside fence	37.79580346	-122.2671323
Eucalyptus	Oakland BSA	10	Inside fence	37.79581915	-122.2671921
Eucalyptus	Oakland BSA	15	Inside fence	37.79603839	-122.2677586
Eucalyptus	Oakland BSA	15	Inside fence	37.7960699	-122.2678255
Eucalyptus	Oakland BSA	20	Inside fence	37.79609484	-122.2678808
Eucalyptus	Oakland BSA	15	Inside fence	37.79611421	-122.2679371
Eucalyptus	Oakland BSA	25	Inside fence	37.79617018	-122.268073
Pepper Tree	Alameda BSA	10		37.784412	-122.2764382
Eucalyptus	Alameda BSA	10, 10	Multi-stem	37.78418815	-122.276357
Arroyo Willow	Alameda BSA	4, 3, 3, 3, 3, 3, 3, 3	Large shrub / tree, multi-stem	37.78420378	-122.2762806
Coast Live Oak	Oakland BSA	5, 5	Multi-stem	37.79712258	-122.2705034

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