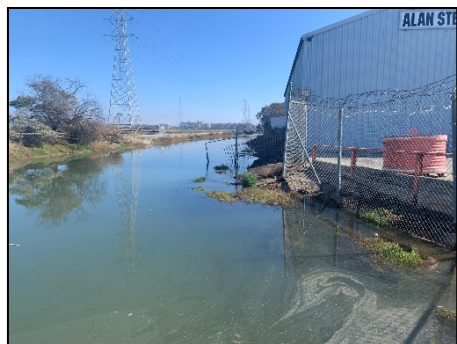




H. T. HARVEY & ASSOCIATES

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**505 East Bayshore Road
Biological Resources Report**

Project #4570-01

Prepared for:

Michael Lisenbee
David J. Powers & Associates
1871 The Alameda, Suite 200
San José, CA 95126

Prepared by:

H. T. Harvey & Associates

August 16, 2022

List of Abbreviated Terms

BCDC	San Francisco Bay Conservation and Development Commission
BMPs	best management practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
FESA	Federal Endangered Species Act
FMP	Fishery Management Plan
HMMP	habitat mitigation and monitoring plan
HTL	high tide line
LSAA	Lake and Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
NAVD	North American Vertical Datum
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHW	ordinary high water
Porter-Cologne	Porter-Cologne Water Quality Control Act
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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List of Preparers

Steve Rottenborn, Ph.D., Principal/Senior Wildlife Ecologist
Kelly Hardwicke, Ph.D., Senior Plant Ecologist

Robin Carle, M.S., Project Manager/Senior Wildlife Ecologist

Jane Lien, B.S., Wildlife Ecologist

Jillian Pastick, M.S., Plant Ecologist

Section 1. Introduction

This report describes the biological resources present in the area of the proposed 505 East Bayshore Road project, as well as the potential impacts of the proposed project on biological resources and measures necessary to mitigate these impacts under the California Environmental Quality Act (CEQA). This assessment is based on the project maps and description provided to H. T. Harvey & Associates by David J. Powers & Associates through August 2022.

1.1 Project Location

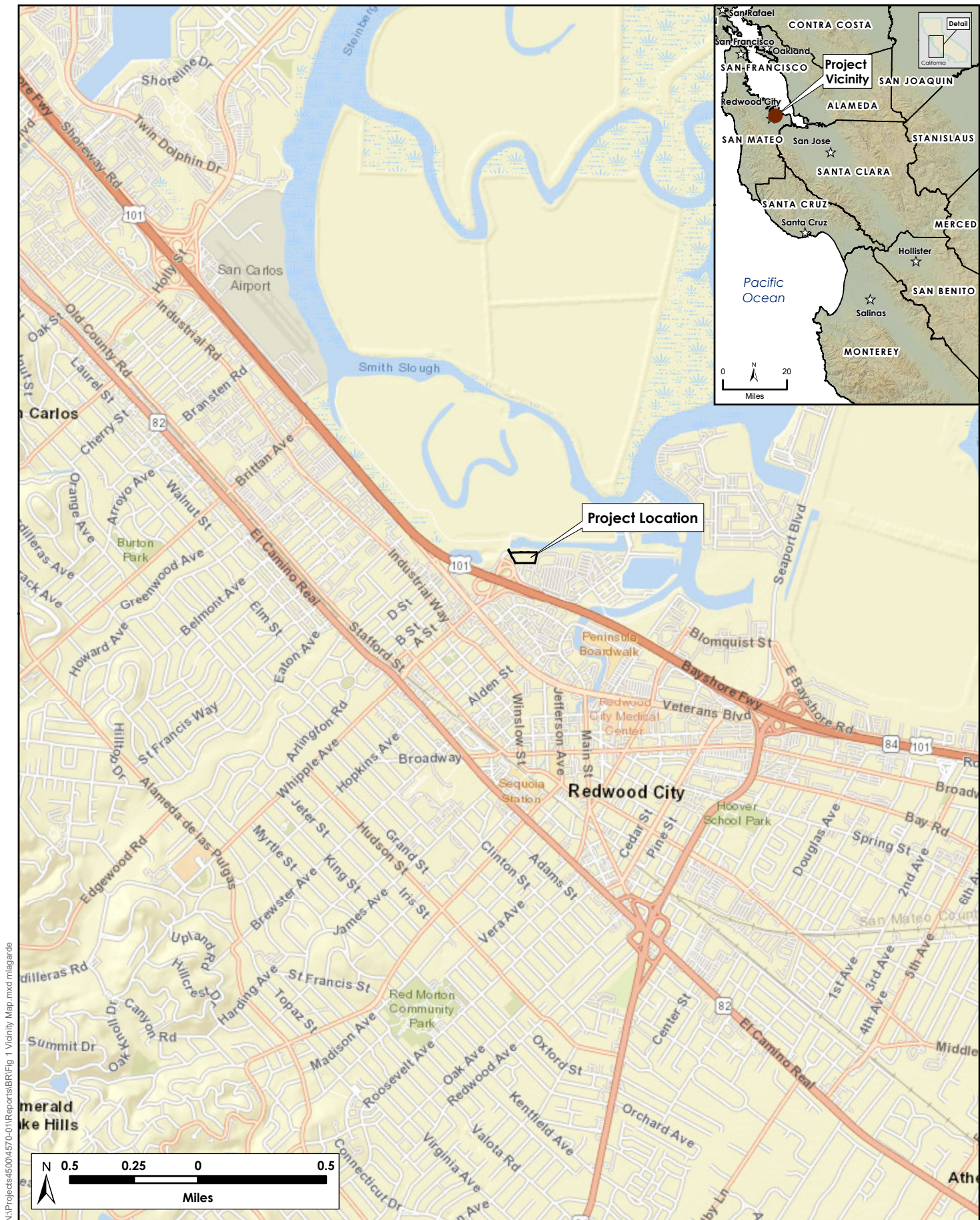
The 2.44-acre project site is located at 505 East Bayshore Road in Redwood City, California, and is generally bounded by East Bayshore Road to the southwest, commercial development to the south and east, and a muted tidal drainage ditch to the north (Figure 1). Surrounding areas consist of dense commercial development in Redwood City to the east, west, and south, and marsh and wetland habitats at Inner Bair Island within the Don Edwards San Francisco Bay National Wildlife Refuge to the north. The San Francisco Bay Trail is located immediately north of the project site on top of a levee that separates the site from the unnamed slough (north of the Bay Trail/levee) that forms the southern boundary of Inner Bair Island. This unnamed slough is a branch of Smith Slough, which lies approximately 1,500 feet downstream to the northeast and separates Inner Bair Island from Middle Bair Island. The project is located on the *Palo Alto*, California 7.5-minute United States Geological Survey (USGS) quadrangle.

1.2 Project Description

1.2.1 Proposed Development

The project proposes to demolish the existing development on the site to construct 56 townhouses. Eight of the units would be sold at moderate below-market levels. The townhouses would consist of two-, three-, and four-bedroom units, ranging from roughly 1,200 square feet to roughly 1,700 square feet in size. The units would be divided between nine buildings which would be three-story wood-framed structures on top of at-grade concrete foundations. In total, the buildings would provide 89,674 square feet of gross floor area. The buildings would reach maximum heights of 38 feet and would be set back at least 29 feet from the northern property line, 10 feet from the eastern property line, and 11 feet from the southern and western property lines. The project proposes 26,951 square feet of common open space, including an amenity area with outdoor cooking and eating facilities for residents on the eastern portion of the site.

The project has been designed to avoid direct impacts within the muted tidal marsh habitat in the drainage ditch along the site's northern boundary (i.e., areas that fall within the jurisdiction of the U.S. Army Corps of Engineers [USACE]). Although some direct project impacts will occur within the drainage ditch due to the construction of a new stormwater outfall, these impacts will be outside of USACE-jurisdictional areas.



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Figure 1. Vicinity Map

505 East Bayshore Road Biological Resources Report (4570-01)

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1.2.2 Site Access, Circulation, and Parking

Vehicular access to the site would be provided via a driveway on East Bayshore Road. An internal roadway would provide access to each residential building. A public trail would be constructed along the northern boundary of the site, providing access between East Bayshore Road and a planned public trail segment to be located on the adjacent property to the east, expanding and enhancing public access along the shoreline. Pedestrian pathways would be located throughout the site, connecting the proposed buildings to the public trail and East Bayshore Road. The public trail would also provide bicycle access to the site. Portions of the trail will be cantilevered over the tidal marsh habitat in the drainage ditch located immediately north of the site, but no grading or other direct impacts associated with trail construction will occur within the tidal marsh habitat.

Each unit would include a two-car garage. A total of 112 garage spaces and seven surface spaces would be provided, resulting in 119 parking spaces on the site. One of the seven surface spaces would be an accessible space. A total of 19 bicycle parking spaces would be provided.

1.2.3 Landscaping

The project would remove all 10 existing trees on the site and plant 157 replacement trees. Accent shrubs and ornamental landscaping would be planted along the perimeter of the proposed buildings, and additional landscaping would be planted in the common areas around the perimeter of the site.

1.2.4 Utilities and Stormwater Treatment/Controls

Stormwater on the site would be treated through a combination of vegetated bioretention areas, permeable paving, and flow-through treatment planters. The treatment areas would be located primarily around the site's perimeter and adjacent to the proposed buildings. In total, the project proposes approximately 25,960 square feet of treatment areas. Stormwater would be conveyed through storm drainage pipes ranging from 8 inches to 12 inches in diameter, ultimately discharging to a new proposed storm drain outfall within the tidal drainage ditch at the northwestern boundary of the project site.

The project would improve the potable water main in East Bayshore Road by replacing the existing 8-inch pipe with a new 12-inch pipe. New connections would be provided for domestic water service, building fire sprinkler service, and site fire hydrant services. The project would connect to the existing 8-inch sanitary sewer main in East Bayshore Road via a new 6-inch lateral from the site.

1.2.5 Project Construction

The proposed project would be constructed in approximately 12 months. The existing development on the site would be demolished to accommodate the project. In addition, the current site elevation would be increased to three feet above the Federal Emergency Management Agency base flood elevation of 10 feet to protect from flooding and sea level rise.

Section 2. Methods

2.1 Background Review

Prior to conducting field work, H. T. Harvey & Associates ecologists reviewed the project description provided by David J. Powers & Associates; H. T. Harvey & Associates work on a biological resources report for the adjacent property at 557 East Bayshore Road (H. T. Harvey & Associates 2020); aerial photos and topographic maps; the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDDB 2022); the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2022); and other relevant scientific literature and technical databases in order to assess the current distribution of special-status plants and animals in the site vicinity. For the purposes of this report, the general vicinity is defined as the area within a 5-mile radius. In addition, for plants, we reviewed all species currently ranked by the CNPS as California Rare Plant Rank (CRPR) rank 1A, 1B, 2, 3, or 4 occurring in the *Palo Alto* and *Redwood Point*, California quadrangles and ten surrounding USGS quadrangles (*Hunters Point, San Leandro, Hayward, Newark, Mountain View, Cupertino, Mindego Hill, La Honda, Woodside, and San Mateo*). In addition, we queried the CNDDDB (2022) for natural communities of special concern that occur within the site vicinity, and we perused records of birds reported in nearby areas, such as at Bair Island, on eBird (Cornell Lab of Ornithology 2022) and on the Peninsula-Birding List-Serve (2022).

2.2 Site Visit

Reconnaissance-level field surveys of the project site were conducted by H. T. Harvey & Associates plant ecologist Jillian Pastick, M.S., and wildlife ecologist Jane Lien, B.S., on October 29, 2021. Because the October site visit had occurred relatively soon after a large storm in mid-October 2021 deposited approximately 3.5-4 inches at the site (PRISM Climate Group 2022), senior plant ecologist Kelly Hardwicke, Ph.D., surveyed the site again on November 11, 2021 to assess wetland conditions under more typical conditions. The purpose of these surveys was to provide an impact assessment specific to the proposed development as described in the proposed project. Specifically, surveys were conducted to (1) assess existing biotic habitats and general wildlife communities on the project site and in adjacent areas, (2) assess the potential for implementation of the project to impact special-status species and/or their habitats, and (3) identify potential jurisdictional habitats, such as waters of the U.S./state and riparian habitat.

Before site surveys were conducted, maps and images of the project site were obtained from several sources and reviewed. These sources included the USGS, National Wetlands Inventory (NWI 2022), and aerial images available on Google Earth Pro software (Google LLC 2022).

The top of bank elevation, or bank-full capacity, of the drainage ditch along the northern boundary of the project site as well as the ordinary high water line/high tide line (HTL) were mapped in the field using a Trimble GeoXH® 3000 GPS unit. The top of bank elevation was identified in the field by an abrupt change in

topography, from the steeper side slope of the ditch bank (approximately 1:1, or 50% slope) to the level ground elevation that characterizes the remainder of the project site. The ordinary high water line as defined in Title 33, Code of Federal Regulations (CFR), Part 328.3 is “the line on the shore established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation or the presence of litter and debris.” Along the drainage ditch, the ordinary high water line corresponded in the field with the HTL and the edge of muted tidal marsh habitat as described below in Section 4 and was estimated to be approximately 8.4 feet elevation NAVD88.

Section 3. Regulatory Setting

3.1 Federal Regulations

3.1.1 Clean Water Act

The Clean Water Act (CWA) functions to maintain and restore the physical, chemical, and biological integrity of Waters of the U.S., which include, but are not limited to, tributaries to traditionally navigable waters currently or historically used for interstate or foreign commerce, and adjacent wetlands. Historically, in non-tidal waters, USACE jurisdiction extends to the ordinary high water (OHW) mark, which is defined in Title 33, Code of Federal Regulations (CFR), Part 328.3. If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the OHW mark to the outer edges of the wetlands. Wetlands that are not adjacent or tributaries to Waters of the U.S. are termed “isolated wetlands” and, depending on the circumstances, typically are not subject to USACE jurisdiction. In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high tide line. The high tide line is defined in 33 CFR Part 328.3 as “the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide.”

On June 23, 2020, the Navigable Waters Protection Rule went into effect. This Rule clarifies that federal waters do not include ephemeral streams or features adjacent to such features. Ephemeral streams have no connection to groundwater and only convey flows during and shortly after precipitation events. They do not include intermittent streams with a seasonal connection to groundwater and seasonal flows that persist for several days or more following rain events or persist between winter storms. However, consistent with the U.S. District Court for the District of Arizona’s August 30, 2021 order vacating and remanding the Navigable Waters Protection Rule, the USACE has halted implementation of the Navigable Waters Protection Rule and is currently interpreting the presence and limits of “waters of the United States” consistent with the pre-2015 regulatory regime, which recognized some ephemeral streams as federal waters, until further notice.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of Section 401 Water Quality Certification.

Project Applicability: On February 1, 2021, the USACE verified a delineation of the project site that claimed the muted tidal ditch along the northern boundary of the project site as “waters of the United States” based on the presence of its hydrologic connection to the unnamed tidal slough located north of the Bay Trail levee along the southern boundary of Inner Bair Island and connecting downstream to Smith Slough to the northeast, as well as the presence of estuarine (muted tidal) wetlands within the upper slopes of the ditch (USACE 2021). No direct project impacts (e.g., grading, fill, outfall construction, or trail construction) will occur within areas that are mapped as waters of the United States in the project’s verified delineation. While some areas of muted tidal marsh habitat fall within the project development boundary, all of these areas are located beneath the

cantilevered bike and pedestrian trail, and will not be directly impacted (either permanently or temporarily) by the project.

The remainder of the project site was classified as uplands by the USACE (USACE 2021). During the October 2021 site visit, large areas of ponding and soil saturation were observed in the vacant lot in the northeast portion of the Project site, likely the result of overland runoff from the large mid-October storm events. These wet areas along the eastern and northern boundaries of the lot contained extensive indicators of active wetland hydrology where not actively ponded, such as soil cracking and algal mats. There were also differences in vegetation observed in the wetted portions of the Project site and the drier areas, with obligate hydrophytic vegetation such as pickleweed (*Salicornia* sp.) germinating in the wetter areas, and upland vegetation in the drier portions of the lot. In November 2021, after an additional 13 days for the site to dry down, ponding had reduced but was still present, several previously ponded areas were still saturated, and other previously ponded areas that were no longer saturated to the soil surface exhibited similar indicators of wetland hydrology and the development of hydrophytic vegetation communities as described above.

In 2020, Huffman-Broadway Group, Inc. performed a routine wetland delineation of the Project site. This report determined that the wetland indicators described above were not based on current hydrology, but rather on salinity of the soils, as well as historical conditions of the site prior to being diked off from the muted tidal drainage. As noted above, the USACE accepted this delineation report and issued a Preliminary Jurisdictional Delineation (PJD) on February 1, 2021 (certified January 12, 2021, USACE 2021). Thus, these wetted areas observed during our 2021 surveys were determined to be non-jurisdictional and any impacts in this portion of the Project site will not require a Section 404 permit.

3.1.2 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 prohibits the creation of any obstruction to the navigable capacity of waters of the U.S., including discharge of fill and the building of any wharfs, piers, jetties, and other structures without Congressional approval or authorization by the Chief of Engineers and Secretary of the Army (33 U.S.C. 403).

Navigable waters of the U.S., which are defined in 33 CFR, Part 329.4, include all waters subject to the ebb and flow of the tide, and/or those which are presently or have historically been used to transport commerce. The shoreward jurisdictional limit of tidal waters is further defined in 33 CFR, Part 329.12 as “the line on the shore reached by the plane of the mean (average) high water.” It is important to understand that the USACE does not regulate wetlands under Section 10, only the aquatic or open waters component of bay habitat, and that there is overlap between Section 10 jurisdiction and Section 404 jurisdiction. According to 33 CFR, Part 329.9, a waterbody that was once navigable in its natural or improved state retains its character as “navigable in law” even though it is not presently used for commerce as a result of changed conditions and/or the presence of obstructions. Historical Section 10 waters may occur behind levees in areas that are not currently exposed to tidal or muted-tidal influence and meet the following criteria: (1) the area is presently at or below the mean high

water line; (2) the area was historically at or below mean high water in its “unobstructed, natural state”; and (3) there is no evidence that the area was ever above mean high water.

As mentioned above, Section 404 of the CWA authorizes the USACE to issue permits to regulate the discharge of dredged or fill material into waters of the U.S. If a project also proposes to discharge dredged or fill material and/or introduce other potential obstructions in navigable waters of the U.S., a Letter of Permission authorizing these impacts must be obtained from the USACE under Section 10 of the Rivers and Harbors Act.

Project Applicability: The project site does not include current Section 10 waters below the mean high water elevation in the muted tidal ditch. Historical Section 10 jurisdiction on the site was assessed using maps of historical sloughs and historical aerial photographs (Google Inc. 2022), which indicate that the northern portion of the site was once part of the complex of tidal baylands that surrounded much of the South Bay. The waters of the U.S. within the muted tidal ditch on the northern boundary of the site, as well as the associated wetlands, are and always have been located below the MHW elevation and are thus considered historical Section 10 jurisdiction by the USACE (USACE 2021). As noted in Section 3.1.1 above, no direct permanent or temporary impacts to waters of the U.S. will occur.

3.1.3 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally listed wildlife species from harm or take, which is broadly defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as take even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the FESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA, but may become listed in the near future and are often included in their review of a project.

Project Applicability: The federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) could potentially occur along the muted tidal drainage ditch along the northern boundary of the project site. No additional federally listed or candidate plant or animal species occur or potentially occur on the project site. Federally listed animal species that occur, or could potentially occur, in tidal wetlands and waters along the unnamed tidal slough north of the Bay Trail levee are the southern green sturgeon (*Acipenser medirostris*) and Central California Coast steelhead (*Oncorhynchus mykiss*), and the longfin smelt (*Spirinchus thaleichthys*), a federal candidate species, may also occur in the unnamed tidal slough. However, these fish are not expected to occur in the muted tidal drainage ditch due to the very small size of the pipe connecting the ditch to the unnamed tidal slough north of the Bay Trail levee.

3.1.4 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States' 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans (FMPs) to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish Essential Fish Habitat (EFH) in FMPs for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to recommendations by the NMFS.

Project Applicability: EFH and FMP-managed fish species are absent from the project site itself, as connectivity between the muted tidal drainage ditch along the northern boundary site and slough habitats downstream (through a narrow pipe) is not sufficient to allow the passage of FMP-managed fish species into the drainage ditch. However, all subtidal and intertidal habitats within the unnamed tidal slough located downstream of the project site are designated as EFH for a number of species that are federally managed under the following three FMPs:

- Coastal Pelagic FMP – northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), mackerel, and squid
- Pacific Groundfish FMP – various rockfish, soles, and sharks
- Pacific Salmon FMP – Chinook salmon (*Oncorhynchus tshawytscha*)

3.1.5 Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests; and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the Department of the Interior in its April 36, 2003 Migratory Bird Permit Memorandum. Nest starts (nests that are under construction and do not yet contain eggs) are not protected from destruction.

Project Applicability: All native bird species that occur on the project site are protected under the MBTA.

3.1.6 Marine Mammal Protection Act

The Marine Mammal Protection Act prohibits the take of marine mammals, with certain exceptions, in waters under the jurisdiction of the U.S. or by citizens of the U.S. on the high seas, as well as the importation of marine mammals and marine mammal products into the U.S. Take is defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.” Harassment is defined as “any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild;

or has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.”

Project Applicability. One of six recognized Pacific harbor seal (*Phoca vitulina*) haul-out sites in the South San Francisco Bay is located at Bair Island (Fox 2008), and harbor seals may occasionally wander upstream to forage in the unnamed tidal slough north of the project site (and north of the Bay Trail levee). However, no marine mammals occur on the project site itself, including the muted tidal ditch along the north edge of the site.

3.2 State Regulations

3.2.1 Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority comes from the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines waters of the state as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California’s jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that “shallow” waters of the state include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB’s Assistant Executive Director has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The *Procedures* describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs to impact.

Pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project will uphold state water quality standards. Because California’s jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on Waters of the State may require Waste Discharge Requirements even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not, for example for riparian habitats which are buffers to Waters of the State. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Project Applicability: In H. T. Harvey & Associates' experience, the RWQCB has claimed jurisdiction over features similar to the muted tidal drainage ditch on the site. Therefore, the RWQCB may consider the aquatic portions of this ditch, as well as muted tidal wetlands associated with this ditch, to be waters of the state. As noted in Section 3.1.1 above, no direct permanent or temporary impacts to muted tidal marsh habitat from filling, grading, or other activities will occur. While some areas of muted tidal marsh habitat fall within the project development boundary, all of these areas are located beneath the cantilevered bike and pedestrian trail, and will not be directly impacted (either permanently or temporarily) by the project.

In addition, the RWQCB could potentially claim jurisdiction over the ruderal ditch bank up to the hinge point at top of bank as important buffer habitat to the wetlands and ditch. RWQCB verification would be necessary to definitively determine the limits of waters of the state on the site. If the RWQCB claims jurisdiction over these areas, impacts to jurisdictional areas (potentially including the ruderal ditch bank below the top of bank) would trigger the need for Waste Discharge Requirements for impacts on waters of the state.

The areas noted to be ponded or to exhibit other active wetland indicators during the October and November 2021 site visits may be determined by the RWQCB to meet the definition of waters of the State. However, their 2019 *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* state that the SWRCB and RWQCBs recognize and utilize the USACE three-parameter methods for physical delineation of jurisdictional wetlands, so the RWQCB would likely accept the recent USACE Preliminary Jurisdictional Determination that areas of the project site outside of the muted tidal ditch do not meet the definition of jurisdictional wetlands.

3.2.2 California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with CESA, the CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in *take* of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of *take* under the California Fish and Game Code. The CDFW, however, has interpreted *take* to include the “killing of a member of a species which is the proximate result of habitat modification.”

Project Applicability: No state-listed plant species have any potential to occur on the project site. The state endangered salt marsh harvest mouse could potentially occur along the muted tidal drainage ditch in the northern portion of the project site, and the state threatened tricolored blackbird (*Agelaius tricolor*) may forage on the site occasionally. In addition, the state threatened longfin smelt could potentially occur in the unnamed tidal slough 60 feet to the north, on the north side of the Bay Trail levee, though it would not occur within the muted tidal ditch that will be impacted by the project.

3.2.3 California Environmental Quality Act

CEQA is a state law that requires state and local agencies to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as air quality, water quality, cultural resources, and biological resources. The State Resources Agency promulgated guidelines for implementing CEQA known as the State CEQA Guidelines.

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

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of “species of special concern” that serve as “watch lists”. Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The CNPS, a non-governmental conservation organization, has developed CRPRs for plant species of concern in California in the CNPS Inventory of Rare and Endangered Plants. The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA’s Section 15380 criteria, and adverse effects to these species may be considered significant. Impacts on plants that are listed by the CNPS on CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those of CRPR 1B or 2, impacts on them are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of “special concern” are tracked in Rarefind (CNDDDB 2022). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and state (S) rankings analogous to those provided in the CNDDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings are a reflection of the condition of a habitat within California. If an alliance is marked as a G1–G3, all of the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program’s currently accepted list of vegetation alliances and associations (CDFW 2022).

Project Applicability: All potential impacts on biological resources will be considered during CEQA review of the project in the context of this Biological Resources Report. Project impacts are discussed in Section 6 below.

3.2.4 California Fish and Game Code

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A *stream* is defined in Title 14, California Code of Regulations Section 1.72, as “a body of water that follows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” Using this definition, CDFW extends its jurisdiction to encompass riparian habitats that function as a part of a watercourse. California Fish and Game Code Section 2786 defines *riparian habitat* as “lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source.” The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, CDFW would claim jurisdiction over a stream’s bed and bank. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, CDFW regulates any project proposed by any person that will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds.” California Fish and Game Code Section 1602 requires an entity to notify CDFW of any proposed activity that may modify a river, stream, or lake. If CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

Certain sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code.

The California Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by the CDFW. Raptors (e.g., eagles, hawks, and owls) and their nests are specifically protected in California under Code Section 3503.5. Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered take by the CDFW.

Project Applicability: Typically, CDFW does not consider tidal features with no freshwater upstream inputs to fall within their jurisdiction under §1602 of the California Fish and Game Code. Because the muted tidal ditch along the northern boundary of the site is a backwater slough that only receives hydrology from the San Francisco Bay, this feature is not expected to be regulated as a jurisdictional stream by the CDFW.

All native bird, mammal, and other wildlife species that occur on the project site and in the immediate vicinity are protected by the California Fish and Game Code.

3.2.5 The McAteer-Petris Act

The McAteer-Petris Act, enacted on September 17, 1965, serves as a legal provision under California state law to preserve San Francisco Bay from indiscriminate filling. The act initially established the San Francisco Bay Conservation and Development Commission (BCDC) as a temporary state agency charged with preparing a plan for the long-term use of the San Francisco Bay. In August 1969, the McAteer-Petris Act was amended to

make BCDC a permanent regulatory agency to incorporate the policies of the Bay Plan (BCDC 2012). BCDC jurisdiction includes a 100-foot wide band along the shoreline of the San Francisco Bay. The *shoreline* is defined as all areas that are subject to tidal action from the south end of the San Francisco Bay to the Golden Gate (Point Bonita–Point Lobos), and to the Sacramento River line (a line between Stake Point and Simmons Point, extended northeasterly to the mouth of Marshall Cut). The BCDC will claim all sloughs (specifically, marshlands lying between mean high tide and up to 5 feet above mean sea level where marsh vegetation is present); tidelands (lands between mean high tide and mean low tide); and submerged lands (land lying below mean low tide) in this region. The McAteer-Petris Act also requires that “maximum feasible public access, consistent with a project be included as part of each project to be approved by the BCDC.”

Project Applicability: According to initial communication with BCDC, they would not consider the muted tidal ditch to be part of their Bay jurisdiction due to the impediments to full tidal flow. Instead, BCDC Bay jurisdiction is limited to the unnamed slough to the north of the Bay Trail levee, and the 100-foot shoreline band would begin at the upper edge of the slough’s wetlands, north of the San Francisco Bay Trail (BKF 2021). As a result, the BCDC 100-foot shoreline band jurisdiction would extend across (south of) the muted tidal ditch into the northern area of the site by approximately 20-30 feet. A minimum setback of 15 feet for housing development from the muted tidal ditch has been proposed as a sufficient setback for the project site (BKF 2021). All project development, work, or impacts within the 100-foot shoreline band would require a permit from BCDC.

3.2.6 State Water Resources Control Board Stormwater Regulation

Construction Phase. Construction projects in California causing land disturbances that are equal to 1 ac or greater must comply with State requirements to control the discharge of stormwater pollutants under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit; Water Board Order No. 2009-0009-DWQ, as amended). Prior to the start of construction/demolition, a Notice of Intent must be filed with the SWRCB describing the project. A Storm Water Pollution Prevention Plan must be developed and maintained during the project and it must include the use of Best Management Practices (BMPs) to protect water quality until the site is stabilized.

Standard permit conditions under the Construction General Permit requires that the applicant utilize various measures including: on-site sediment control best management practices, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors. Additionally, the Construction General Permit does not extend coverage to projects if stormwater discharge-related activities are likely to jeopardize the continued existence, or result in take of any federally-listed endangered or threatened species.

Post Construction Phase. In many Bay Area counties, including San Mateo County, projects must also comply with the California RWQCB, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (Water Board Order No. R2-2009-0074, as amended). This permit requires that all projects implement Best Management Practices and incorporate Low Impact Development practices into the design that prevents

stormwater runoff pollution, promotes infiltration, and holds/slows down the volume of water coming from a site. In order to meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors.

Project Applicability. The project will comply with the requirements of the Construction General NPDES permit; thus, construction phase activities would not result in detrimental water quality effects upon biological/regulated resources in the muted tidal ditch or any sensitive downstream habitats. Additionally, the project must comply with the Municipal Regional Stormwater NPDES Permit for design of appropriate stormwater treatment facilities and incorporate feasible Low Impact Development practices.

3.3 Local Regulations

3.3.1 Redwood City Tree Ordinance

Trees in Redwood City are regulated by Chapter 35 of the City's Municipal Code. Two tree ordinances protect and preserve Redwood City's urban forest: 1) the Street Tree Ordinance, which protects all street trees growing on public property adjacent to roadways throughout Redwood City; and 2) the Tree Preservation Ordinance, which protects all permit trees growing on private property. Street trees have no size requirements. *Permit* trees are defined as "any woody plant characterized by having a single or multiple trunk size of 38-inch circumference (12-inch diameter) or more, measured at any point between 6 inches and 36 inches above ground level". A Tree Permit is required for the removal or pruning of all street trees and permit trees.

Project Applicability. Tree species on the project site include Chinese hackberry (*Celtis sinensis*), Bailey acacia (*Acacia baileyana*), pine (*Pinus* sp.), and Chinese juniper (*Juniperus chinensis*) located along the top of bank of the muted tidal drainage ditch, and common fig (*Ficus carica*), located in the developed portion of the project site. The project plans indicate that all the on-site trees will be removed to support the project. For any permit-sized trees that are removed, the Project will obtain a Tree Permit from the Redwood City Community Development Department.

Section 4. Environmental Setting

4.1 General Project Area Description

The approximately 2.44-acre project site is located at the site of a business, Alan Steel & Supply Company, and associated parking lot in Redwood City in San Mateo County, California (Figure 2). The San Francisco Bay Trail, an unnamed tidal slough, and Inner Bair Island (part of the Don Edwards San Francisco Bay National Wildlife Refuge) are located just north of the project site. Based on 30-year climate normals from 1980 through 2010, the project area receives approximately 20.32 inches of annual precipitation and has a mean temperature range of 48.2°–70.6°F (PRISM Climate Group 2022).

The site is generally level, with elevations ranging from approximately 0 feet to 11 feet elevation North American Vertical Datum of 1988 (NAVD88) (Google LLC 2022). The site is underlain by one soil type: urban land-Orthents, reclaimed complex, 0–2% slopes (NRCS 2022). The Orthents soil series consists of soils that have been filled and vary greatly in texture including soil, gravel, concrete and asphalt rubble, solid wastes, and Bay Mud. These soils are very deep and can be poorly to somewhat poorly drained. The highly variable soil characteristics of this soil series are related to differences in the amounts of various fill materials used (NRCS 2022).

4.2 Biotic Habitats

Reconnaissance-level surveys identified four biotic habitat types/land uses on the project site: developed/landscaped (2.42 acres), muted tidal marsh (0.04 acre), and ruderal ditch bank (0.03 acre); these habitats are depicted on Figure 3 and described in detail below. Plant species observed during the reconnaissance-level survey are listed in Appendix A.

4.2.1 Developed/Landscaped

Vegetation. Developed/landscaped areas occupy the majority of the project site, and consist of four single-story warehouses, an associated paved parking area, a staging area, and a narrow, landscaped area (Photo 1). The storage yard consists of hardpacked gravel, concrete, asphalt, and unvegetated soil. One warehouse is located on the northwestern portion of the project site, bordered by East Bayshore Road. The other three warehouses are positioned in the southern portion of the project site, along the fence line. Steel road plates are laid throughout the storage yard in order to withstand the weight of equipment.



Photo 1. Developed/landscaped habitat on the project site.



N:\Projects\4500\4570-01\Reports\BR\Fig 2 Project Site.mxd

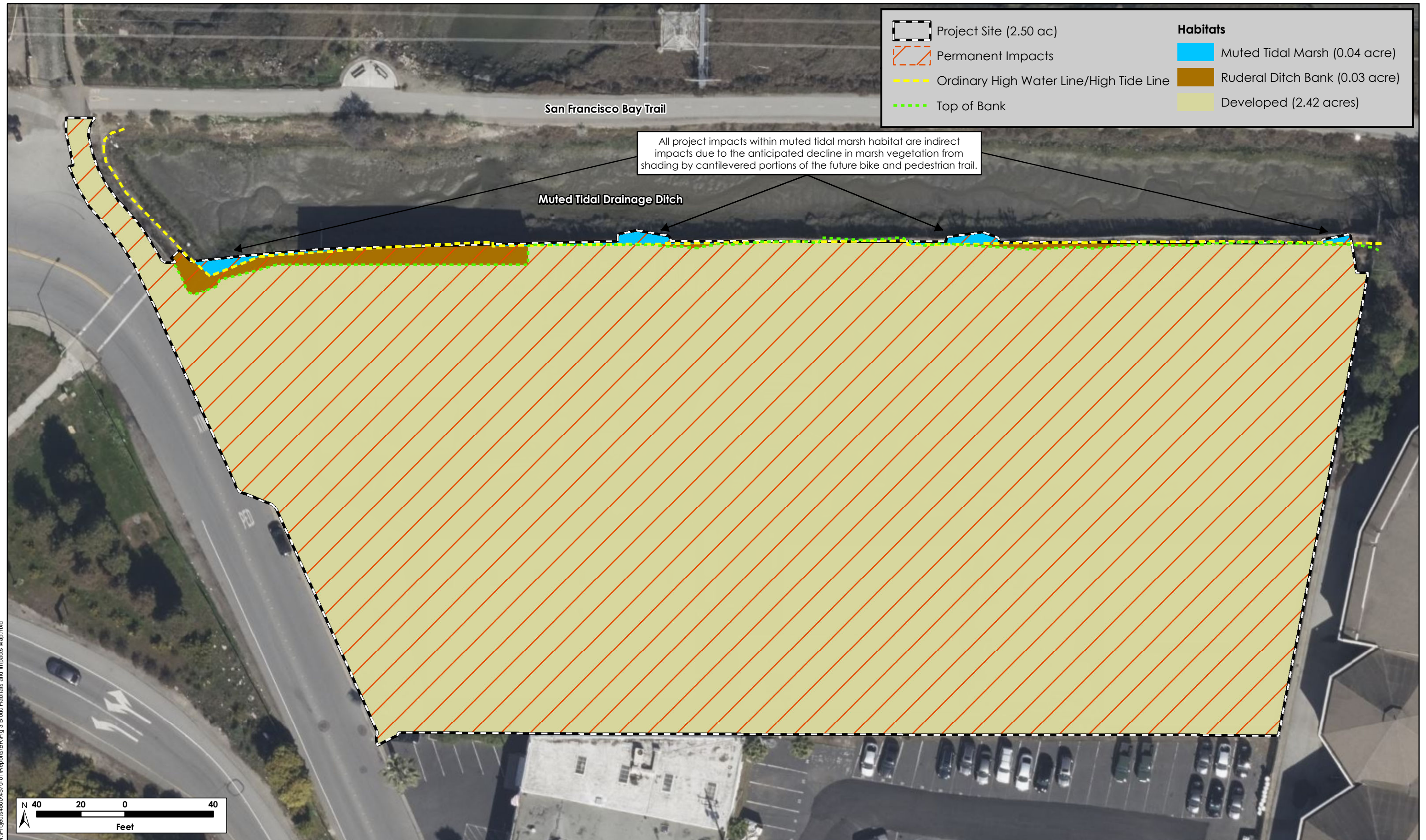


H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 2. Project Site

505 East Bayshore Road Biological Resources Report (4570-01)

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N:\Projects\4500\4570-01\Reports\BR\Fig 3 Biotic Habitats and Impacts Map.mxd

The landscaping is planted along a man-made berm which was constructed along the northern boundary of the project site in order to prevent water from flooding the storage yard and adjacent warehouses. Ornamental tree species were planted along the top of the berm, including Chinese hackberry, Bailey acacia, pine, and Chinese juniper. The understory is primarily unvegetated but includes some alkali heath (*Frankenia salina*) and salt grass (*Distichlis spicata*), likely escaped from the nearby muted tidal marsh.

The vacant lot in the northeast corner of the project site acts as a staging area and is primarily unvegetated, disturbed soil. During the survey, the soil in this area experienced a fair amount of ponding and saturation. The ponding was most pronounced on the western edge of the vacant lot and was likely the result of overland runoff from large storm events. There were also saturated areas along the northern boundary of the lot. These wet areas included a low overall cover of vegetation and included species such as alkali heath, common pickleweed (*Salicornia pacifica*), salt grass, and slender ice plant (*Mesembryanthemum nodiflorum*). In the drier areas to the south, more upland species were observed including cheeseweed (*Malva* sp.), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and Canada horseweed (*Erigeron canadensis*). Overall cover was less than 10% throughout the vacant lot, both in the wet and dry areas. This vacant lot contained features installed to enhance drainage in this area.

Wildlife. Due to the scarcity of vegetation, the project site provides only very low-quality habitat for wildlife. The wildlife most often associated with developed areas such as the project site are tolerant of human disturbances, and include introduced species such as the European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and Virginia opossum (*Didelphis virginiana*) as well as several common, urban-adapted native species such as the American crow (*Corvus brachyrhynchos*), house finch (*Haemorrhous mexicanus*), Brewer's blackbird (*Euphagus cyanocephalus*) and raccoon (*Procyon lotor*), which was observed to use the site. Common native resident birds such as the mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), bushtit (*Psaltiriparus minimus*), Brewer's blackbird, and house finch will nest within vegetation or on buildings on or adjacent to the project site. Wildlife associated with higher quality, nearby habitats, such as the Bair Island complex to the north, may occasionally disperse onto or occupy the site; for example, a grey fox (*Urocyon cinereoargenteus*), was observed on the site during the reconnaissance survey. While the buildings on the site provide potential roosting habitat for common species of bats, such as the Mexican free-tailed bat (*Tadarida brasiliensis*), no signs of roosting bats (e.g. guano and urine staining) were observed on either the exterior or interior of the buildings to suggest a large colony of bats is currently using the buildings.

4.2.2 Ruderal Ditch Bank

Vegetation. Ruderal ditch bank habitat within the project site is located below the top of the bank, along the northern property boundary of the project site, and above the extent of muted tidal marsh habitat within the drainage ditch (Photo 2). Vegetation within this habitat is fairly bare, containing the occasional ruderal grassland species, such as wild oat and purple sand spurry (*Spergularia rubra*), as well as the occasional Pacific pickleweed recruit. The ruderal ditch bank is lined with gravel and rocks and appears to be neither utilized nor accessible due to the surrounding fences.



Photo 2. Ruderal ditch bank habitat on the project site is located above the marsh vegetation and below the top of bank of the muted tidal drainage ditch.

Wildlife. The area of ruderal ditch bank grassland habitat on the project site provides limited habitat for wildlife species due to its narrow extent, lack of connectivity with more extensive grassland habitats in the region, and overall lack of vegetation. Wildlife species that make use of this habitat are similar to those that occur within the developed/landscaped and ruderal grassland habitats on the project site, described above. In addition, some wildlife species associated with the marsh habitat along the muted tidal drainage ditch and the unnamed tidal slough to the north are expected to forage opportunistically within this habitat. These include resident Alameda song sparrows (*Melospiza melodia pusillula*), Bryant's savannah sparrows (*Passerculus sandwichensis alaudinus*), and wintering Lincoln's sparrows (*Melospiza lincolni*).

4.2.3 Muted Tidal Marsh

Vegetation. Muted tidal marsh vegetation within the ditch is located within areas mapped as jurisdictional wetlands in the project's February 1, 2021 USACE verified delineation along the banks of the ditch at or above the permanently inundated areas (Photo 3). Only a small portion of muted tidal marsh habitat occurs within the project site. The remainder of the muted tidal channel occurs parallel to the project site along the northern boundary. The muted tidal marsh vegetation consists of dense, narrow stands of native, salt-tolerant hydrophytes, and is influenced by the muted ebb and flow of tidal waters through the pipe connection between the drainage ditch and the unnamed tidal slough to the



Photo 3. Muted tidal marsh habitat at the location of the outfall structure at high tide.

north. The muted tidal ditch receives limited freshwater input from landscape and stormwater runoff from the project site and adjacent developed properties. The pipe connecting the ditch with the slough is located immediately opposite the project site along the northern edge of the ditch (Photos 4 and 5); the water level within the ditch fluctuates daily, though due to the narrow nature of the pipe, we consider tidal action within the ditch to be muted. Photos 6 and 7 depict the narrow strip of tidal marsh along the northern edge of the project site.



Photo 4. The pipe connecting the muted tidal drainage ditch with the unnamed tidal slough to the north (ditch side), during low tide.



Photo 5. The pipe connecting the muted tidal drainage ditch with the unnamed tidal slough to the north (slough side), during low tide.



Photo 6. View of the muted tidal drainage ditch at high tide, from the Bay Trail levee (with the narrow fringe of tidal marsh along the project's northern edge to the left).



Photo 7. Tidal marsh vegetation along the muted tidal ditch (the project site is to the right in this photo).

Wildlife. The limited extent of the muted tidal marsh habitat on the project site and lack of tall, dense marsh vegetation and grasses (e.g., cordgrass [*Spartina foliosa*]) limits the value of this habitat to marsh-associated wildlife species. However, the extensive areas of marsh habitat present immediately opposite the 12-foot wide San Francisco Bay Trail from the site support robust populations of marsh-associated wildlife species, and some

of these species, such as the marsh wren and Alameda song sparrow, are expected to inhabit the smaller area of muted tidal marsh habitat along the drainage ditch or make use of this habitat opportunistically. Wildlife species that are associated with dense, tall marsh vegetation and grasses, such as the San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), red-winged blackbird (*Agelaius phoeniceus*), California Ridgway's rail (*Rallus obsoletus obsoletus*), Virginia rail (*Rallus limicola*), and sora (*Porzana carolina*) are absent from the drainage ditch due to the relatively sparse, short structure of the vegetation present. The band of pickleweed vegetation along either side of the drainage ditch provides ostensibly suitable habitat for the salt marsh harvest mouse and salt marsh wandering shrew (*Sorex vagrans halicoetes*), and these species may be present within this vegetation; however, due to the narrow nature of this marsh vegetation and separation from higher-quality habitat by the Bay Trail, habitat quality within the muted tidal marsh for the salt marsh harvest mouse and salt marsh wandering shrew is low.

Dabbling ducks such as the mallard (*Anas platyrhynchos*) may forage in the aquatic habitat along the muted tidal drainage ditch during high tide and nest in adjacent marsh and grassland areas; however, the aquatic habitat along the ditch is too shallow to provide foraging habitat for diving ducks, such as the ruddy duck (*Oxyura jamaicensis*), that are found in the unnamed slough to the north. Wading birds such as the snowy egret (*Egretta thula*), killdeer (*Charadrius vociferous*), and spotted sandpiper (*Actitis macularius*) will forage along this ditch, especially during low tide when the marsh habitat is exposed.

4.3 Adjacent Habitat Areas

4.3.1 Ruderal Ditch Bank

Vegetation. Ruderal ditch bank habitat is located below the top of the bank and above the mapped extent of muted tidal marsh habitat within the drainage ditch to the north of the project site (Photo 8). In contrast to the relatively bare section of ruderal ditch bank located on the project site, sparse vegetation is present within this habitat in other areas along the ditch. Plant species present within this habitat include a number of the same species observed within the muted tidal marsh habitat, such as alkali heath, salt grass, pickleweed, and fat hen (*Atriplex prostrata*), and Nonnative ice plant sea fig (*Carpobrotus chilensis*). In addition to these species, scattered individuals of some upland species occur, including wild oat, ripgut brome, black mustard (*Brassica nigra*), and Italian thistle (*Carduus pycnocephalus*). In addition to these grassland species, several large trees including coast live oak, eucalyptus, and toyon (*Heteromales arbutifolia*) are present within this habitat.



Photo 8. Ruderal ditch bank habitat adjacent to the project site is located above the marsh vegetation and below the top of bank of the muted tidal drainage ditch.

Wildlife. The area of ruderal ditch bank grassland habitat north of the project site provides limited habitat for wildlife species due to its narrow extent and lack of connectivity with more extensive grassland habitats in the region. Wildlife species that make use of this habitat are similar to those that occur within the developed/landscaped and ruderal grassland habitats on the project site, described above. In addition, wildlife species associated with the marsh habitat along the muted tidal drainage ditch and the unnamed tidal slough to the north are expected to forage opportunistically within this habitat. These include resident Alameda song sparrows, Bryant's savannah sparrows, and marsh wrens as well as wintering Lincoln's sparrows.

4.3.2 Bair Island Complex/Don Edwards San Francisco Bay National Wildlife Refuge

The Bair Island complex is an important tidal marsh island complex located directly to the north of the project site that is owned and managed by multiple entities including the CDFW (Bair Island Ecological Reserve) and USFWS (Don Edwards San Francisco Bay National Wildlife Refuge). The island complex is a former salt marsh that has undergone considerable natural and anthropogenic changes and is currently the focus of multiple large-scale restoration efforts. It is divided into three distinct areas separated by slough channels: Inner, Middle and Outer Bair Islands. Historically, Bair Island was part of a large complex of tidal marshes and mudflats within the drainage of Redwood Creek and Steinberger Slough. It was later diked and used for cattle grazing, then as salt evaporation ponds. The extent of anthropogenic changes at Bair Island have resulted in the replacement of historical tidal malt marsh and the fragmentation of the remaining habitat. Of the three islands, Inner Bair Island is located closest to the project site and is separated from the site by an unnamed slough channel that branches off of Smith Slough approximately 1,500 feet to the northeast of the project site. The project site is separated from Inner Bair Island by this 150-foot-wide slough channel, as well as the 12-foot-wide San Francisco Bay Trail.

Habitats at Bair Island include tidal salt marsh, muted tidal salt marsh, diked salt marsh, seasonally ponded wetlands, open water, and ruderal grassland (USFWS and CDFW 2006). Inner Bair Island, closest to the project site, supports large areas of ruderal grassland, seasonally ponded wetlands, and tidal salt marsh. Sensitive wildlife species present within these areas include the California Ridgway's rail, salt marsh harvest mouse, northern harrier (*Circus hudsonius*), burrowing owl, San Francisco common yellowthroat, Alameda song sparrow, and salt marsh wandering shrew.

Section 5. Special-Status Species and Sensitive Habitats

CEQA requires assessment of the effects of a project on species that are protected by state, federal, or local governments as “threatened, rare, or endangered”; such species are typically described as “special-status species”. For the purpose of the environmental review of projects proposed under the Amendment, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described in Section 3 above.

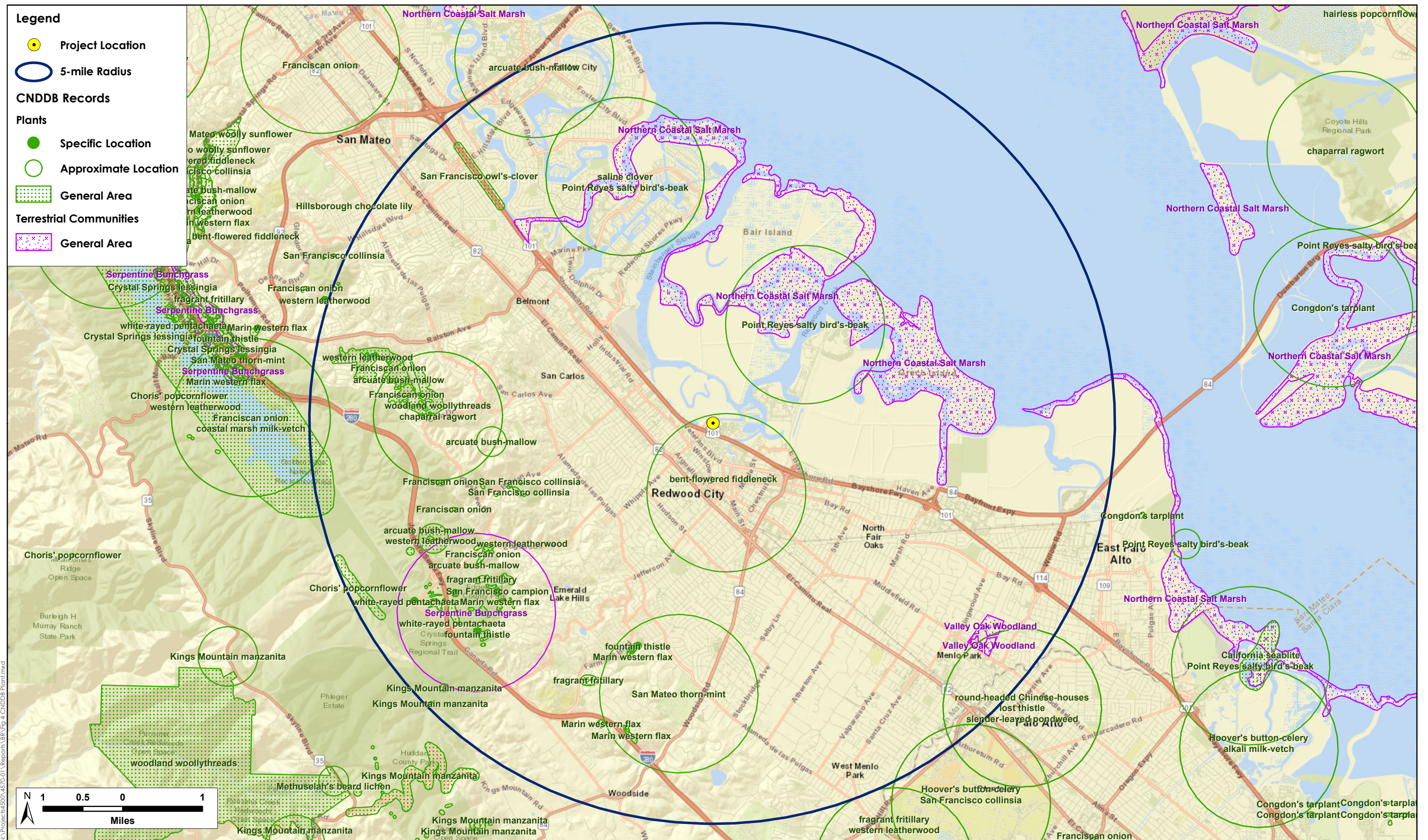
For purposes of this analysis, “special-status” plants are considered plant species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as CRPR 1A, 1B, 2, 3, or 4.

For purposes of this analysis, “special-status” animals are considered animal species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFW as a California species of special concern.
- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Information concerning threatened, endangered, and other special-status species that potentially occur on the project site was collected from several sources and reviewed by H. T. Harvey & Associates biologists as described in Section 2.1 above. Figure 4 depicts CNDDDB records of special-status plant species in the general vicinity of the project site and Figure 5 depicts CNDDDB records of special-status animal species. These generalized maps show areas where special-status species are known to occur or have occurred historically.



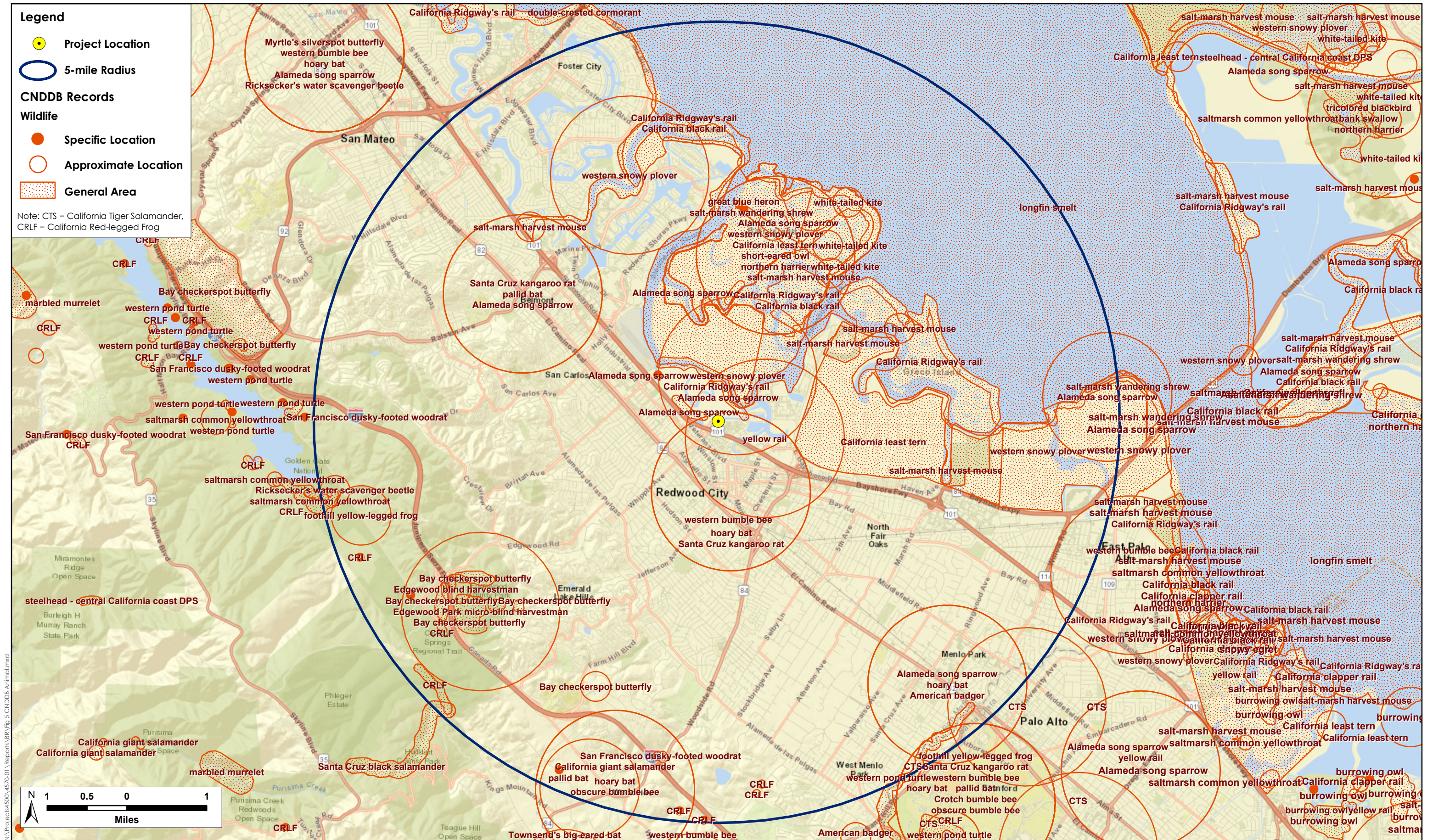


Figure 5. CNDDDB-Mapped Records of Special-Status Animals

505 East Bayshore Road Biological Resources Report (4570-01)

August 2022

5.1 Special-Status Plant Species

The CNPS (2022) and CNDDB (2022) identify 66 special-status plant species as potentially occurring in at least one of the nine USGS quadrangles containing or surrounding the project site for CRPR 1 or 2 species, or in San Mateo County for CRPR 3 and 4 species. Of those 66 potentially occurring special-status plant species, all were determined to be absent from the project site for at least one of the following reasons: (1) lack of suitable habitat; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the elevation range of the species is outside of the range on the project site; (4) the site is too regularly disturbed and compacted to be expected to support the species; and/or (5) the species is considered extirpated from the project vicinity. A number of special-status plant species that occur in muted tidal salt marshes in the region, such as Pt. Reyes salty bird's beak (*Chloropyron maritimum* ssp. *palustre*), California seablite (*Suaeda californica*), alkali milk vetch (*Astragalus tener* var. *tener*), and saline clover (*Trifolium hydrophilum*), are known to occur at Bair Island and in salt ponds near the project site (Figure 4). However, the muted tidal marsh habitat which occurs within the project site is limited in extent and degraded due to anthropogenic influence and does not provide suitable habitat for these species. Additionally, the narrow muted tidal connection between the drainage ditch and the adjacent unnamed tidal slough located below the permanently inundated portions of the ditch is a partial barrier to water-based seed dispersal for rare tidal marsh species. As well as the isolation of the site from potential source populations, the project site is so heavily and regularly disturbed and devegetated that no rare, tidal marsh-adapted plant species are reasonably expected to occur on the site.

Although Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) can occur in disturbed habitats, and has been documented by the CNDDB in the project vicinity (Figure 4), the project site is too heavily and regularly disturbed for this species to occur there. Therefore, this species is also considered absent from the project site. In summary, no special-status plants are expected to occur on the project site.

5.2 Special-Status Animal Species

The legal status and likelihood of occurrence on the project site of special-status animal species known to occur, or potentially occurring, in the surrounding region are presented in Table 1. Most of the special-status species listed in Table 1 are not expected to occur on the project site because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat.

The following special-status species occur in less urbanized settings in the South Bay, or in specialized habitats in the South Bay, but are absent from the project site due to a lack of suitable habitat and/or isolation of the site from populations by urbanization: the California black rail (*Laterallus jamaicensis coturniculus*), California red-legged frog (*Rana draytonii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), western pond turtle (*Actinemys marmorata*), burrowing owl (*Athene cunicularia*), short-eared owl (*Asio flammeus*), loggerhead shrike (*Lanius ludovicianus*), Mountain Lion (*Puma concolor*), Townsend's big-eared bat (*Corynorhinus townsendii*), and golden eagle (*Aquila chrysaetos*).

No suitable aquatic habitat to support special-status fish and marine mammal species is present on the project site, as these species are not expected to traverse the narrow pipe connecting the muted tidal ditch to the unnamed tidal slough. However, the unnamed tidal slough 60 feet to the north provides suitable foraging habitat for the green sturgeon, Central California Coast steelhead, longfin smelt, Central Valley fall-run Chinook salmon, Pacific lamprey (*Entosphenus tridentatus*), and Pacific harbor seal. Although these special-status species will not be directly affected by the project, there is some potential for project activities to result in indirect effects on these species due to their location downstream from the project site.

Several special-status species associated with tidal marsh, salt panne, or open-water habitats of San Francisco Bay are known to occur, or historically occurred, at Bair Island, but are absent from the project site and adjacent areas due to the relatively limited extent of the habitat present and/or because the habitat on and adjacent to the site is not suitable to support the species. These are the California Ridgway's rail, western snowy plover (*Charadrius nivosus nivosus*), California least tern (*Sternula antillarum browni*), black skimmer (*Rynchops niger*), northern harrier, and California brown pelican (*Pelecanus occidentalis californicus*).

A number of special-status bird species can occasionally occur on the project site as nonbreeding foragers (i.e., they do not nest on the project site). These are the tricolored blackbird, Vaux's swift (*Chaetura vauxi*), San Francisco common yellowthroat, Bryant's savannah sparrow, and peregrine falcon (*Falco peregrinus anatum*). The pallid bat (*Antrozous pallidus*), a California species of special concern, may also forage aerially over habitats on the project site. These species are not expected to nest, roost, or breed on or immediately adjacent to the project site, and will be affected very little, if at all, by the proposed project.

The monarch butterfly (*Danaus plexippus*), a federal candidate species, may also occur on the site as an occasional migrant, though no suitable host plants or nectar sources are present on the site due to its disturbed condition. The salt marsh harvest mouse, Alameda song sparrow, salt marsh wandering shrew, and white-tailed kite (*Elanus leucurus*) are addressed in greater detail in this report because these species can potentially breed or occur in or immediately adjacent to the project site and/or may be significantly impacted by the project (see Section 6 *Impacts and Mitigation Measures* below).

Table 1. Special-status Animal Species, Their Status, and Potential for Occurrence on the Project Site

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Federal or State Endangered, Threatened, or Candidate Species			
Monarch butterfly (<i>Danaus plexippus</i>)	FC	Requires milkweeds (<i>Asclepias</i> spp.) for egg-laying and larval development, but adults obtain nectar from a wide variety of flowering plants in many habitats. Individuals congregate in winter roosts, primarily in Mexico and in widely scattered locations on the central and southern California coast.	Absent as Breeder. The monarch butterfly occurs within the project region primarily as a migrant. Breeding habitat (i.e., milkweed plants) is absent from the project site, and due to the intensity of disturbance from existing site activities, no nectar plants were observed. Therefore, if this species occurs on the site, it does so only as a transient during spring and fall migration. Monarchs are known to form over-wintering congregations near Newark in Alameda County and in several locations in Santa Cruz County (CNDDDB 2022). However, no such congregations are known from the project site or its vicinity.
Green sturgeon (<i>Acipenser medirostris</i>)	FT, CSSC	Spawns in large river systems such as the Sacramento River; forages in nearshore oceanic waters, bays, and estuaries.	Absent (May be Present in Adjacent Areas). Green sturgeon occur in the San Francisco Bay and may forage infrequently, and in low numbers, in the unnamed tidal slough approximately 60 feet north of the project site. However, the slough does not provide suitable spawning habitat for this species, and green sturgeon are not expected to traverse the narrow pipe connecting the slough and the muted tidal drainage ditch to reach the project site. Determined to be absent.
Longfin smelt (<i>Spirinchus thaleichthys</i>)	FC, ST	Spawns in fresh water in the upper end of the San Francisco Bay; may occur year-round in the South Bay.	Absent (May be Present in Adjacent Areas). Longfin smelt occur in the San Francisco Bay, and adults and yearling juveniles may be present as occasional foragers in tidal reaches of the unnamed tidal slough approximately 60 feet north of the project site. However, the slough does not provide suitable spawning habitat for this species, and longfin smelt are not expected to traverse the narrow pipe connecting the slough and the muted tidal drainage ditch to reach the project site. Determined to be absent.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Central California coast steelhead (<i>Oncorhynchus mykiss</i>)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	Absent (May be Present in Adjacent Areas). Central California Coast steelhead occur in the San Francisco Bay, and adults and yearling juveniles may be present as occasional foragers in the unnamed tidal slough approximately 60 feet north of the project site. However, the slough does not provide suitable spawning habitat for this species, and steelhead are not expected to traverse the narrow pipe connecting the slough and the muted tidal drainage ditch to reach the project site. Determined to be absent.
California red-legged frog (<i>Rana draytonii</i>)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	Absent. The California red-legged frog is known to occur 4.9 miles to the southwest at Crystal Springs Reservoir. However, this species has been extirpated from the majority of the project region, and the site is too isolated and distant from existing breeding populations to sustain a population of red-legged frogs. Thus, California red-legged frogs are determined to be absent from the project site.
San Francisco garter snake (<i>Thamnophis sirtalis tetrataenia</i>)	FE, SE, SP	Prefer densely vegetated freshwater habitats. May use upland burrows for aestivation.	Absent. The San Francisco garter snake occurs at very few locations in San Mateo County. The only known population of San Francisco garter snakes on the east side of the San Francisco peninsula occurs near the San Francisco International Airport, 11.5 miles to the northwest. No suitable habitat for this species is present on the project site, and the site is isolated from the nearest known remaining populations by extensive urbanization. Thus, this species is determined to be absent.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
California Ridgway's rail (<i>Rallus obsoletus obsoletus</i>)	FE, SE, SP	Salt marsh habitat dominated by pickleweed and cordgrass.	Absent. Annual surveys conducted for California Ridgway's rails as part of the Invasive Spartina Project have not detected Ridgway's rails at Inner Bair Island during the breeding season, despite surveying four stations along the drainage ditch north of the project site (Olofson Environmental Inc. 2020). Inner Bair Island currently provides poor-quality habitat for this species due to the sparse, short vegetation present, and the closest detection of Ridgway's rails is approximately 0.9 mile northeast of the project site at Middle Bair Island (Olofson Environmental Inc. 2020). No suitable habitat is present on the project site to provide nesting or foraging habitat for Ridgway's rails. The marsh habitat along the muted tidal drainage ditch along the northern boundary of the site does not provide nesting or foraging habitat for California Ridgway's rails due to the narrow width of the habitat; the short, sparse vegetation present; and high levels of adjacent human disturbance. Ridgway's rails typically nest and forage in broader salt or brackish marshes with well-developed tidal channels (conditions that are absent from the project site, the muted tidal drainage ditch, and adjacent areas). Thus, Ridgway's rails are determined to be absent from the project site.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	ST, SP	Nests in fresh, brackish, and tidal salt marsh.	Absent. Few black rails have been observed in marshes on the east side of the San Francisco peninsula, and all records are from the nonbreeding season (CNDDDB 2022, Cornell Lab of Ornithology 2022). The marsh habitat along the muted tidal drainage ditch along the northern boundary of the project site does not provide suitable nesting or foraging habitat for black rails due to the narrow width of the marsh habitat; the short, sparse vegetation present; and high levels of adjacent human disturbance. Thus, black rails are determined to be absent from the project site.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Western snowy plover (<i>Charadrius nivosus nivosus</i>)	FT, CSSC	Sandy beaches on marine and estuarine shores and salt pans in San Francisco Bay saline managed ponds.	Absent. No suitable nesting or foraging habitat for snowy plovers occurs on the project site due to a lack of suitable salt pan habitat and high levels of human disturbance. Snowy plover nests were observed on salt evaporator ponds in the Bair Island area 2.9 miles to the southeast of the project site in 1975–1976 (CNDDDB 2022). However, snowy plovers are no longer known to nest at Bair Island. No critical habitat for snowy plovers has been designated within, or in the vicinity of, the project site (USFWS 2012).
California least tern (<i>Sternula antillarum browni</i>)	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates. In the South Bay, nests in salt pannes and on an old airport runway. Forages for fish in open waters.	Absent. Least terns are not known or expected to nest on or adjacent to the project site. Least terns were known to nest at Outer Bair Island approximately 1.5 miles north of the project site in some years from 1969–1982 and at salt evaporation ponds approximately 0.9 mile to the east from 1975–1976 (CNDDDB 2022), but they are no longer known to nest at these locations. Least terns forage primarily in managed ponds and over the open San Francisco Bay and have not been observed foraging in narrow tidal sloughs (such as the unnamed tidal slough adjacent to the project site). Thus, least terns are not expected to forage on or immediately adjacent to the site. The site also lacks high-quality roosting habitat, as immediately adjacent human disturbance precludes the use of upland areas as least tern roost sites, and no such least tern roosts have been observed in these areas. Determined to be absent.
Tricolored blackbird (<i>Agelaius tricolor</i>)	ST, CSSC	Nests near fresh water in dense emergent vegetation.	Absent as Breeder. Tricolored blackbirds typically nest in extensive stands of tall emergent herbaceous vegetation in nontidal freshwater marshes and ponds, which are not present on or immediately adjacent to the project site. This species is not known to nest in tidal habitats in the Bair Island area, and has not been recorded nesting on or near the project site. However, tricolored blackbirds may forage on the project site during the nonbreeding season.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Salt marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed.	<p>May be Present. Salt marsh harvest mice have been documented at Middle Bair Island approximately 0.3 mile (1,400 feet) north of the project site (Shellhammer 2005). Ostensibly suitable marsh habitat for this species occurs along the muted tidal drainage ditch on and adjacent to the project site, and along the unnamed tidal slough 100 feet north of the project site. The approximately 12-foot wide paved San Francisco Bay Trail represents an impediment to dispersal of salt marsh harvest mice between the unnamed tidal slough and the muted tidal ditch, as this species is reluctant to cross bare ground. Nevertheless, salt marsh harvest mice may be present within the marsh habitat along the muted tidal drainage ditch on and immediately adjacent to the project site (though habitat quality is low given the narrow nature of marsh). This species is not expected to occur within the ruderal ditch bank habitat along the tidal drainage ditch on and immediately adjacent to the project site, as this habitat area does not support sufficiently dense vegetation to support salt marsh harvest mice. An approximately 18-inch-tall impermeable fence creates a barrier to dispersal between the muted tidal marsh and the majority of the project site. Thus, while individual salt marsh harvest mice may be present in the muted tidal marsh habitat, this species is not expected to forage or take refuge in ruderal ditch bank or developed/landscape habitats located elsewhere on the project site.</p>

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Mountain lion (<i>Puma concolor</i>)	SC	Has a large home range size and occurs in a variety of habitats. Natal dens are typically located in remote, rugged terrain far from human activity. May occasionally occur in areas near human development, especially during dispersal.	Absent. In the project region, mountain lions occur primarily in the extensive undeveloped habitats of the peninsular ranges, occasionally straying into adjacent suburban habitats. They are absent from the project area due to extensive urbanization, lack of suitable habitat, and isolation from existing breeding populations.
California Species of Special Concern			
Central Valley fall-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	Absent (May be Present in Adjacent Waters). Central Valley fall-run Chinook salmon occur in the San Francisco Bay, and small numbers of juveniles or fall-run adults from other runs may be present as occasional foragers in the unnamed tidal slough approximately 60 feet north of the project site. However, the slough does not provide suitable spawning habitat for this species, and Chinook salmon are not expected to traverse the narrow pipe connecting the slough and the muted tidal drainage ditch to reach the project site. Determined to be absent.
Pacific lamprey (<i>Entosphenus tridentatus</i>)	CSSC	Medium- and large-sized, low-gradient cold rivers and streams, with a wide range of habitats (e.g., gravel, low-gradient riffles).	Absent (May be Present in Adjacent Waters). Pacific lamprey occur in estuaries of the San Francisco Bay, and individuals may be present as occasional foragers in the unnamed tidal slough approximately 60 feet north of the project site. However, the slough does not provide suitable spawning habitat for this species, and Pacific lamprey are not expected to traverse the narrow pipe connecting the slough and the muted tidal drainage ditch to reach the project site. Determined to be absent.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Western pond turtle (<i>Actinemys marmorata</i>)	CSSC	Permanent or nearly permanent water in a variety of habitats.	Absent. The nearest CNDDDB (2022) record is 5.1 miles to the west near Crystal Springs Reservoir. No suitable foraging habitat for western pond turtles is present along the muted tidal drainage ditch on the project site or in the along the unnamed tidal slough approximately 60 feet north of the site. Further, the site is not hydrologically connected to any known populations of western pond turtles in the region. Determined to be absent.
Black skimmer (<i>Rynchops niger</i>)	CSSC (nesting)	Nests on abandoned levees and islands in saline managed ponds and marshes.	Absent. No suitable islands for nesting are present on the project site or in adjacent areas along the unnamed tidal slough, and black skimmers are not expected to nest close enough (i.e., within 300 feet) to the project site to be disturbed by project activities. The muted tidal drainage ditch along the northern boundary of the site is too narrow and shallow to support foraging by this species. Individuals may occur as occasional foragers along the unnamed tidal slough approximately 60 feet north of the site, though they more commonly forage in ponds and along sloughs at Redwood Shores approximately 2.0 miles to the northwest.
Northern harrier (<i>Circus cyaneus</i>)	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	Absent. Habitat on the project site is not suitable for nesting by northern harriers due the sparse nature of the marsh habitat as well as high levels of human disturbance. Nesting habitat for northern harriers is also absent from Inner Bair Island due to the sparse, short vegetation present. As a result, northern harriers are not expected to nest close enough (i.e., within 300 feet) to the project site to be disturbed by project activities. Northern harriers are known to nest at Middle and Outer Bair Islands, and they occur as common foragers along the unnamed tidal slough 60 feet north of the site. However, northern harriers are not expected to forage along the muted tidal drainage ditch on and adjacent to the site due to high levels of adjacent human disturbance and the low quality of the habitat. Determined to be absent.
Vaux's swift (<i>Chaetura vauxi</i>)	CSSC (nesting)	Nests in snags in coastal coniferous forests or, occasionally, in chimneys. Forages aerially over many habitats.	Absent as Breeder. Vaux's swifts are not known to nest in the Redwood City area (Sequoia Audubon Society 2001, Cornell Lab of Ornithology 2022). No snags or chimneys are present on or immediately adjacent to the project site to provide suitable sites for nesting. Occasional migrants forage aerially over the site.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Burrowing owl (<i>Athene cunicularia</i>)	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels (<i>Otospermophilus beecheyi</i>).	Absent. Historically, burrowing owls nested near the project site, but nesting in this area has not been documented since 1994 (Sequoia Audubon Society 2001). Burrowing owls have historically been known to occur at Bair Island and on the project site (Cornell Lab of Ornithology 2022). However, no burrows of California ground squirrels suitable for nesting and roosting by burrowing owls were observed on or adjacent to the project site during the 2021 reconnaissance-level survey. Burrowing owls are not expected to occur on the site due to the lack of suitable burrows for nesting and roosting; the narrow, restricted extent of the grassland habitat; high levels of human disturbance; and lack of recent records from the area.
Short-eared owl (<i>Asio flammeus</i>)	CSSC (nesting)	Nests on ground in tall emergent vegetation or grasses, forages over a variety of open habitats.	Absent. Short-eared owls are uncommon at Bair Island, but are occasionally observed during the winter months (Cornell Lab of Ornithology 2022). No suitable nesting or foraging habitat for this species is present on the project site. Occasional individuals may forage in nearby habitats on Inner Bair Island during the nonbreeding season.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	Absent. Loggerhead shrikes occur occasionally at Bair Island during the winter months, but do not nest in the project vicinity (Cornell Lab of Ornithology 2022). The small area of ruderal habitat on the project site and the area of marsh and ruderal ditch bank grassland habitat along the muted tidal drainage ditch are too narrow and isolated from more expansive grasslands in the region to provide suitable foraging habitat for this species (even by migrants). Determined to be absent.
San Francisco common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	Absent as Breeder. Common yellowthroats occur year-round in marshes at Bair Island (Cornell Lab of Ornithology 2022). The marsh and ruderal grassland habitats on the project site are not suitable for nesting by common yellowthroats due to the relatively low height and sparse cover of the vegetation. Marsh habitat in adjacent areas along the unnamed tidal slough is similarly unsuitable for nesting by common yellowthroats due to the low height of the vegetation. Individuals that nest at Bair Island may forage on the project site year-round, but they are expected to do so infrequently.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Alameda song sparrow (<i>Melospiza melodia pusillula</i>)	CSSC	Nests in salt marsh habitat, primarily in marsh gumplant and cordgrass along channels.	Present. Suitable habitat for nesting by up to two or three pairs of Alameda song sparrows is present along the muted tidal drainage ditch on and immediately adjacent to the project site. The location of the interface between populations of the Alameda song sparrow (<i>pusillula</i>) and the common race that breeds in freshwater riparian habitats in the region (<i>gouldii</i>) is not definitive due to difficulties distinguishing these subspecies in the field. However, the <i>pusillula</i> subspecies is known to nest in marsh habitat in the project region, and is presumed to be present in the marsh habitat on the project site. Individual song sparrows from several subspecies will forage on the project site year-round.
Bryant's savannah sparrow (<i>Passerculus sandwichensis alaudinus</i>)	CSSC	Nests in pickleweed dominant salt marsh, adjacent ruderal habitat, moist grasslands, and, rarely, drier grasslands.	Absent as Breeder. In the South San Francisco Bay, Bryant's savannah sparrows nest primarily in short pickleweed-dominated portions of diked/muted tidal salt marsh habitat and in adjacent ruderal habitats (Rottenborn 2007). However, the marsh and ruderal habitats along the muted tidal drainage ditch are not suitable for nesting by Bryant's savannah sparrows due to the limited extent of the habitat present. During the nonbreeding season, <i>alaudinus</i> and other savannah sparrow subspecies may forage in marsh and ruderal habitats on the project site.
Salt marsh wandering shrew (<i>Sorex vagrans halicoetes</i>)	CSSC	Medium to high marsh 6–8 feet above sea level with abundant driftwood and common pickleweed.	May be Present. Ostensibly suitable marsh habitat for this species occurs along the muted tidal drainage ditch on and adjacent to the project site, and small numbers of salt marsh wandering shrews may be present within this habitat on and immediately adjacent to the site. However, this habitat is of low quality due to its very narrow nature. Due to an impermeable fence and lack of cover on the project site, this species is not expected forage in ruderal habitat located immediately adjacent to muted tidal marsh vegetation on the site (i.e., ruderal ditch bank grassland) or take refuge within this habitat during high tides.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	Absent as Breeder. Historically, pallid bats were likely present in a number of locations throughout the project region, but their populations have declined in recent decades. This species has been extirpated as a breeder from urban areas close to the Bay, as is the case on the project site. There is a low probability that the species occurs in the site vicinity at all due to urbanization; however, individuals from more remote colonies could potentially forage in the study area over open habitats on rare occasions.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	Absent. No known extant populations of the Townsend's big-eared bat occur in the site vicinity, and no suitable cavernous roosting habitat is present on the project site. Determined to be absent.
State Fully Protected Species			
California brown pelican (<i>Pelecanus occidentalis californicus</i>)	SP	Undisturbed islands near estuarine, marine, subtidal, and marine pelagic waters.	Absent. Brown pelicans are regular nonbreeding visitors in San Mateo County. They are occasionally known to forage in open-water habitat in sloughs at Bair Island, including the unnamed tidal slough 60 feet north of the project site. However, the muted tidal drainage ditch along the northern boundary of the site is too narrow and shallow to provide suitable foraging habitat for this species. Thus, brown pelicans are determined to be absent from the site, even as occasional foragers.
American peregrine falcon (<i>Falco peregrinus anatum</i>)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	Absent as Breeder. The electrical towers located along the San Francisco Bay Trail adjacent to the project site provide ostensibly suitable nesting sites for peregrine falcons, and peregrine falcons are known to nest on electrical transmission towers near managed ponds in the South San Francisco Bay. However, peregrine falcons are not known or expected to nest on or adjacent to the project site due to high levels of human disturbance, and the electrical tower immediately adjacent to the site has spikes to deter birds from nesting and perching. Individuals of this species occur as occasional foragers in the vicinity (Cornell Lab of Ornithology 2022) and may occasionally forage on and adjacent to the project site year-round.

Name	Status*	Habitat	Potential for Occurrence on the Project Site
Golden eagle (<i>Aquila chrysaetos</i>)	SP	Breeds on cliffs or in large trees (rarely on electrical towers); forages in open areas.	Absent. Suitable nesting habitat for golden eagles is absent from the project site. Occasional nonbreeding individuals occur in the Redwood City area infrequently (Cornell Lab of Ornithology 2022), but golden eagles are not known to nest in the site vicinity. This species is expected to forage infrequently in open habitats in the project region, such as at Bair Island, but is not expected to forage on or adjacent to the project site due to the limited extent of available habitat and high levels of human disturbance.
White-tailed kite (<i>Elanus leucurus</i>)	SP	Nests in tall shrubs and trees; forages in grasslands, marshes, and ruderal habitats.	May be Present in Adjacent Areas. White-tailed kites are known to nest in eastern San Mateo County throughout the open areas bordering the San Francisco Bay (Sequoia Audubon Society 2001, Cornell Lab of Ornithology 2022). Large trees on the adjacent site to the east provide suitable nesting habitat for white-tailed kites, and adjacent open areas at Inner Bair Island provide foraging habitat for this species. Individuals may forage occasionally on the project site year-round.
Other Special-Status Species			
Pacific harbor seal (<i>Phoca vitulina richardsi</i>)	MMPA	Throughout the northern Atlantic and Pacific Oceans along coastal waters, river mouths, and bays	Absent (May be Present in Adjacent Areas). Harbor seals are permanent residents of the San Francisco Bay. At Bair Island, seals use haul-outs on the outer shore of Outer Bair Island, as well as several sites within Corkscrew Slough. The primary haul-out in Corkscrew Slough is along the west bank of the slough, near the bend closest to Redwood Creek approximately 1.8 miles north of the site. However, no pupping sites or suitable haul-out sites are present on or adjacent to the project site. Individual harbor seals may occasionally forage along the unnamed tidal slough 60 feet north of the project site.

Key to Abbreviations: Status: Federally Endangered (FE); Federally Threatened (FT); Federal Candidate for Listing (FC); State Endangered (SE); State Threatened (ST); State Candidate (SC); State Fully Protected (SP); California Species of Special Concern (CSSC); Marine Mammal Protection Act protected species (MMPA).

5.3 Sensitive Natural Communities, Vegetation Alliances, and Habitats

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance since the state inception of the Natural Heritage Program in 1979. CDFW determines the level of rarity and imperilment of vegetation types and tracks sensitive communities in its Rarefind database (CNDDDB 2022). Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings reflect the condition of a habitat within California. Natural communities are defined using NatureServe's standard heritage program methodology as follows (Faber-Langendoen et al. 2012):

G1/S1:	Critically imperiled.
G2/S2:	Imperiled.
G3/S3:	Vulnerable.
G4/S4:	Apparently secure.
G5/S4:	Secure.

In addition to tracking sensitive natural communities, CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors (Sawyer et al. 2009). If an alliance is marked G1-G3, all of the vegetation associations within it will also be of high priority (CDFW 2022). CDFW provides the Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations (CDFW 2022).

Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA (Title 14, Division 6, Chapter 3, and Appendix G of the California Code of Regulations). Furthermore, aquatic, wetland and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS.

5.3.1 Sensitive Natural Communities

A query of sensitive habitats in the CNDDDB (2022) identified three sensitive natural communities as occurring within the nine 7.5-minute USGS quadrangles containing or surrounding the project site: (1) northern coastal salt marsh (Rank G3/S3.2), (2) serpentine bunchgrass (Rank G2/S2.2), and (3) valley oak woodland (Rank G3/S2.1). Northern coastal salt marsh is characterized by Holland (1986) as occurring along sheltered inland margins of bays, often co-dominated by pickleweed (*Salicornia* spp.), cordgrass, and sometimes saltgrass. Because the muted tidal marsh habitat on the project site is dominated by pickleweed, this habitat would be considered northern coastal salt marsh. Serpentine bunchgrass occurs only on serpentine soils, which do not occur on the project site. Valley oaks (*Quercus lobata*) are not present on the project site.

5.3.2 Sensitive Vegetation Alliances

The muted tidal marsh habitat present on the project site is dominated by pickleweed and would therefore be characterized as *Sarcocornia pacifica* (*Salicornia depressa*) Herbaceous Alliance (Sawyer et al. 2009). This alliance is ranked as G4/S3, meaning that it is globally secure, but considered vulnerable on a state-wide level, and this alliance is included on CDFW's list of sensitive natural communities (as northern coastal salt marsh, discussed above) (CDFW 2022).

5.3.3 CDFW Riparian Habitat

Because the drainage ditch on the project site is a muted tidal, backwater channel and does not receive hydrology from a freshwater stream or creek, it would not be expected to fall under the jurisdiction of CDFW as sensitive riparian habitat.

5.3.4 Sensitive Habitats (Waters of the U.S./State)

As described above under Section 3.1.1, the muted tidal marsh habitat located along the drainage ditch on the project site is considered waters of the U.S. and would also be waters of the state. Additionally, RWQCB may extend its jurisdiction up to the top of bank along the southern edge of the muted tidal ditch as riparian buffer to the waters of the state within the ditch.

The wet areas observed in the vacant lot in the northeast portion of the project site in October and November 2021 were determined not to be wetlands claimed by the USACE per the verified Preliminary Jurisdictional Determination (USACE 2021).

Section 6. Impacts and Mitigation Measures

The State CEQA Guidelines provide direction for evaluating the impacts of projects on biological resources and determining which impacts will be significant. CEQA defines a “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Under State CEQA Guidelines Section 15065, a project's impacts on biological resources are deemed significant if the project would:

- A. “substantially reduce the habitat of a fish or wildlife species”
- B. “cause a fish or wildlife population to drop below self-sustaining levels”
- C. “threaten to eliminate a plant or animal community”
- D. “reduce the number or restrict the range of a rare or endangered plant or animal”

In addition to the Section 15065 criteria that trigger mandatory findings of significance, Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

- A. “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- B. “have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- C. “have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means”
- D. “interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites”
- E. “conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance”
- F. “conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan”

Potential impacts on existing biological resources were evaluated by comparing the quantity and quality of habitats present on the project site under baseline conditions to the anticipated conditions after implementation

of the proposed project. Direct and indirect impacts on special-status species and sensitive natural communities were assessed based on the potential for the species, their habitat, or the natural community in question to be disturbed or enhanced following implementation of the proposed project.

6.1 Impacts on Special-Status Species: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Less than Significant with Mitigation)

6.1.1 Impacts on Upland Habitat and Associated Common Plant and Wildlife Species
(Less than Significant)

The project will permanently convert 0.03 acre of ruderal ditch bank habitat to developed areas and redevelop 2.42 acres of developed habitat on the site. These habitats are abundant and widespread regionally and are not particularly sensitive or valuable (from the perspective of providing important plant or wildlife habitat). Therefore, impacts on these habitats would be considered less than significant under CEQA.

As discussed previously, upland habitats on the project site currently support a number of common wildlife species, although due to its largely developed nature, the site provides relatively low-quality habitat for most species and thus supports relatively small numbers of individuals of any one species. As noted in section 4.2.1, a single grey fox was encountered on the project site during the October 2021 reconnaissance surveys. Evidence of use by common mammals such as the raccoon was also observed. Additionally, common and special-status bat species are known to roost in large open buildings such as the corrugated steel, warehouse-style buildings on the site. However, all buildings on the site were thoroughly searched for evidence of active bat roosts during the October, 2021 site visit, and no evidence of roosting bats (e.g. urine staining or guano accumulations) was detected. The common wildlife species that occur on the site are regionally abundant, are present in widely available habitats in the region, and will continue to be present on the site following construction. Additionally, the project would impact only a very small proportion of their regional populations, and the number of individuals likely to be displaced by habitat disturbance and loss would be extremely small with respect to the amount of suitable habitat available in the region. Also, the landscaping proposed by the project would provide resources useful to some of the common wildlife species currently using the site. Thus, impacts on most common species and their habitats resulting from the implementation of the project would not meet the threshold of having a substantial adverse effect, and would be considered less than significant under CEQA. However, all native bird species are protected by the MBTA and California Fish and Game Code, and measures should be implemented to avoid violation of these laws (see Section 7 below).

The plant species observed in uplands on the project site during the reconnaissance-level survey (Appendix A) are not regulated under state or federal laws and are not listed as rare by the CNPS. All native plant species observed or with any potential to occur on the site are regionally abundant and common in California. Therefore, implementation of the project would not have a substantial adverse effect on those common plant species and impacts on such species would be considered less than significant under CEQA.

6.1.2 Impacts on Water Quality and Special-status Fish, Essential Fish Habitat, and Marine Mammal Species (Less than Significant)

The project will not directly impact (e.g., through grading, fill, or other direct means) any aquatic or tidal marsh habitat. However, cantilevered sections of the proposed bike and pedestrian trail will cross over 0.04 acre of muted tidal marsh habitat. Although this habitat may receive some light, we expect that shading from the cantilevered structures will result in long-term degradation of this habitat. Additionally, construction activities in areas immediately adjacent to the tidal marsh could result in direct and indirect impacts on water quality in the ditch, which could then be transmitted into the unnamed tidal slough north of the project site. Such impacts could potentially occur as a result of sediment mobilization, or spills of fluids or materials into the ditch, during construction activities within the banks of the ditch. Indirect impacts on water quality may also occur as a result of construction activities that occur elsewhere on the project site above the top of bank of the drainage ditch. After construction has been completed, runoff from the project site could potentially be contaminated with chemicals or other materials that could eventually reach the unnamed tidal slough and other estuarine waters in the area.

Although special-status fish such as the green sturgeon, longfin smelt, Central California Coast steelhead, Central Valley fall-run Chinook salmon, and Pacific lamprey; EFH; and marine mammals such as the harbor seal are not expected to occur within the muted tidal ditch along the northern edge of the project site, contaminated water in the ditch could affect these species and their habitats if poor-quality water were to reach the unnamed tidal slough to the north.

Impacts on water quality from project construction activities will be avoided and minimized by implementing erosion and sediment control measures, as well as standard best management practices (BMPs) for work near aquatic environments. Construction projects in California causing land disturbances that are equal to 1 acre or greater¹ must comply with state requirements to control the discharge of stormwater pollutants under the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the SWRCB describing the project. A Storm Water Pollution Prevention Plan must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control BMPs, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors.

In many Bay Area counties, including San Mateo County, projects must also comply with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit* (Water Board Order No. R2-2015-0049). This permit requires that all projects implement BMPs and incorporate Low Impact Development practices into the design to prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site after

¹ Total project impacts are anticipated to be greater than 1 acre.

construction has been completed. In order to meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors.

Compliance with permit conditions to protect water quality, as described above, will minimize the potential for impacts to water quality and to sensitive species that inhabit downstream tidal waters due to increases in erosion, sedimentation, and turbidity as well as releases of pollutants. These measures will also minimize the release or pollutants to waters in the drainage ditch and tidal slough, thereby protecting water quality in these areas. Therefore, project activities are not expected to result in substantial adverse indirect effects on special-status fish, EFH, or marine mammal species in the unnamed tidal slough.

Thus, with compliance with permit conditions, potential project impacts on water quality and special-status fish, EFH, and marine mammal species would be less than significant under CEQA.

6.1.3 Impacts on Nonbreeding Special-Status Birds and Mammals (Less than Significant)

Several special-status bird and mammal species occur on the project site as nonbreeding migrants, transients, or foragers, but they are not known or expected to breed or occur in large numbers within or near the project impact areas. These are the tricolored blackbird, Vaux's swift, San Francisco common yellowthroat, Bryant's savannah sparrow, American peregrine falcon, pallid bat, and monarch butterfly.

The tricolored blackbird (a state threatened species) is not expected to occur on the project site as a breeder due to the absence of suitable breeding habitat, but individuals may occur occasionally as foragers during the nonbreeding season. The Bryant's savannah sparrow and San Francisco common yellowthroat (California species of special concern) breed in marshes at Inner Bair Island to the north, and individuals may forage in muted tidal marsh and ruderal grassland habitat on and adjacent to the site year-round. The American peregrine falcon (a state fully protected species) is not expected to breed on the project site due to a lack of suitable nesting habitat. Individuals of this species occasionally forage in the project vicinity in small numbers. The pallid bat and Vaux's swift (California species of special concern) may be present on the project site as occasional foragers, but are not expected to breed on the project site due to a lack of suitable habitat, and there are no known breeding records of these species on or adjacent to the site. Nevertheless, individual pallid bats from more remote colonies could potentially forage over the ruderal ditch bank and marsh habitats on the site on rare occasions, and individual Vaux's swifts could potentially forage over these habitats during migration. Monarch butterflies likely make little to no use of the site itself but are expected to occasionally migrate through the site.

Proposed project activities would have some potential to impact foraging habitats and/or individuals of these species. Construction activities might result in a temporary indirect impact through the alteration of foraging patterns (e.g., avoidance of work sites because of increased noise and activity levels during maintenance activities) but would not result in the loss of individuals, as individuals of these species would fly away from any construction areas or equipment before individuals could be injured or killed. Further, the project site does not provide important foraging habitat used regularly or by large numbers of individuals of any of these species.

As a result, impacts under the project will have very little impact on these species' regionally available foraging habitat and no substantive impact on regional populations of these species. Therefore, this impact would be less than significant.

6.1.4 Impacts on the Alameda Song Sparrow and White-Tailed Kite (Less than Significant)

Because Alameda song sparrows may nest in vegetation along the muted tidal drainage ditch adjacent to the northern portion of the project site, and white-tailed kites may nest in trees near (i.e. within 300 feet of) the project site, eggs or young in nests of these species may be killed or injured during construction activities as a result of destruction by construction personnel or equipment, or removal of vegetation containing nests. In addition, construction activities causing a substantial increase in noise, movement of equipment, or human presence near (i.e., within 100 feet for Alameda song sparrows and 300 feet for white-tailed kites) active nests could result in the abandonment of nests, and possibly the loss of eggs or young as a result. Increased human activity may also affect the behavior of birds, causing them to avoid work sites and possibly exposing them to increased competition with other birds in the areas to which they disperse and to increased levels of predation caused by their unfamiliarity with the new area. Increases in human concentration and activity associated with construction in the vicinity of the project site may also result in an increase in native and nonnative predators that would be attracted to trash left in the work site, and in a reduction in the quality of breeding or foraging habitat caused by the introduction of non-native vegetation. Shading by cantilevered sections of trail will result in the permanent loss of 0.04 acre of muted tidal marsh, and grading activities will result in the permanent loss of 0.03 acre of ruderal ditch bank habitat. These areas provide potential foraging habitat for the Alameda song sparrow. In addition, increased sedimentation or hazardous material spills from construction activities may result in the temporary or permanent degradation of water quality and, hence, habitat quality in wetland habitats downstream from work sites, which could negatively affect habitat quality for the Alameda song sparrow.

Following completion of construction, increased human activity on the project site could potentially disturb these species to the point that they no longer occupy suitable habitat on or near the project site. However, given the presence of a steel supply business on the site, baseline disturbance may already limit the potential for these species to breed on or very near the site.

At most, two or three pairs of Alameda song sparrows and one pair of white-tailed kites could potentially nest near the project site, close enough to the site to potentially be indirectly affected by construction activities and subsequent use of the project site (i.e., within 100 feet for Alameda song sparrows and 300 feet for white-tailed kites). These birds are not particularly rare in the region, and suitable habitat for these species within the region is relatively abundant. Therefore, the permanent loss of a small amount of nesting and foraging habitat for these species on the project site would not result in appreciable impacts on their regional populations. Further, the potential disturbance of nesting and loss of eggs or young in nests of up to two or three pairs of Alameda song sparrows and one pair of white-tailed kites as a result of construction activities is not expected to result in a substantial impact on their regional populations due to a loss of habitat or individuals. Therefore, this impact would be less than significant. However, both of these species, as well as all native bird species, are protected

by the MBTA and California Fish and Game Code, and measures should be implemented to avoid violation of these laws (see Section 7 below).

6.1.5 Impacts on Wildlife from Lighting (Less than Significant with Mitigation)

The project will construct buildings and other features (e.g., pedestrian walkways and parking areas) that may increase the amount of lighting within and around the project site. Lighting would be the result of fixtures illuminating buildings, building architectural lighting, and parking lot and pedestrian lighting. Based on the project plans, exterior lighting elements on the site will include decorative 360-degree luminaires, 6' round downlights, and 4" round directional wall-mounted fixtures. All of these lights incorporate some shielding to reduce light from projecting upwards, but the 360-degree luminaires are not fully shielded to reduce the spread of light outwards into adjacent areas. Depending on the location, direction, and intensity of the project's exterior lighting elements, lighting can potentially spill into adjacent natural areas, thereby resulting in an increase in lighting compared to existing conditions. Areas to the east, west, and south of the project site are primarily developed areas that do not support sensitive species that might be significantly impacted by illuminance from the project. However, the proposed project's photometric plans indicate that some light will spill northwards into the marsh and wetland habitats along the muted tidal drainage ditch (on and immediately adjacent to the project site). This area provides habitat for a variety of wildlife species, including sensitive species such as the Alameda song sparrow, salt marsh harvest mouse, and salt marsh wandering shrew.

Many animals are sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season (Ringer 1972, de Molenaar et al. 2006). Artificial light has been used as a means of manipulating breeding behavior and productivity in captive birds for decades (de Molenaar et al. 2006), and has been shown to influence the territorial singing behavior of wild birds (Longcore and Rich 2004, Miller 2006, de Molenaar et al. 2006). While it is difficult to extrapolate results of experiments on captive birds to wild populations, it is known that photoperiod (the relative amount of light and dark in a 24-hour period) is an essential cue triggering physiological processes as diverse as growth, metabolism, development, breeding behavior, and molting (de Molenaar et al. 2006). This holds true for birds, mammals (Beier 2006), and other taxa as well, suggesting that increases in ambient light may interfere with these processes across a wide range of species, resulting in impacts on wildlife populations.

Artificial lighting may indirectly impact mammals and birds by increasing the nocturnal activity of predators such as owls, hawks, and mammalian predators (Negro et al. 2000, Longcore and Rich 2004, DeCandido and Allen 2006, Beier 2006). The presence of artificial light may also influence habitat use by rodents (Beier 2006) and by breeding birds (Rogers et al. 2006, de Molenaar et al. 2006) by causing avoidance of well-lit areas, resulting in a net loss of habitat availability and quality.

Wildlife species using the muted tidal drainage ditch, unnamed tidal slough, and Inner Bair Island may be subject to increased predation, decreased habitat availability (for species that show aversions to increased lighting), and alterations of physiological processes if development under the proposed project produces appreciably greater illuminance than the existing conditions. This impact on local wildlife populations is potentially significant

under CEQA due to the high ecological value of these adjacent habitat areas and the rarity of some of the species inhabiting these areas. Mitigation Measures 1-3 below would minimize lighting as part of project design and would therefore reduce this impact to a less-than-significant level.

Mitigation Measure 1. Shielding of Lights. All exterior lighting on the project site will be shielded as needed to block illumination from shining upward, or northward into the muted tidal drainage ditch, unnamed tidal slough, and Inner Bair Island to the north. The lit portions of light fixtures (i.e., the illuminants) shall be shielded from view to fish, birds, or mammals in the tidal marsh or muted tidal ditch.

Mitigation Measure 2. Orientation of Lights. Where lights are installed, they will be directed downward and, in the northern part of the project site, inward toward the project site, away from marsh habitats to the north, thus limiting the amount of light spilling into natural areas outside of the project site and preventing animals in those sensitive habitats from being exposed to glare/luminance from the light fixtures.

Mitigation Measure 3. Minimize Exterior Lighting. All exterior lighting used on the project site shall be Dark Sky Approved² lighting. To the extent consistent with the normal and expected operations of the project, take appropriate additional measures to avoid use of unnecessary lighting at night, especially during the bird migration season (February through May and August through November). Such measures may include the installation of motion-sensor lighting, automatic light shut-off mechanisms, participation in a lights-out program³, and others. No red exterior lighting will be used on the project site.

6.1.6 Impacts due to Bird Collisions (Less than Significant)

Under existing conditions, terrestrial land uses and habitat conditions on the project site and in surrounding areas to the east, west, and south consist primarily of developed areas such as buildings (primarily of one or two stories), parking lots, and roads. Vegetation in most of these areas is very limited in extent, and consists primarily of non-native landscaped trees and shrubs. Nonnative vegetation supports fewer of the resources required by native birds than native vegetation, and the structural simplicity of the vegetation (without well-developed ground cover, understory, and canopy layers) further limits resources available to birds. Thus, although a number of bird species will regularly use the vegetation on the project site and surrounding developed areas, they typically do so in low numbers. As a result, the number of individual landbirds that inhabit and regularly use vegetation on the project site at any given time is relatively low under existing conditions.

Under proposed conditions, the number of birds that use the site is expected to increase somewhat following project construction due to the proposed expansion of landscape areas on the site and the planting of additional landscape trees, shrubs, and other vegetation. Landscaped areas throughout the project site will be planted primarily with nonnative trees, and a mix of predominantly nonnative, but some native, shrubs and herbaceous plants. While this vegetation may offer improved cover and foraging opportunities compared to existing

² Exterior lighting fixtures that meet the International Dark-Sky Association's standards for artificial lighting minimize glare while reducing light trespass and skyglow, and are required to be fully shielded and minimize the amount of blue light in the nighttime environment (International Dark-Sky Association 2020).

³ <https://www.audubon.org/conservation/project/lights-out>

conditions (the site currently has almost no vegetation) it will not create high-quality bird habitat within this area.

Landbirds that will occur on the site and in the vicinity will be attracted to trees and landscaped areas, and will primarily move between the small areas of landscaping on the site and in the surrounding vicinity. Moderate numbers of migratory songbirds are often concentrated at the edge of the San Francisco Bay during spring and fall migration, but they tend to use more heavily vegetated areas such as riparian corridors or large, well-vegetated parks such as Coyote Point in San Mateo, or Shoreline Park in Mountain View. No heavily vegetated park areas or natural habitat such as riparian vegetation is present in the vicinity of the project site to attract migrating songbirds (or would be present with project implementation), and the project site is not located between two high-quality habitat areas such that songbirds would be flying past the site at an altitude as low as the proposed buildings. As a result, there is no expectation that migratory songbirds would be particularly attracted to, or would make heavy use of, the habitats in the site vicinity.

However, the project site is adjacent to an unnamed tidal slough and Bair Island, which provide habitat for many species of waterbirds and marsh-associated birds. A review of bird hotspots in the immediate project vicinity indicates that approximately 150 species of birds are found along the unnamed tidal slough and at Bair Island (Cornell Lab of Ornithology 2022). The majority of these species are common resident, migrant, or wintering wading birds, waterfowl, and passerines (i.e., songbirds). Representative waterbirds in these areas include the Caspian tern (*Hydroprogne caspia*), least sandpiper (*Calidris minutilla*), western sandpiper (*Calidris mauri*), marbled godwit (*Limosa fedoa*), American avocet (*Recurvirostra americana*), dunlin (*Calidris alpina*), American wigeon (*Mareca americana*), green-winged teal (*Anas crecca*), long-billed curlew (*Numenius americanus*), canvasback (*Aythya valisineria*), black-bellied plover (*Pluvialis squatarola*), short-billed dowitcher (*Limnodromus griseus*), northern shoveler (*Spatula chlypeata*), and willet (*Tringa semipalmata*).

In general, bird species that are attracted to marsh and aquatic habitats are expected to move past the project site when flying along the unnamed tidal slough, or when flying between habitats in the site vicinity. The numbers of these birds moving past the site will vary by time of year and by species. Many birds, such as waterfowl, often tend to move in large groups, while other species, such as Alameda song sparrows, will move through individually. Local bird numbers also vary by time of year, as many birds form small to large flocks during winter and migration and occur in more widely spaced pairs during the breeding season. However, due to the high importance of Bair Island to regional bird populations in Redwood City, relatively large numbers of birds that are associated with these habitats may fly past the project site relative to the size of regional populations. Resident birds that are present in the vicinity year-round also use habitat along the unnamed tidal slough in moderate numbers for foraging. As a result, higher numbers of birds are expected to be present along the northern boundary of the project site compared to the project site itself and surrounding developed areas of Redwood City. Shorebirds and waterbirds are unlikely to disperse from the San Francisco Bay, Bair Island, or unnamed tidal slough onto the project site, as these species are strongly associated with tidal habitats and open water. These species are also not expected to move in numbers between the Bay or its shoreline and Redwood Creek southeast of the project site. Therefore, no waterbirds are expected to move onto or through the project site regularly or in numbers.

Sensitive and rare bird species that occur in the site vicinity are discussed in the sections above. The only high-quality habitat for state and federally listed bird species (i.e., the California Ridgway's rail and California black rail) in the vicinity is located well north of the site, and these species are not expected to fly past the site on a regular basis (and, hence, are not expected to be at-risk for collisions with glass on the proposed buildings). Small numbers of San Francisco common yellowthroats, Alameda song sparrows, and Bryant's savannah sparrows, all California species of special concern, as well as small numbers of white-tailed kites occur on or near the project site and are expected to fly past or occur on the site in small numbers year-round. Several other sensitive species may occasionally fly over the site as occasional migrants, transients, or foragers, but are also not expected to occur on the site in appreciable numbers. No additional sensitive or rare bird species are expected to occur in the site vicinity.

However, landbirds utilizing ruderal, marsh, and wetland habitats along the unnamed tidal slough may disperse outward from these areas looking for other foraging, nesting, or roosting sites. During such dispersal, these birds could move toward and onto the project site to look for feeding and resting opportunities in landscape vegetation, even though they are not particularly attracted to, or expected to make heavy use of, the vegetation on the project site.

It has been well documented that glass windows and building façades can result in injury or mortality of birds due to birds' collisions with these surfaces (Klem et al. 2009, Sheppard and Phillips 2015). Because birds do not perceive glass as an obstruction the way humans do, they may collide with glass when the sky or vegetation is reflected in glass (e.g., they see the glass as sky or vegetated areas); when transparent windows allow birds to perceive an unobstructed flight route through the glass (such as at corners); and when the combination of transparent glass and interior vegetation (such as in planted atria) results in attempts by birds to fly through glass to reach that vegetation. The extent of glazing on a building and the presence of vegetation opposite the glazing are known to be two of the strongest predictors of avian collision rates (Gelb and Delacretaz 2009, Borden et al. 2010, Cusa et al. 2015, Riding et al. 2020). Further, the greatest risk of avian collisions with buildings occurs in the area within 60 feet of the ground because this is the area in which most bird activity occurs (San Francisco Planning Department 2011, Sheppard and Phillips 2015).

Some migrating landbirds are expected to land along the unnamed tidal slough and at Bair Island, and some could disperse onto the project site from these areas. As a result, some potential for bird collisions with the outer facades of the new rowhouse units exists (Figure 6). These birds may also disperse among the remaining rowhouse units, as pedestrian walkways and driveways lined with landscape vegetation extend from the margins of the property inward, between and surrounding all of the nine buildings. However, due to the relatively low quality of these resources, the distance that birds would travel onto the site is expected to be relatively short, and they are not expected to remain for long periods of time. Overall, low numbers of native birds are expected to use the site and thus encounter any hazards related to glazing on the buildings.



Figure 6. Project Plan View. The north rowhouse façade, highlighted in red, faces the undeveloped habitats of the muted tidal marsh and Bair Island, where migrating landbirds are most likely to encounter project glazing.

A number of architectural features of the proposed buildings reduce their overall collision risk to birds. Based on the project plans, the facades of the nine planned rowhouse units include opaque wall panels with somewhat limited areas of glazing, and much of the glazing is visually disrupted by overhangs, metal railings, and mullions (Figure 7). These features increase the visibility of the buildings to birds, allowing birds to perceive them as solid structures to be avoided. Furthermore, architectural features that are known to pose collision hazards to birds, such as large expanses of glass, transparent glass corners, and freestanding glass walls or railings, are absent from the proposed buildings. While project plans indicate some areas where landscape vegetation will be planted adjacent to windows (Figure 6), the vegetation planned for the site is primarily nonnative and does not provide high quality nesting, foraging, or cover resources for native birds. Thus, relatively low numbers of native, resident birds and occasional migrants are expected to occur in landscape vegetation surrounding the buildings.



Figure 7. Project Rendering. The buildings include opaque wall panels, and much of the glazing is visually disrupted by overhangs, metal railings, and window mullions, all of which increase the visibility of the buildings to birds.

In summary, we expect some birds flying along the San Francisco Bay and/or descending from migration toward the Bay shoreline to reorient toward the project site and seek resting or foraging opportunities there. Thus, we expect some avian collisions with glass façades on the proposed buildings to occur. However, due to the lack of feature-related hazards such as large expanses of glass, transparent corners or freestanding glass railings, and the presence of architectural features that increase the visibility of the building to birds, including overhangs, metal railings, and window mullions, we expect the frequency of such collisions to be low. As a result, avian injury or mortality due to bird collisions with the proposed buildings would affect only a very small proportion of regional populations of the bird species that use the site or fly through the site during migration. In our opinion, this impact would not meet the threshold of having a substantial adverse effect on these populations, and would be less than significant by CEQA standards.

6.1.7 Impacts on the Salt Marsh Harvest Mouse and Salt Marsh Wandering Shrew (Less than Significant with Mitigation)

The quality of habitat in the muted tidal marsh within and adjacent to the project site is low for salt marsh harvest mice and salt marsh wandering shrews, and it is possible that neither species is present. However, small numbers of salt marsh harvest mice and salt marsh wandering shrews could potentially occur in the muted tidal marsh habitat along the drainage ditch, including within the 0.04-acre portion of this habitat that occurs on the project site. The project will not directly impact (e.g., through grading, fill, or other direct means) any tidal marsh habitat. However, cantilevered sections of the proposed bike and pedestrian trail will cross over 0.04 acre of muted tidal marsh habitat. Although this habitat may receive some light, we expect that shading from the cantilevered structures will result in long-term degradation of this habitat, which provides potential foraging habitat for salt marsh harvest mice and salt marsh wandering shrews. This habitat is of low quality due to its small size and isolation from higher quality marsh habitats to the north, but it is possible that individual salt marsh harvest mice and salt marsh wandering shrews occur here. Due to the rarity of the salt marsh harvest

mouse and salt marsh wandering shrew, project impacts to their habitat would be considered significant under CEQA, even though the existing habitat is of low quality. Implementation of Mitigation Measure 8, below would mitigate these impacts to a less-than-significant level.

In the absence of protective measures, project activities may result in the injury or mortality of salt marsh harvest mice and salt marsh wandering shrews. Due to the immediately adjacent proximity of project activities to habitat for this species, individuals could be crushed by equipment, vehicle traffic, or worker foot traffic. Project noise and other disturbances could cause individuals to flee to nearby habitats, exposing them to increased competition from conspecifics already occupying these areas and increased levels of predation due to unfamiliarity with the new habitat or lack of sufficient cover. Due to the rarity of these species, these impacts would be significant under CEQA. The implementation of Mitigation Measures 4–7 below will ensure avoidance of direct impacts on individual salt marsh harvest mice and salt marsh wandering shrews during construction.

The project has the potential to degrade muted tidal marsh habitat on and downstream of the project site through the introduction of invasive weeds during and following project construction. Invasive weeds, such as perennial pepperweed (*Lepidium latifolium*), could spread into marsh habitats downstream when seeds are attached to vehicles, equipment, and clothing. The spread of pepperweed and other invasive plants can displace native marsh vegetation and reduces habitat quality for salt marsh harvest mice and salt marsh wandering shrews by reducing the availability of plants they use for refugia and nesting, particularly downstream of the site where these species are known to occur. To offset impacts associated with the spread of invasive plants during project implementation, the project will implement Mitigation Measure 11 described in Section 6.2.1 below.

Small mammals that inhabit natural areas along the muted tidal drainage ditch and unnamed tidal slough north of the project site will be subjected to increased noise and vibrations during construction. However, no studies have been conducted to determine what noise levels result in disturbance of salt marsh harvest mice or salt marsh wandering shrews. Should salt marsh harvest mice or salt marsh wandering shrews in nearby marsh habitat be disturbed by project activities, including noise or vibration, and move away from the source, they would move away from the project site along the muted tidal drainage ditch, or toward higher-quality marsh habitat farther out along the unnamed tidal slough. Thus, project noise levels are not expected to cause salt marsh harvest mice or salt marsh wandering shrews to flush out into the open, or to increase mortality of individuals due to predation. Furthermore, suitable habitat adjacent to the project site would only be subjected to substantially increased noise and vibrations during construction; following completion of construction, individual mice or shrews would re-occupy any habitat that was vacated during construction. Therefore, project noise impacts would not result in take of individual salt marsh harvest mice or salt marsh wandering shrews.

Construction of the project would provide potential perching sites for raptors within trees, on light posts, and on buildings on the project site. Raptors are likely to perch on the new buildings when hunting for prey, which may include salt marsh harvest mice and salt marsh wandering shrews that inhabit tidal marsh habitats to the north. However, numerous trees, light poles, and the existing buildings currently provide perches for raptors on the project site. Therefore, relative to baseline conditions, the construction of the project is not expected to

result in a substantial increase in the predation of small mammal species inhabiting adjacent tidal marsh habitats by raptors, or to affect regional populations of these small mammal species.

The project includes outdoor eating areas, which represent sources of food waste. The presence of food waste on the site will attract native and nonnative nuisance wildlife such as American crows, common ravens (*Corvus corax*), gulls (*Larus* spp.), raccoons, and others, which prey on salt marsh harvest mice and salt marsh wandering shrews. In addition, the presence of off-leash domestic dogs (*Canis familiaris*) and feral cats (*Felis catus*) or outdoor cats may result in an increase in predation and/or harassment of salt marsh harvest mice and salt marsh wandering shrews inhabiting nearby marsh habitats. Due to the rarity of these two small mammal species, an increase in local numbers of these animals due to increased available food waste, an increase in outdoor pets, and/or the presence of one or more feral cat feeding stations maintained by the community would be a significant impact under CEQA. The implementation of Mitigation Measures 9–10 below would reduce these impacts to less than significant levels.

Lighting associated with the project could result in impacts on salt marsh harvest mice and salt marsh wandering shrews by increasing the likelihood of predation and/or deterring these species from using well-lit habitat, thus resulting in potential loss of individuals and effective habitat loss in well-lit areas immediately adjacent to the project site. Lighting that increases nighttime illumination in areas of tidal and muted tidal salt marsh could potentially result in permanent functional habitat loss, as salt marsh harvest mice and salt marsh wandering shrews may avoid illuminated areas at night. Additionally, increases in illumination of marsh habitat could increase predation on these species by making them more visible to predators. Given the rarity of these species, any loss of use of suitable habitat or increase in predation of these species as a result of an increase in lighting would be a significant impact. Implementation of Mitigation Measures 1–3 described in Section 6.1.6 would reduce these potential impacts on salt marsh harvest mice, salt marsh wandering shrews, and their habitat to less than significant levels.

Mitigation Measure 4. Worker Environmental Awareness Program. Before any construction activities begin, a qualified biologist will conduct a training session for all construction personnel. At a minimum, the training will include descriptions of the salt marsh harvest mouse and salt marsh wandering shrew, their habitats, the laws protecting them, the general measures that are being implemented to conserve these species as they relate to the project, and the boundaries within which the project may be accomplished.

Mitigation Measure 5. Exclusion Barrier. Prior to the start of construction activities below top of bank, a barrier will be installed along the northernmost limits of the work area to exclude salt marsh harvest mice and salt marsh wandering shrews from the project site. This barrier, which will be shown on the project plans and will be constructed under the guidance of a qualified biologist, will consist of a 3-foot tall, tight cloth, smooth plastic, or sheet-metal (or similar material approved by the USFWS) fence toed into the soil at least 3 inches deep and supported with stakes placed on the inside of the barrier. A qualified biologist will conduct a preconstruction survey of the area where vegetation was removed prior to construction access, and will monitor the installation of the barrier. Following the installation of the barrier, designated construction personnel will

check its integrity each morning that construction activities occur, and will initiate repairs immediately as needed.

Mitigation Measure 6. Environmentally Sensitive Area Fencing. Within the banks of the muted tidal drainage ditch, the project limits will also be clearly demarcated with Environmentally Sensitive Area fencing to avoid inadvertent disturbance of any habitat outside of the designated construction area during construction activities. This fencing can be combined with the exclusion barrier but must not be outside that barrier.

Mitigation Measure 7. Immediate Work Stoppage. If a salt marsh harvest mouse or salt marsh wandering shrew, or an animal that could be a harvest mouse or wandering shrew (e.g., a similar species of mouse or shrew), is observed on the project site during project activities, all work that could result in the injury or death of the individual will stop immediately and the qualified biologist will be immediately notified. The animal will be allowed to leave the area on its own and will not be handled.

Mitigation Measure 8. Compensatory Mitigation. For permanent impacts to 0.04 acre of muted tidal marsh, the project proponent will provide compensatory mitigation for impacts to habitat of the salt marsh harvest mouse. Mitigation may be satisfied through project-specific conservation and management of suitable habitat occupied by these species and/or the purchase of credits at a conservation bank that has been approved by the Service and CDFW. The conservation bank does not necessarily need to be approved for salt marsh harvest mouse mitigation as long as it provides suitable habitat for the species, in an area expected to support the species (e.g., the San Francisco Bay Tidal Wetlands Bank in Redwood City would be appropriate).

If compensatory mitigation is provided through project-specific conservation and management of suitable habitat, project proponent will provide the mitigation at a 2:1 (mitigation: impact) ratio on an acreage basis for permanent impacts to suitable habitat. If compensatory mitigation is provided through the purchase of credits at an approved conservation bank, mitigation will be provided at a 1:1 (mitigation: impact) ratio for permanent impacts.

If the project proponent provides mitigation through project-specific conservation and management of suitable habitat, project proponent will prepare an HMMP describing the proposed mitigation lands for conservation/management, and monitoring that will occur to ensure that those lands continue to provide suitable habitat conditions. If the mitigation lands are suitable for multiple species and habitats, then project proponent may rely on such lands to mitigate impacts to multiple species and habitats. The HMMP will be prepared by a qualified ecologist and will include the following:

- A summary of habitat impacts and proposed acres of habitat conservation;
- The location of habitat conservation and enhancement site(s), and description of existing site conditions;
- A monitoring plan (including performance criteria, methods, data analysis, reporting requirements, and schedule). At a minimum, performance/success criteria will include demonstration of the presence of

suitable habitat for the salt marsh harvest mouse, and no more than 5% invasive species by cover by year 5.

The project proponent will also ensure adequate resources including funding to implement the mitigation, maintenance, and monitoring of the mitigation lands.

If compensatory mitigation is provided through a purchase of mitigation credits, project proponent will purchase the credits from a conservation bank in consultation with the appropriate resource agencies prior to commencement of Project construction.

Mitigation Measure 9. Prohibit Outdoor Cats and Off-Leash Dogs. Outdoor cats and off-leash dogs will be prohibited on the property following project construction. This measure will be enforced by the property's homeowners association.

Mitigation Measure 10. Food Waste Management. The following measures shall be implemented to minimize impacts on salt marsh harvest mice and salt marsh wandering shrews due to the attraction of nuisance predators to the project site:

- Any bins used for food waste shall include lids that seal tightly to prevent access by animals and incorporate a mechanism to prevent them from being inadvertently left open when not in active use.
- Outdoor trash and recycling receptacles shall be routinely emptied throughout the day by the janitorial service, thus ensuring that cans do not fill up and allow food waste to spill out.
- The janitorial service shall ensure that any litter on the site is picked up daily, and no food trash is left on-site overnight.
- Signs shall be placed on trash and recycling receptacles reminding users to close the lids so that they will not be inadvertently left open.
- Residents and visitors shall be prohibited from feeding feral or wild mammals, including feral cats, on the property.
- Educational signs shall be posted explaining the importance and sensitivity of nearby marsh habitats, prohibiting feeding wildlife (including feral cats) on the property, and prohibiting outdoor cats and off-leash dogs. In addition, signs will advise residents and visitors to dispose of food waste in outdoor areas appropriately to avoid attracting and subsidizing nuisance species.

6.2 Impacts on Sensitive Communities: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in

local or regional plans, policies, or regulations, or by the CDFW or USFWS (Less Than Significant)

6.2.1 Impacts due to the Spread of Nonnative and Invasive Species (Less than Significant with Mitigation)

Several nonnative, invasive plant species occur in the ruderal ditch bank and developed habitat on the project site. Of these, wild oats and black mustard are rated as moderately invasive; thus, they can cause substantial ecological impacts on physical processes, plant and animal communities, and vegetation structure (California Invasive Plant Council 2022). No species considered highly invasive were observed within the study area. However, fennel (*Foeniculum vulgare*) and yellow star thistle (*Centaurea solstitialis*) occur in the habitat immediately adjacent to the project site and are considered to be highly invasive, and thus may also potentially cause significant ecological impacts (California Invasive Plant Council 2022). Invasive species can spread quickly and be difficult to eradicate, as they produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by nonnative, invasive species that occur locally, or whose propagules are transported by personnel, vehicles, and other equipment.

Project development would result in a large portion of the site being subject to soil disturbance. Activities such as trampling, equipment staging, and vegetation removal are all factors that would contribute to disturbance. Areas of disturbance could serve as the source for promoting the spread of nonnative species, which could degrade the ecological values of the wetlands that occur on and immediately adjacent to the project site, and adversely affect native plants and wildlife that occur there. The introduction or spread of invasive weeds into sensitive wetland or riparian habitats would be a significant impact under CEQA. Implementation of Mitigation Measure 11 below will reduce this impact to a less-than-significant level.

Mitigation Measure 11. Implement Invasive Weed BMPs. The invasion and/or spread of noxious weeds will be avoided by the use of the following invasive weed BMPs:

- The use of moderate or highly invasive (California Invasive Plant Council 2022) and/or noxious weed (as defined by California Department of Food and Agriculture) for landscaping is prohibited.
- During project construction, all seeds and straw materials used on-site will be weed-free rice (or similar material acceptable to the City) straw, and all gravel and fill material will be certified weed-free to the satisfaction of the City. Any deviation from this will be approved by the City.
- During project construction, vehicles and all equipment will be washed (including wheels, undercarriages, and bumpers) before and after entering the proposed project footprint. Vehicles will be cleaned at existing construction yards or legally operating car washes.
- Following construction of project, a standard erosion control seed mix (acceptable to the City) from a local source will be planted within the temporary impact zones on any disturbed ground that will not be under hardscape, landscaped, or maintained. This will minimize the potential for the germination of the majority of seeds from non-native, invasive plant species.

6.2.2 Impacts on Ruderal Ditch Bank (Less than Significant)

The project will result in the permanent removal of 0.03 acre of ruderal ditch bank habitat below the top of bank of the muted tidal drainage ditch from construction of the outfall. Current habitat conditions of the ruderal ditch bank are of extremely low quality, containing scarce vegetation of primarily nonnative species and compacted soil. However, this area does provide some buffer between the developed uplands and the muted tidal marsh habitat below. Under the project, a retaining wall is proposed to be constructed along the top of bank of the ruderal ditch bank and an outfall will be constructed in the site's northwest corner, permanently converting 0.03 acre of this habitat to hardscape. While this will cause the loss of whatever small buffer is provided by the current poorly vegetated bank, water quality is not expected to be negatively affected within the muted tidal ditch due to the project as a result of the proposed stormwater treatment upgrades consistent with the Municipal Regional Stormwater NPDES Permit, as discussed above in Impacts to Water Quality and Special Status Fish. Due to the very poor habitat quality, permanent impacts on and loss of 0.03 acre of ruderal ditch bank is considered less than significant under CEQA.

6.3 Impacts on Wetlands: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Less than Significant with Mitigation)

The project will not directly impact (e.g., through grading, fill, or other direct means) any tidal marsh habitat. However, approximately 0.04 acre of muted tidal marsh habitat will be indirectly impacted by the project. Wetlands serve a variety of important functions, such as sediment stabilization, sediment/toxicant retention, nutrient removal/transformation, and terrestrial wildlife species habitat. Even though the acreage of the muted tidal marsh habitat within the drainage ditch is small, wetlands are relatively scarce regionally, and even small wetland areas have disproportionate contributions to water quality, groundwater recharge, watershed function, and wildlife habitat in the region.

The project has been designed to avoid direct impacts to the muted tidal marsh habitat within the drainage ditch. However, permanent indirect impacts to the muted tidal marsh habitat will occur due to the anticipated loss of vegetation from shading of this habitat by cantilevered sections of the bike and pedestrian trail to be constructed along the site's northern boundary (Figure 3). In addition, construction activities located within the ditch may result in indirect impacts on water quality as well as the plant and animal species that occur in muted tidal marsh habitat in the drainage ditch through erosion and sedimentation. Bank erosion and sedimentation are potential effects of disturbance associated with construction within the banks of the ditch. Compliance with the Construction General Permit and all applicable BMPs for sediment control in the construction site will avoid and minimize such indirect impacts that could degrade the avoided muted tidal marsh. Water quality in the ditch should improve somewhat post-construction, due to the project's proposed upgraded stormwater treatment in compliance with the Municipal Regional Stormwater NPDES Permit.

While the 0.04-acre area of muted tidal salt marsh to be permanently impacted by the project is small, permanent impacts would be significant under CEQA due to the ecological importance and sensitivity of muted tidal marsh habitats and species that inhabit the drainage ditch unless mitigated (Criterion C). Implementation of compensatory wetland replacement required for the permanent loss of salt marsh harvest mouse habitat described in Mitigation Measure 8 above; as well as Mitigation Measure 6, which requires the placement of an environmentally sensitive area fence at the edge of avoided wetlands will reduce these impacts to less-than-significant levels.

6.4 Impacts on Wildlife Movement: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant)

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller, they are unable to support as many individuals (patch size), and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The marsh and upland habitats along the unnamed tidal slough and muted tidal drainage ditch serve as a movement pathway for terrestrial species, providing vegetative cover and foraging opportunities. Common, urban-adapted species such as raccoons and striped skunks may use the vegetation along these waterbodies to move east and west through the project area. Small mammals, such as mice and shrews, will also use this vegetation as cover to move between habitats. A small portion of the project site extends down from the top of bank into the marsh habitat, and the project will result in the permanent removal of 0.04 acre of muted tidal marsh habitat within the muted tidal drainage ditch (due to shading of vegetation by cantilevered sections of trail) and 0.03 acre of ruderal ditch bank along the drainage ditch. Because the permanent impact areas within the drainage ditch are extremely small, and positioned along the outer margin of the marsh habitat, development of the site would not impede animal movement along this wildlife movement pathway. In addition, the project site already consists of heavily disturbed habitats that are currently of little value to migrating wildlife. The redevelopment of the project site and removal of 0.07 acre of muted tidal marsh and ruderal habitat will have very little impact on wildlife movement, especially given that the adjacent marsh that will remain intact and navigable. Further, the terrestrial wildlife species that use these habitats are acclimated to high levels of disturbance and habitat fragmentation in the Redwood City area. Therefore, construction of the project is not expected to result in significant impacts on the movements of individuals and would not rise to the level of a substantial adverse effect on habitat connectivity and wildlife movement under CEQA.

6.5 Impacts due to Conflicts with Local Policies: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant)

6.5.1 Impacts Due to the Removal of Ordinance-Sized Trees (Less than Significant)

As the project is currently designed, approximately 10 trees will be removed, including several potential heritage trees. Because this tree removal conflicts with the City's Municipal Code, it would be considered a significant impact under CEQA (Criterion I). In accordance with the provisions of the City's tree protection ordinance (Chapter 35 of Redwood City's Municipal Code), the project will comply with standard City tree removal permit conditions and replace trees that are removed in accordance with City tree removal policies.

The project will comply with the City's tree protection ordinance, including obtaining a tree removal permit, and it will comply with conditions of the project's tree removal permit. Such compliance will reduce any potential impacts due to conflicts with the City's tree preservation ordinance to less than significant levels under CEQA.

6.6 Impacts due to Conflicts with an Adopted Habitat Conservation

Plan: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (Less Than Significant)

The San Bruno Mountain Habitat Conservation Plan is the only Habitat Conservation Plan that has been approved in San Mateo County, but this plan does not cover the project site or the surrounding vicinity. No Natural Community Conservation Plans have been approved or are in preparation in San Mateo County. Therefore, the proposed project would not conflict with any adopted Habitat Conservation Plans or Natural Community Conservation Plans, or with any other approved local, regional, or state habitat conservation plans, and thus the impact associated with conflicts between the project and any adopted Habitat Conservation Plans or Natural Community Conservation Plans would be less than significant.

6.7 Cumulative Impacts

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. Future development activities in the City will result in impacts on the same habitat types and species that will be affected by the proposed project. The proposed project, in combination with other projects in the area and other activities that impact the species that are affected by this project, could contribute to cumulative effects on special-status species. Other projects in the area include office/retail/commercial development, mixed use, and residential projects that could adversely affect these species.

It is expected that most current and future projects will mitigate any significant impacts through CEQA, Section 1602 of the California Fish and Game Code, or Section 401/404 of the Clean Water Act, as well as through the FESA and CESA consultation process. In addition, regional conservation plans protect a number of

sensitive resources in the region and provide for the long-term conservation of these resources. Examples of such plans in San Mateo County include the San Bruno Mountain Habitat Conservation Plan, which protected several federally listed species on San Bruno Mountain. As a result, most projects in the region will mitigate their impacts on biological resources, minimizing cumulative impacts on these resources.

Additional cumulative impacts could occur as a result of project impacts on common species and habitats, which are not typically mitigated under CEQA. For instance, the project will result in the permanent loss of ruderal, landscaped, and developed habitats, which provide some value to the common plant wildlife species that occur there. However, these common species and habitats are widespread throughout the region, such that there are no cumulative impacts to these species. Thus, the project will not contribute to a substantial cumulative loss of these resources that will affect regional populations.

Most of the other foreseeable projects in the San Francisco Bay area that will affect muted tidal and tidal marsh habitats and upland transitional habitats are tidal restoration projects. Bair Island has been undergoing restoration to return the area to tidal wetlands and will provide habitat for tidal and muted tidal marsh species such as the salt marsh harvest mouse. Similarly, the South Bay Salt Ponds Restoration Project is implementing tidal marsh restoration, including restoration and enhancement of upland transition zones, as well as intensive pond management for wildlife on 15,000 acres of former salt ponds in the South Bay. In addition, the California State Coastal Conservancy's Invasive *Spartina* Project annually removes introduced *Spartina* cordgrasses along Belmont Slough and elsewhere throughout the Bay and is engaged in native salt marsh revegetation. These projects are expected to benefit tidal marsh habitats and associated plant and wildlife species in the long-term.

Climate change may have cumulative effects on species that utilize tidal and muted tidal marshes, such as those that occur along Belmont Slough adjacent to the project site. The global average temperature has risen by approximately 0.6 °C during the 20th Century (IPCC 2001, IPCC 2007, Adger et al. 2007). There is an international scientific consensus that most of the warming observed has been caused by human activities (IPCC 2001, 2007, Adger et al. 2007), and that it is "very likely" that it is largely due to anthropogenic emissions of carbon dioxide and other greenhouse gases (Adger et al. 2007). Ongoing climate change (Inkley et al. 2004, Adger et al. 2007, Kanter 2007) may imperil species like the Ridgway's rail and salt marsh harvest mouse, and the resources necessary for their survival, because climate change threatens to disrupt annual weather patterns, and it may result in a loss of their habitats and prey, and/or increased numbers of their predators, parasites, and diseases. Where populations are isolated, increasing tide height as a result of changing climate may result in local extinction, with range shifts precluded by lack of suitable habitat at higher elevations.

Section 7. Compliance with Additional Laws and Regulations

Several species of common native birds protected by the MBTA and California Fish and Game Code may nest in trees, shrubs, grasses, and/or marsh vegetation on the site or immediately adjacent to the site. It is also possible that protected native birds could nest on the buildings on the site. The removal of vegetation or demolition of buildings supporting active nests may cause the direct loss of eggs or young, while construction-related activities located near an active nest may cause adults to abandon their eggs or young. This type of impact would not be significant under CEQA, in our opinion, because of the local and regional abundances of the species that could potentially nest on the site and the very low magnitude of the potential impact of development on these species (i.e., the project is expected to impact only a few pairs of these species, which is not a substantial impact on their regional populations). However, the following measures should be implemented to ensure that project activities do not violate the MBTA and California Fish and Game Code:

Measure 1. Avoidance of the Nesting Season. To the extent feasible, commencement of demolition and construction activities should be scheduled to avoid the nesting season. If demolition and construction activities are scheduled to take place outside the nesting season, all potential demolition/construction impacts on nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in Alameda County extends from February 1 through August 31.

Measure 2. Pre-Activity/Pre-Disturbance Surveys. If it is not possible to schedule demolition and construction activities between September 1 and January 31, then pre-activity surveys for nesting birds should be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. We recommend that these surveys be conducted no more than seven days prior to the initiation of demolition or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, and buildings) in and immediately adjacent to the impact areas for nests.

Measure 3. Non-Disturbance Buffers. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation.

Measure 4. Inhibition of Nesting. If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project may be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation and minimize the potential delay of the project due to the presence of active nests in these substrates.

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Appendix A. Plants Observed

Family	Scientific Name	Common Name
Aizoaceae	<i>Mesembryanthemum nodiflorum</i>	Slender ice plant
Asteraceae	<i>Carduus pycnocephalus</i>	Italian thistle
	<i>Erigeron canadensis</i>	Canada horseweed
	<i>Helminthotheca echiioides</i>	Bristly ox-tongue
	<i>Sonchus asper</i>	Prickly snow thistle
	<i>Brassica nigra</i>	Black mustard
Cannabaceae	<i>Celtis sinensis</i>	Chinese hackberry
Caryophyllaceae	<i>Spergularia rubra</i>	Purple sand spurry
Chenopodiaceae	<i>Atriplex prostrata</i>	Fat hen
	<i>Salicornia pacifica</i>	Pacific glasswort
Cupressaceae	<i>Juniperus chinensis</i>	Chinese juniper
Euphorbiaceae	<i>Euphorbia</i> sp.	Sandmat sp.
Fabaceae	<i>Acacia baileyana</i>	Cootamundra wattle
Frankeniaceae	<i>Frankenia salina</i>	Alkali heath
Geraniaceae	<i>Geranium dissectum</i>	Wild geranium
Malvaceae	<i>Malva</i> sp.	Cheeseweed
Moraceae	<i>Ficus carica</i>	Common fig
Myrsinaceae	<i>Lysimachia arvensis</i>	Scarlet pimpernel
Poaceae	<i>Avena fatua</i>	Wild oat
	<i>Bromus diandrus</i>	Ripgut brome
	<i>Distichlis spicata</i>	Salt grass