



Biological Resources Technical Report

Sharon Heights Golf and Country Club Renovation Project

Menlo Park, San Mateo County, California



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List of Acronyms

CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGF	California Fish and Game Code
CFP	California Fully Protected Species
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CRLF	California Red Legged Frog
CWA	Clean Water Act
EFH	Essential Fish Habitat
ESA	Federal Endangered Species Act
Inventory	CNPS Rare Plant Inventory
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NMFS	National Marine Fisheries Service
NPPA	California Native Plant Protection Act
NWI	National Wetland Inventory
Rank	California Rare Plant Ranks
RHA	Rivers and Harbors Act
RWQCB	Regional Water Quality Control Board
SC	State Candidate
SFGS	San Francisco Garter Snake
SSC	Species of Special Concern
SWRCB	State Water Resource Control Board
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WPT	Western Pond Turtle
WRA	WRA, Inc.



1 INTRODUCTION

This Biological Resources Technical Report evaluates existing biological resources and, in order to implement ConnectMenlo General Plan and M-2 Area Zoning Update Mitigation Measure BIO-1, recommends incorporation of surveys and avoidance and minimization measures as components of the Sharon Heights Golf and Country Club Renovation Project located in Menlo Park, San Mateo County, California (Study Area; Appendix A – Figure 1). The proposed project (Project) involves the renovation of the existing golf course by replacing the irrigation system, installing drainage with a sand cap, re-grassing, de-mucking the irrigation lake, removing and adding certain trees, building new tees and greens, and relining bunkers. The project will also reduce the amount of cart paths currently on the course and reduce the total amount of turf/grass area for water conservation. The main purpose of the project is to update the existing infrastructure only, as there are no plans to add any buildings, modify any buildings, or make any alterations to the existing golf course routing (i.e., no change in use).

1.1 Overview and Purpose

This report provides an assessment of biological resources within the Study Area and immediate vicinity. The purpose of the assessment was to develop and gather information on sensitive Land cover types and special-status plant and wildlife species. This report describes the results of the site visit, which assessed the Study Area for (1) the presence of sensitive land cover types, special-status plant species, and special-status wildlife species, (2) the potential for the site to support special-status plant and wildlife species. Based on the results of the site assessment, additional surveys and measures to avoid or minimize potential impacts to sensitive resources are described.

A biological resources assessment provides general information on the presence, or potential presence, of sensitive species and habitats. Additional focused studies (such as special-status species surveys) may be required to support regulatory permit applications or to implement avoidance and minimization measures included in this report. This assessment is based on information available at the time of the study and on-site conditions that were observed on the dates the site was visited. Conclusions are based on currently available information used in combination with the professional judgement of the biologists completing this study.

1.2 Summary of Results

No sensitive land cover types were identified in the Study Area. Man-made aquatic features identified within the Study Area are considered exempt from State and Federal regulations governing wetland, non-wetland waters, and riparian areas. No special-status plant species have moderate or high potential to occur within the Study Area, and therefore no additional surveys for special-status plants and/or sensitive land cover types are recommended.

Two special-status mammals, one special-status bird, one special-status amphibian, and two special-status reptiles as well as non-status birds and bats with baseline legal protections, have the potential to occur in the Study Area. Recommendations associated with each species or species group and best management practices have been developed and provided herein to avoid or minimize impacts to these resources.



2 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

2.1 Federal and State Regulatory Setting

2.1.1 Vegetation, Aquatic Features, and Other Land Cover Types

CEQA provides protections for particular vegetation types defined as sensitive by the California Department of Fish and Wildlife (CDFW) and aquatic features protected by laws and regulations administered by the U.S Army Corps of Engineers (Corps), State Water Resources Control Board (SWRCB), and Regional Water Quality Control Boards (RWQCB). The laws and regulations that provide protection for these resources are summarized below.

Sensitive Natural Communities: Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFW 2021a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB; CDFW 2021b). Natural communities are ranked 1 through 5 in the CNDDDB based on NatureServe's (2020) methodology, with those communities ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (California Code of Regulations [CCR] Title 14, Div. 6, Chap. 3, Appendix G). In addition, this general class includes oak woodlands that are protected by local ordinances under the Oak Woodlands Protection Act and Section 21083.4 of California Public Resources Code (CPRC).

Waters of the United States, Including Wetlands: The Corps regulates "Waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as including the territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, such as tributaries, lakes and ponds, impoundments of waters of the U.S., and wetlands that are hydrologically connected with these navigable features (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Unvegetated waters including lakes, rivers, and streams may also be subject to Section 404 jurisdiction and are characterized by an ordinary high water mark identified based on field indicators such as the lack of vegetation, sorting of sediments, and other indicators of flowing or standing water. The placement of fill material into Waters of the United States generally requires a permit from the Corps under Section 404 of the CWA.

The Corps also regulates construction in navigable waterways of the U.S. through Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 U.S. Code [USC] 403). Section 10 of the RHA requires Corps approval and a permit for excavation or fill, or alteration or modification of the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United



States. Section 10 requirements apply only to navigable waters themselves, and are not applicable to tributaries, adjacent wetlands, and similar aquatic features not capable of supporting interstate commerce.

Waters of the State, Including Wetlands: The term “Waters of the State” is defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The SWRCB and nine RWQCB protect waters within this broad regulatory scope through many different regulatory programs. Waters of the State in the context of a CEQA Biological Resources evaluation include wetlands and other surface waters protected by the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2019). The SWRCB and RWQCB issue permits for the discharge of fill material into surface waters through the State Water Quality Certification Program, which fulfills requirements of Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Clean Water Act permit are also required to obtain a Water Quality Certification. If a project does not require a federal permit but does involve discharge of dredge or fill material into surface waters of the State, the SWRCB and RWQCB may issue a permit in the form of Waste Discharge Requirements.

Sections 1600-1616 of California Fish and Game Code: Streams and lakes, as habitat for fish and wildlife species, are regulated by CDFW under Sections 1600-1616 of California Fish and Game Code (CFG). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream,” which includes creeks and rivers, is defined in the CCR as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). The term “stream” can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). Riparian vegetation has been defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

2.1.2 Special-status Species

Endangered and Threatened Plants, Fish, and Wildlife. Specific species of plants, fish, and wildlife species may be designated as threatened or endangered by the federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). Specific protections and permitting mechanisms for these species differ under each of these acts, and a species’ designation under one law does not automatically provide protection under the other.

The ESA (16 USC 1531 et seq.) is implemented by the USFWS and the National Marine Fisheries Service (NMFS). The USFWS and NMFS maintain lists of endangered and threatened plant and animal species (referred to as “listed species”). “Proposed” or “candidate” species are those that are being considered for listing and are not protected until they are formally listed as threatened or endangered. Under the ESA, authorization must be obtained from the USFWS or NMFS prior to take of any listed species. “Take” under the ESA is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Take under the ESA includes direct injury or mortality to individuals, disruptions in normal behavioral patterns resulting from factors such as noise and visual disturbance, and impacts to habitat for listed species. Actions that may result in take of an ESA-listed species may obtain a permit under ESA Section 10, or via



the interagency consultation described in ESA Section 7. Federally listed plant species are only protected when take occurs on federal land.

The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features “essential to the conservation of the species.” Protections afforded to designated critical habitat apply only to actions that are funded, permitted, or carried out by federal agencies. Critical habitat designations do not affect activities by private landowners if there is no other federal agency involvement.

The CESA (CFGF 2050 et seq.) prohibits the take of any plant and animal species that the CFGF determines to be an endangered or threatened species in California. CESA regulations include take protection for threatened and endangered plants on private lands, as well as extending this protection to candidate species that are proposed for listing as threatened or endangered under CESA. The definition of a “take” under CESA (“hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) only applies to direct impact to individuals, and does not extend to habitat impacts or harassment. CDFW may issue an Incidental Take Permit under CESA to authorize take if it is incidental to otherwise lawful activity and if specific criteria are met. Take of these species is also authorized if the geographic area is covered by a Natural Community Conservation Plan (NCCP), as long as the NCCP covers that activity.

Fully Protected Species and Designated Rare Plant Species. This category includes specific plant and wildlife species that are designated in the CFGF as protected even if not listed under CESA or ESA. Fully Protected Species includes specific lists of birds, mammals, reptiles, amphibians, and fish designated in CFGF. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and conservation purposes. The definition of “take” is the same under the California Fish and Game Code and the CESA. By law, CDFW may not issue an Incidental Take Permit for Fully Protected Species. Under the California Native Plant Protection Act (NPPA), CDFW has listed 64 “rare” or “endangered” plant species, and prevents “take”, with few exceptions, of these species. CDFW may authorize take of species protected by the NPPA through the Incidental Take Permit process, or under a NCCP.

Special Protections for Nesting Birds and Bats. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America’s eagle species (bald eagle [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*]) that in some regards are similar to those provided by the ESA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGF, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA.

Essential Fish Habitat. The Magnuson-Stevens Fishery Conservation and Management Act provides for conservation and management of fishery resources in the U.S., administered by NMFS. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g.,



eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

Species of Special Concern, Movement Corridors, and Other Special-status Species under CEQA. To address additional species protections afforded under CEQA, CDFW has developed a list of special species as “a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status.” This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management Sensitive Species, and USFWS Birds of Special Concern. Plant species on the California Native Plant Society (CNPS) Rare Plant Inventory (Inventory; CNPS 2022b) with California Rare Plant Ranks (Rank) of 1 and 2, as well as some with a Rank of 3 or 4, are also considered special-status plant species and must be considered under CEQA. Some Rank 3 and Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. Additionally, any species listed as sensitive within local plans, policies and ordinances are likewise considered sensitive. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

2.2 Local Plans and Policies

City of Menlo Park General Plan. The City of Menlo Park General Plan contains policies pertaining to the following biological resources categories:

- Wetlands, streams, riparian, and aquatic areas (Policy LU-6.7, OSC1.3, OSC1.4, OSC5.1)
- Vegetation Communities (Policy LU-6.7, OSC1.3, OSC1.4)
- Wildlife Species (Policy LU-6.7, LU-6.D)



3 ASSESSMENT METHODOLOGY

On September 12, 2022, WRA, Inc. (WRA) biologists visited the Study Area to map vegetation, aquatic features, and other land cover types; document plant and wildlife species present; and evaluate on-site habitat for the potential to support special-status species as defined by CEQA. Prior to the site visit, WRA biologists reviewed literature resources and performed database searches to assess the potential for sensitive land cover types and special-status species, including:

- Soil Survey of San Mateo, Eastern Part, and San Francisco County, California (USDA 1991)
- Palo Alto 7.5-minute U.S. Geological Survey (USGS) quadrangle (USGS 2021)
- Contemporary aerial photographs (Google Earth 2022)
- Historical aerial photographs (NETR 2022)
- National Wetlands Inventory (USFWS 2022a)
- California Aquatic Resources Inventory (SFEI 2017)
- CNDDDB (CDFW 2022b)
- CNPS Inventory (CNPS 2022b)
- Consortium of California Herbaria (CCH1 2022, CCH2 2022)
- USFWS Information for Planning and Consultation (USFWS 2022b)
- California Bird Species of Special Concern in California (Shuford and Gardali 2008)
- California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)
- A Manual of California Vegetation, Online Edition (CNPS 2022a)
- California Natural Community List (CDFW 2022a)
- Database searches (i.e., CNDDDB, CNPS) for special-status species focused on the Palo Alto USGS 7.5-minute quadrangle and the eight surrounding quadrangles.

Following the remote assessment, WRA biologists completed a field review on September 12, 2022, to document: (1) land cover types (e.g., vegetation communities, aquatic resources), (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic land cover types (e.g., wetlands) are present, and (4) if special-status species are present¹.

3.1 Vegetation Communities and Other Land Cover Types

During the site visit, WRA evaluated the species composition and area occupied by distinct vegetation communities, aquatic features, and other land cover types. Mapping of these classifications utilized a combination of aerial imagery and ground surveys. In most instances, land cover types are characterized and mapped based on distinct shifts in plant assemblage (vegetation) and follow the California Natural Community List (CDFW 2022a) and A Manual of California Vegetation, Online Edition (CNPS 2022a). These resources cannot anticipate every component of every potential vegetation assemblage in California, and so in some cases, it is necessary to identify other appropriate vegetative classifications based on best professional judgment of WRA biologists. When undescribed variants are used, it is noted in the description. Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled [S1/G1], imperiled

¹ Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 5.2 if the site assessment would constitute a formal or protocol-level species survey.



[S2/G2], or vulnerable [S3/G3]) (CDFW 2022a), were evaluated as sensitive as part of this evaluation.

The site was reviewed for the presence of wetlands and other aquatic resources according to the methods described in the Corps Manual (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008) and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008). Areas meeting these indicators, if present, were mapped as aquatic resources and categorized using the vegetation community classification methods described above. Aquatic resources which are mapped in the NMFS EFH Mapper (NMFS 2022) or otherwise meet criteria for designation as EFH are indicated as such in the community description below in Section 5.1. The presence of riparian habitat was evaluated based on woody plant species meeting the definition of riparian provided in *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994) and based on best professional judgement of biologists completing the field surveys.

3.2 Special-status Species

3.2.1 General Assessment

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database review as described above. Presence of suitable habitat for special-status species was evaluated during the site visit based on physical and biological conditions of the site as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur in the Study Area was then determined according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Unlikely.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (i.e., CNDDDB, other reports) on the site in the recent past.

If a more thorough assessment was deemed necessary, a targeted or protocol-level assessment or survey was conducted or recommended as a future study. If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2. If designated critical habitat is present for a species, the extent of critical habitat present and an evaluation of critical habitat elements is provided as part of the species discussions below.



3.3 Wildlife Corridors and Native Wildlife Nursery Sites

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010, CDFW 2020), and habitat connectivity data available through the CDFW Biogeographic Information and Observation System (CDFW 2022c). Additionally, aerial imagery (Google Earth 2022) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions, including topographic and vegetative factors that can facilitate wildlife movement, as well as on-site and off-site barriers to connectivity.

The potential presence of native wildlife nursery sites is evaluated as part of the site visit and discussion of individual wildlife species below. Examples of native wildlife nursery sites include nesting sites for native bird species (particularly colonial nesting sites), marine mammal pupping sites, and colonial roosting sites for other species (such as for monarch butterfly [*Danaus plexippus*]).



4 ECOLOGICAL SETTING

The approximately 103-acre Study Area is located in the Sharon Heights neighborhood at the southwestern end of Menlo Park, San Mateo County, California. Additional details of the local setting are provided below.

4.1 Soils and Topography

The overall topography of the Study Area is undulating and hilly, with slopes ranging from gentle to steep and elevations ranging from approximately 170 to 315 feet above sea level. According to SoilWeb (CSRL 2022), the Study Area is underlain by two soil mapping units: Accelerator-Fagan association, 5 to 15 percent slopes and Accelerator-Fagan-Urban land complex, 5 to 15 percent slopes. Soils within the Study Area are shown in Appendix A – Figure 2. The parent soil series of all the Study Area’s mapping units are summarized below.

Accelerator Series: This soil series consists of deep, well drained, loamy soils formed in material weathered from soft sandstone and shale at elevations ranging from 100 to 500 feet above sea level and on slopes ranging from 5 to 15 percent. They have medium runoff and moderately slow permeability (CSRL 2022, USDA 1991). The Accelerator-Fagan association, 5 to 15 percent slopes and Accelerator-Fagan-Urban land complex, 5 to 15 percent slopes mapping units are not considered hydric (USDA 2022).

Fagan Series: This soil series consists of well drained clay loam soils formed in material from sandstone or shale at elevations ranging from 200 to 1,500 feet above sea level and on slopes ranging from 5 to 50 percent. They have medium to rapid runoff and slow permeability (CSRL 2022, USDA 1991). The Accelerator-Fagan association, 5 to 15 percent slopes and Accelerator-Fagan-Urban land complex, 5 to 15 percent slopes mapping units are not considered hydric (USDA 2022).

4.2 Climate and Hydrology

The Study Area is located in the Bay-facing portion of San Mateo County, at the eastern base of the Santa Cruz Mountains. The average monthly maximum temperature in the area is 69.3 degrees Fahrenheit, while the average monthly minimum temperature is 46.6 degrees Fahrenheit. Predominantly, precipitation falls as rainfall between November and March with an annual average precipitation of 15.21 inches.

The local watershed is Cordileras Creek-Frontal San Francisco Bay Estuaries (HUC 12: 180500040902) and the regional watershed is San Francisco Bay (HUC 8: 18050004). The Study Area is located at the southwestern edge of both watersheds. There are no blue-line streams in the Study Area (USGS 2021). The NWI (USFWS 2022) shows “Riverine” and “Freshwater Pond” feature types, and CARI (SFEI 2017) lists “Fluvial Unnatural” and “Pond and associated vegetation” feature types. However, NWI and CARI data are coarse and often not ground-truthed, and no fluvial or riverine features are present in the Study Area. Detailed descriptions of aquatic resources are provided in Section 5.1 below.

4.3 Land Use

The vast majority of the Study Area is a golf course and has been so since 1961. Most of the golf course is intensely managed, manicured landscaping. Some of the roughs receive less frequent maintenance but are still managed. A small stand of apparently natural oak woodland is present in



the northern part of the Study Area, but even that has a managed (primarily mowed and trimmed) understory. Two man-made ponds are present within the golf course. Detailed vegetation community descriptions are included in Section 5.1 below, and all observed plant species are included in Appendix B. Surrounding land uses include residential uses, the SLAC National Accelerator Laboratory, and undeveloped land (Google Earth 2022). Historically, prior to 1961, the Study Area was undeveloped grassland and woodland (NETR 2022).



5 ASSESSMENT RESULTS

5.1 Vegetation Communities and Other Land Cover

WRA observed three land cover types within the Study Area: developed, coast live oak woodland, and man-made pond. All are considered non-sensitive. Land cover types within the Study Area are illustrated in Appendix A - Figure 3. Land cover types in the Study Area are summarized in Table 1. A list of all plant species observed in the Study Area is included as Appendix B.

Table 1: Vegetation Community and Land Cover Types

COMMUNITY / LAND COVERS	SENSITIVE STATUS	RARITY RANKING	ACRES WITHIN STUDY AREA
Terrestrial / Community Land Cover			
Developed	Non-sensitive	None	101.07
Coast Live Oak Woodland	Non-sensitive	G5S4	0.74
Aquatic Resources			
Man-made Pond	Non-sensitive	None	1.05

5.1.1 Terrestrial Land Cover

Coast live oak woodland (*Quercus agrifolia* Forest and Woodland Alliance). CDFW Rank: G5 S4. Coast live oak woodlands are known from the outer and inner Coast Ranges, Transverse Ranges, and southern coast from northern Mendocino County south to San Diego County. This vegetation community is typically located on terraces, canyon bottoms, slopes, and flats underlain by deep, well-drained sandy or loam substrates with high organic content (CNPS 2022a). Within the Study Area, a single, small, isolated stand of coast live oak woodland is located in the northern portion of the Study Area on a north-facing slope situated between the golf course to the north and residences to the south. There are no large-diameter trees present, and at least some of it appears to have been cut at some point in past, as evidenced by the fact that all California buckeye (*Aesculus californica*) trees present are even-aged and are multi-stemmed beginning at their bases. The understory is mowed. The canopy is dominated by coast live oak (*Quercus agrifolia*), with occasional California buckeye and California bay (*Umbellularia californica*). The understory is open. A sparse amount English ivy (*Hedera helix*) and poison oak (*Toxicodendron diversilobum*) are present, but it is predominantly leaf litter and non-native annual grasses. Coast live oak woodland is not a sensitive land cover type.



Photo 1. Photograph of coast live oak woodland in the Study Area.



Developed (no vegetation alliance). CDFW Rank: None. Nearly all of the Study Area was mapped as the developed land cover type, which is comprised of the golf course, included fairways, greens, roughs, the driving range, sand traps, cart paths, and built structures such as restrooms and pump houses. Turf grass occupies the majority of the developed land cover type. Trees are present throughout the manicured portion of the golf course, the most common being coast redwood (*Sequoia sempervirens*). These are typically planted, ornamental trees, though it appears that some possibly naturally occurring trees such as valley oak (*Quercus lobata*) have been incorporated into the landscaping. The roughs vary in size and are typically dominated by non-native herbaceous species such as wild oat (*Avena* sp.), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), sheep sorrel (*Rumex acetosella*), spring vetch (*Vicia sativa*), ribwort (*Plantago lanceolata*), foxtail barley (*Hordeum murinum*), and hairy cats ear (*Hypochaeris radicata*). Occasional native herbs were present at very low cover such as California poppy (*Eschscholzia californica*), miniature lupine (*Lupinus bicolor*), and purple needlegrass (*Stipa pulchra*). Occasional trees and shrubs were present in roughs and were a mix of planted ornamentals as well as naturally occurring native species such as valley oak, coast live oak, coyote brush (*Baccharis pilularis*), and toyon (*Heteromeles arbutifolia*). Developed is not a sensitive land cover type.



Photo 2. Photograph of a developed area in the Study Area.



Photo 3. Photograph of a developed area in the Study Area.

5.1.2 Aquatic Resources

Man-made Pond (no vegetation alliance). CDFW Rank: None. There are two man-made ponds in the Study Area, a small one near the southwestern boundary, and a larger one near the eastern boundary.

The southwestern pond is an ornamental element of the golf course. It is a small, shallow, excavated, earthen-bottomed depression situated between a concrete cart path and an asphalt maintenance road. It is fed by a small PVC pipe, has no outlet, and has no connection to other aquatic features. Given the fact that only upland golf course vegetation and developed maintenance areas are upslope and the fact that water was present during the dry season in such a small depression,



Photo 4. Photograph of the southwestern man-made pond.



the water source is clearly anthropogenic. The feature was partially inundated at the time of the site visit. Vegetation was a mix of spontaneous, ruderal species, such as stinkwort (*Dittrichia graveolens*), Italian rye grass, (*Festuca perennis*), and horseweed (*Erigeron canadensis*), and ornamental species such as yarrow (*Achillea millefolium*), creeping wildrye (*Elymus triticoides*), and California poppy (*Eschscholzia californica*). Because this feature is ornamental and man-made and has man-induced hydrology, it is not a potentially jurisdictional aquatic resource and is non-sensitive.

The eastern pond is also an ornamental element of the golf course. It is a man-made, excavated depression that has recycled water pumped into it at its western end. It has no outlet and no connection to other aquatic features. A narrow fringe of planted and spontaneous vegetation is present along the edges of the water, including Italian rye grass, tall cyperus (*Cyperus eragrostis*), and horticultural iris (*Iris pseudacorus*). The pond is ringed by ornamental herbs and shrubs. Because this feature is ornamental and man-made and has man-induced hydrology, it is not a potentially jurisdictional aquatic resource and is non-sensitive, though this man-made pond has potential to support special-status wildlife species described in Section 5.2.2 below.



Photo 5. Photograph of the eastern man-made pond.

5.2 Special-status Species

5.2.1 Special-status Plants

Based upon a review of the resource databases listed in Section 3, 68 special-status plant species have been documented in the vicinity of the Study Area. All are unlikely or have no potential to occur for one or more of the following reasons:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Study Area;
- Edaphic (soil) conditions (e.g., volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the Study Area;
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present in the Study Area;
- Associated natural communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not present in the Study Area;
- The Study Area is geographically isolated (e.g. below elevation, coastal environ) from the documented range of the special-status plant species;
- The historical landscape and/or habitat(s) of the Study Area were not suitable habitat prior to land/type conversion (e.g., reclaimed shoreline) to support the special-status plant species;
- Land use history and contemporary management (e.g., grading, intensive grazing) has degraded the localized habitat necessary to support the special-status plant species.



5.2.2 Special-status Wildlife

Of the 46 special-status wildlife species documented in the vicinity of the Study Area, most are excluded from the Study Area based on a lack of habitat features. Features not found within the Study Area that are required to support special-status wildlife species include:

- Perennial streams or natural water features
- Tidal marsh areas
- Old growth redwood or fir forest
- Serpentine soils to support host plants
- Sandy beaches or alkaline flats
- Caves, mine shafts, or abandoned buildings
- Grasslands

The absence of such habitat features eliminates components critical to the survival or movement of most special-status species found in the vicinity. Given the Study Area's relative proximity to sensitive habitats on the San Francisco Bay, many species documented nearby are additionally obligates to marine or tidal marsh habitats which are not present on or in the immediate vicinity of the Study Area.

Six special-status species have potential to occur in the immediate vicinity of or in portions of the Study Area. These species are identified in Table 2 and are discussed in greater detail below.



Table 2: Potential Special-status Wildlife

SCIENTIFIC NAME	COMMON NAME	CONSERVATION STATUS	POTENTIAL HABITAT IN THE STUDY AREA
Formally Listed Wildlife (FESA, CESA)			
<i>Rana draytonii</i>	California red-legged frog	Federal Threatened CDFW Species of Special Concern	May be present in the eastern pond during all life-history periods. May traverse uplands during the rainy season from nearby occupied aquatic habitat.
<i>Thamnophis sirtalis tetrataenia</i>	San Francisco garter snake	Federal Endangered State Endangered CDFW Species of Special Concern	May be present in the eastern pond during all life-history periods.
Other Special-status Wildlife (CEQA, other)			
<i>Elanus leucurus</i>	white-tailed kite	CFP	Woodland bordering grassland may provide suitable nesting habitat for this species. This species has been observed in the vicinity
<i>Neotoma fuscipes annectens</i>	San Francisco dusky-footed woodrat	CDFW Species of Special Concern	Many stick structures were observed throughout areas of understory within the Study Area.
<i>Lasiurus cinereus</i>	Hoary bat	WBWG Medium	May establish maternity or hibernacula roosts within oak woodland habitats.
<i>Actinemys marmorata</i>	Western pond turtle	CDFW species of special concern	At least 20 turtles were observed in the eastern pond on the eastern side of the Study Area. Although it could not be determined if they were western pond turtles, this species may be present along with other turtle species.



California red-legged frog (*Rana draytonii*). Federal Threatened, CDFW Species of Special Concern. The California red-legged frog (CRLF) is the only native “pond frog” found throughout much of California. Suitable aquatic breeding habitat is characterized by deep and still or slow-moving water associated with emergent marsh and/or riparian vegetation, typically with at least 20 weeks of continuous inundation (USFWS 2010). Suitable features include ponds (perennial and non-), streams/creeks, seasonal wetlands, springs, seeps, man-made features (e.g. stock ponds, roadside ditches, ornamental ponds), marshes, dune ponds, and lagoons. Dependent upon local conditions, CRLF may complete its entire life cycle in a particular habitat patch (e.g., a perennial pond suitable for all life stages), or utilize multiple habitat types. In aquatic features that dry down seasonally, CRLFs often undergo aestivation (a period of inactivity) during the dry months, retreating to small mammal burrows or other substrates that provide suitable refugia (Thomson et al. 2016). Adults and sub-adults (newly metamorphosed individuals) may disperse from breeding habitats to nearby riparian and/or aestivation areas in the summer. Conversely, during the rainy season CRLFs may migrate from aestivation sites to waters suitable for breeding. During such dispersals, frogs can travel over one mile over a variety of topographic and habitat types (Bulger et al. 2003). Upland dispersal habitats are variable and typically include riparian corridors, grasslands, and oak savannas.

The nearest documented occurrence of CRLF is approximately 0.2 mile north of the Study Area (CDFW 2022). This occurrence is noted as being within Atherton Channel, and was observed in 2016 during construction monitoring at a culvert construction project. While this occurrence location is separated from the Study Area by a small amount of residential development, no major barriers to dispersal exist that would prevent CRLF from entering or traversing the Study Area if a nearby population exists. While aquatic habitat within the Study Area is limited, the eastern man-made pond constitutes potential aquatic habitat, particularly if it is flooded to a level where emergent vegetation along the banks is submerged. Landscaped portions of the Study Area may also serve as upland movement corridors for CRLF during the rainy season when they would be unlikely to desiccate due to distance from water. Thus, CRLF have a moderate potential to occur within the Study Area during upland movements during the rainy season, and has potential to be present in the eastern pond, which supports appropriate breeding conditions.

San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered. CDFW Fully Protected Species. Historically, San Francisco garter snakes (SFGS) occurred in scattered wetland areas on the San Francisco Peninsula from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County.

The preferred habitat of the SFGS is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied (USFWS 2006). Temporary ponds and other seasonal freshwater bodies are also used. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.) and spike rushes (*Juncus* spp., and *Eleocharis* spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking, while nearby dense vegetation or water often provide escape cover. SFGS also use floating algal or rush mats, if available.

There are two significant components to SFGS habitat: 1) ponds that support California red-legged frog (*Rana draytonii*, CRLF), American bullfrog (*Lithobates catesbeiana*), or the Sierran treefrog



(*Pseudacris sierra*) and 2) surrounding upland that supports Botta's pocket gopher (*Thomomys bottae*) and the California meadow vole (*Microtus californicus*) (USFWS 2006). Ranid frogs are an obligate component of the SFGS's diet (USFWS 2006).

San Francisco garter snake is known to occur generally in the region, although specific occurrence locations are suppressed within the CNDDDB (CDFW 2022). Given the presence of known populations of CRLF within reasonable dispersal distance of the Study Area, however, it is reasonable to assume that SFGS could also be present nearby given their reliance of ranid frogs as prey. Habitat for SFGS within the Study Area is limited to the eastern pond due to the aquatic nature of this species. The eastern pond demonstrates characteristics of suitable habitat for this species, including emergent vegetation, areas for sunning, and a potential prey base should CRLF or other frogs be present. Thus, due to the presence of suitable habitat and the potential for the existence of a prey base, this species has moderate potential to occur.

White-tailed kite (*Elanus leucurus*), CDFW Fully Protected Species. The white-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates.

White-tailed kite is chiefly documented in bayland locations along the western side of the San Francisco Bay in the general vicinity of the Study Area (CDFW 2022). However, this species is also known to nest in grassy uplands in trees and shrubs of various sizes, making peripheral trees surrounding the golf course potential nest trees for this species. Foraging opportunities are minimal, but may be present in grassland areas surrounding the Study Area. This species is considered to have moderate potential to nest and forage within or adjacent to the Study Area.

Hoary bat (*Lasiurus cinereus*), WBWG Medium Priority. Hoary bats are highly associated with forested habitats in the western United States, particularly in the Pacific Northwest. They are a solitary species and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, usually at the edge of a clearing. Roosts are typically 10 to 30 feet above the ground. They have also been documented roosting in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under driftwood, and clinging to the side of buildings, though this behavior is not typical. Hoary bats are thought to be highly migratory, however, wintering sites and migratory routes have not been well documented. This species tolerates a wide range of temperatures and has been captured at air temperatures between 0 and 22 degrees Celsius. Hoary bats probably mate in the fall, with delayed implantation leading to birth in May through July. They usually emerge late in the evening to forage, typically from just over one hour after sunset to after midnight. This species reportedly has a strong preference for moths, but is also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps (WBWG 2015).

Hoary bat has been documented approximately 2 miles west of the Study Area on the west side of Interstate 280. While most of the trees within the Study Area are redwoods that do not provide substantial bat roost habitat, some oaks and other trees in peripheral locations could provide the vegetative structure and shelter necessary to provide a roost location for this species. This species has moderate potential to occur.



San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), CDFW Species of Special Concern. This subspecies of the dusky-footed woodrat occurs in the Coast Ranges between San Francisco Bay and the Salinas River (Matocq 2003). Occupied habitats are variable and include forest, woodland, riparian areas, and chaparral. Woodrats feed on woody plants, but will also consume fungi, grasses, flowers and acorns. Foraging occurs on the ground and in bushes and trees. This species constructs robust stick structures (also called houses) in areas with moderate cover and a well-developed understory containing woody debris. Breeding takes place from December to September. Individuals are active year-round, and generally nocturnal.



Photo 6. Representative stick structure of San Francisco dusky-footed woodrat.

San Francisco dusky-footed woodrat has been widely documented in this portion of the San Francisco Bay Area, and is documented in the CNDDDB within 2 miles of the Study Area (CDFW 2022). WRA biologists additionally observed stick structures of this species in various locations throughout the Study Area, predominantly in the understory of forested areas or in locations dominated by dense shrubs. Structures were also identified in close proximity to developed areas, suggesting that this species is likely to be present in the Study Area at the time of work.

Western pond turtle (*Actinemys marmorata*), CDFW Species of Special Concern. The western pond turtle (WPT) is the only native freshwater turtle in California. This turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and Transverse Ranges. WPT inhabits annual and perennial aquatic habitats, such as coastal lagoons, lakes, ponds, marshes, rivers, and streams from sea level to 5,500 feet in elevation. Pond turtles also occupies man-made habitats such as stock ponds, wastewater storage, percolation ponds, canals, and reservoirs. This species requires low-flowing or stagnant freshwater aquatic habitat with suitable basking structures, including rocks, logs, algal mats, mud banks, and sand. Warm, shallow, nutrient-rich waters are ideal as they support prey items, which include aquatic invertebrates and occasionally fish, carrion, and vegetation. Turtles require suitable aquatic habitat for most of the year; however, WPT often occupies creeks, rivers, and coastal lagoons that become seasonally unsuitable. To escape periods of high water flow, high salinity, or prolonged dry conditions, WPT may move upstream and/or take refuge in vegetated, upland habitat for up to four months (Rathbun et al. 2002). Although upland habitat is utilized for refuging and nesting, this species preferentially utilizes aquatic and riparian corridors for movement and dispersal.

WPT nests from late April through July. This species requires open, dry upland habitat with friable soils for nesting and prefer to nest on unshaded slopes within 15 to 330 feet of suitable aquatic habitat (Rathbun et al. 1992). Females venture from water for several hours in the late afternoon or evening during the nesting season to excavate a nest, lay eggs, and bury the eggs to incubate and protect them. Nests are well-concealed, though native mammals are occasionally able to locate and predate upon eggs. Hatchlings generally emerge in late fall but may overwinter in the nest and emerge in early spring of the following year.

Western pond turtle has been documented within approximately 1 mile of the Study Area, and is noted to be present in many of the perennial water bodies that appear, based on aerial imagery, to



be present in the vicinity of the Study Area (CDFW 2022a). A large population of turtles (i.e., at least 20 individuals) was observed to be present in the eastern pond, with individuals observed both basking on banks and debris and swimming. While it could not be concretely determined during the site visit, it is likely that a portion of the turtles present within the eastern pond are native (i.e., WPT). This species has high potential to occur within the Study Area, specifically in the area immediately surrounding the eastern pond.

5.3 Wildlife Corridors and Native Wildlife Nursery Sites

Wildlife movement between suitable habitat areas can occur via open space areas lacking substantial barriers. The terms “landscape linkage” and “wildlife corridor” are often used when referring to these areas. The key to a functioning corridor or linkage is that it connects two larger habitat blocks, also referred to as core habitat areas (Beier and Loe 1992; Soulé and Terbough 1999). It is useful to think of a “landscape linkage” as being valuable in a regional planning context, a broad scale mapping of natural habitat that functions to join two larger habitat blocks. The term “wildlife corridor” is useful in the context of smaller, local area planning, where wildlife movement may be facilitated by specific local biological habitats or passages and/or may be restricted by barriers to movement. Above all, wildlife corridors must link two areas of core habitat and should not direct wildlife to developed areas or areas that are otherwise void of core habitat (Hilty et al. 2019).

The southwest portion of the Study Area (i.e., the area closest to the open spaces to the west) is designated as a “less permeable” wildlife movement corridors based on the Essential Connectivity Areas geospatial dataset, which uses habitat modelling to identify areas of land with value as regional-scale wildlife corridors (CalTrans 2010, CDFW 2020). While this suggests that wildlife could utilize the Study Area as a corridor for small-scale local movements, the corridor is of relatively low quality and likely mostly facilitates movements by urban-adapted species and may occasionally be used by native species to move between nearby suitable habitats. The Study Area does not provide a movement corridor at a regional scale, particularly given its location in a developed matrix and directly adjacent to Interstate 280 which provides a near-complete barrier to dispersal for most non-volant species.

No native wildlife nursery sites are present in the Study Area.

No designated critical habitat for any species is present within the Study Area. No EFH is present within the Study Area.



6 RECOMMENDATIONS

In order to implement ConnectMenlo General Plan and M-2 Area Zoning Update Mitigation Measure BIO-1, the following section describes suggested additional surveys as well as avoidance and minimization measures that should be incorporated as components of the Sharon Heights Golf and Country Club Renovation Project to avoid or minimize potential impacts to sensitive resources.

6.1 Vegetation Communities and Other Land Cover Types

No sensitive land cover types were identified in the Study Area. Therefore, there are no potential impacts to sensitive land cover types and no further recommendations for them.

6.2 Special-status Species

6.2.1 Special-status Plants

No special-status plant species have moderate or high potential to occur in the Study Area. Therefore, there are no potential impacts to special-status plant species and no further recommendations for them.

6.2.2 Special-status Wildlife

California red-legged frog and San Francisco garter snake

While no occurrences of CRLF or SFGS have been documented within the Study Area, the eastern man-made pond constitutes potentially suitable habitat for both of these species, including for CRLF breeding. Additionally, CRLF may utilize the Study Area as an upland movement corridor during the rainy season. However, given that no record of CRLF occurrence exists within the eastern pond to date, an “eye shine” survey conducted by a qualified biologist is recommended to determine if CRLF are present in the eastern pond. The “eye shine” survey should be conducted during winter months due to the fact that CRLF are most likely to be detected during rainy periods leading into their breeding season in the spring. This survey effort would include at least two (2) site visits where a qualified biologist would access the eastern pond at night and search for the presence of CRLF based on observation of CRLF individuals. If CRLF are determined to be present, consultation with USFWS is recommended prior to project implementation to determine the best course of action for project activities and to obtain “take” coverage for CRLF. Given the lack of a federal “nexus”, federal consultation for CRLF and SFGS would likely occur under Section 10 of the Federal Endangered Species Act, wherein the project proponent consults directly with the USFWS. This approach would additionally involve the development of a low-effect habitat conservation plan, which includes a description of species effects and a plan for compensatory mitigation as needed. At the state level, it should be noted the SFGS is a CDFW fully protected species, which entails that CDFW will not provide any take coverage for this species and that, if the species is present, take will need to be avoided entirely by any work activities.

If CRLF are not identified during this survey, certain measures should still be implemented to ensure that any individuals that traverse or move into the Study Area are not harmed. These measures should also serve to prevent impacts to any SFGS that may be present (although CRLF being absent likely precludes the presence of SFGS). These measures may include but are not limited to:

- Implementation of work windows that preclude work during the rainy season (November 1 – April 15) if feasible, and/or prohibition of work within 48 hours after a precipitation event



- Pre-construction surveys to check for the presence of CRLF and SFGS
- Conductance of a worker environmental awareness program (WEAP) training that would include identification of special-status species with potential to occur and other best management practices (BMP)
- Biological monitoring during dewatering and initial grading activities in the immediate vicinity of the eastern pond
- Complete avoidance of any CRLF or SFGS individuals identified on site until they have departed the area of their own volitions
- Work stoppages should CRLF or SFGS be identified on site until appropriate action can be taken

Native nesting birds

Project activities have the potential to result in direct or indirect impacts to native nesting birds, including the special-status white-tailed kite. Native birds have the potential to nest in trees, shrubs, and herbaceous vegetation within the Study Area. Most nesting birds in California are protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. As a result of these protections, the removal or disturbance of active nests (i.e., those containing eggs or young) is prohibited. While no specific permit is required for nesting bird protection, Fish and Game Code requires avoidance of impacts to nesting birds. Areas within the Study Area with the greatest likelihood to support nesting birds include trees and other landscaping or natural cover in undeveloped areas adjacent to the golf course and associated building or infrastructure.

To avoid impacts to these birds in compliance with Fish and Game Code, tree and vegetation removal can be conducted outside of the breeding bird season, which is typically defined as February 1 through August 31. If avoidance of the nesting season is not feasible, a pre-construction survey for breeding birds would be needed. If active bird nests are found, avoidance buffers specific to the species in question and setting of the nest would be required as determined by a qualified biologist. The buffers would establish a “no-construction zone” which would remain in place until after young have fledged the nest or the nest otherwise becomes inactive. At a minimum, any active nests should be monitored during construction to ensure that construction activities are not affecting nesting success. Nesting bird surveys would generally be repeated during the nesting bird season if the Project experiences work stoppages greater than 14 days or if new work areas are entered, given that new nests may have been initiated in the absence of disturbance.

Roosting bats

Hoary bat has the potential to roost within trees both within and at the periphery of the Study Area. In addition, non-status bat species may also be present in this portion of the Study Area. Impacts to maternity or hibernacula roosts of native and/or special-status bats should be avoided. To the extent feasible, any tree removal or trimming should be conducted outside of the bat maternity season (generally April through October). If this work window is not feasible, pre-construction bat roost assessments conducted by a qualified biologist at least 14 days and no more than 30 days prior to removal are recommended to determine if bats roosts are present that may be impacted by any anticipated work activities that will impact bat habitat (i.e., tree removal). If special-status bat species or maternity roosts are detected during these surveys, additional measures including avoidance of the roost sites until the end of the maternity roosting season may be recommended.



Regardless of the timing of tree removal or trimming activities, all felled trees or large limbs should remain on the ground for at least 24-hours prior to chipping, off-site removal, or other processing to allow any roosting individual bats to vacate the premises of their own volition.

San Francisco dusky-footed woodrat

Suitable habitat for the San Francisco dusky-footed woodrat is present within the Study Area. Multiple structures that appeared to be woodrat houses were observed during the site visit, chiefly in areas of dense understory adjacent to developed areas; thus, this species is assumed to be present. Any future work activities would need to avoid direct impacts to woodrat nest structures to prevent disruption of breeding dynamics or individual mortality.

Prior to initial ground disturbance or vegetation removal, pre-construction surveys for woodrat stick structures should be conducted in all suitable habitat types within the Study Area by a qualified biologist. Any discovered structures should be avoided by Project activity by a minimum of five (5) feet. If structure avoidance is infeasible, the structure should be dismantled by a qualified biologist. Structure material should be moved to suitable adjacent areas (e.g., woodland, scrub, or chaparral) that will not be disturbed. If young are encountered during the dismantling process, the material should be placed back on the structure and remain undisturbed for a minimum of two (2) weeks to give the young enough time to mature and leave of their own accord. After the young have vacated the structure, the dismantling process will begin again.

Western pond turtle

WRA biologists observed turtles during the 2022 site visit. While it was not concretely determined that native turtles (i.e., western pond turtles) are present in the eastern pond, native and non-native turtles often inhabit the same aquatic features. Dewatering, grading, and construction in or around aquatic features could impact western pond turtle, and work surrounding aquatic features could impact western pond turtle utilizing uplands for nesting and refuge.

WRA recommends that an additional focused site visit be conducted by a qualified biologist to determine whether turtles present in the eastern pond are western pond turtles or a non-native/introduced species (e.g., red-eared sliders). If western pond turtle are identified during this focused survey, all potential upland nesting areas should be avoided during the nesting period (April 1 to September 30). In this case, that likely includes non-manicured areas directly adjacent to the eastern pond where turtles were observed during the 2022 site visit. If this is not feasible, exclusion fencing will be installed between aquatic features where turtles are present and adjacent potential upland nesting habitats prior to the nesting period. Additionally, because dewatering is anticipated as part of project activities, it is recommended that pending confirmation of the presence of WPT, CDFW be engaged to develop a relocation plan for any native turtles that are encountered during dewatering activities.

A biologist will likely need to be present during any in-water work and during initial ground disturbance of areas adjacent to aquatic features that have potential to support western pond turtle. If western pond turtle are encountered during construction, work should be stopped and WPT shall be avoided by 50 feet or allowed to leave the work area of their own volition. If relocation of western pond turtle is determined to be necessary, informal consultation with CDFW may be necessary to determine the method of relocation and site(s) for relocation.



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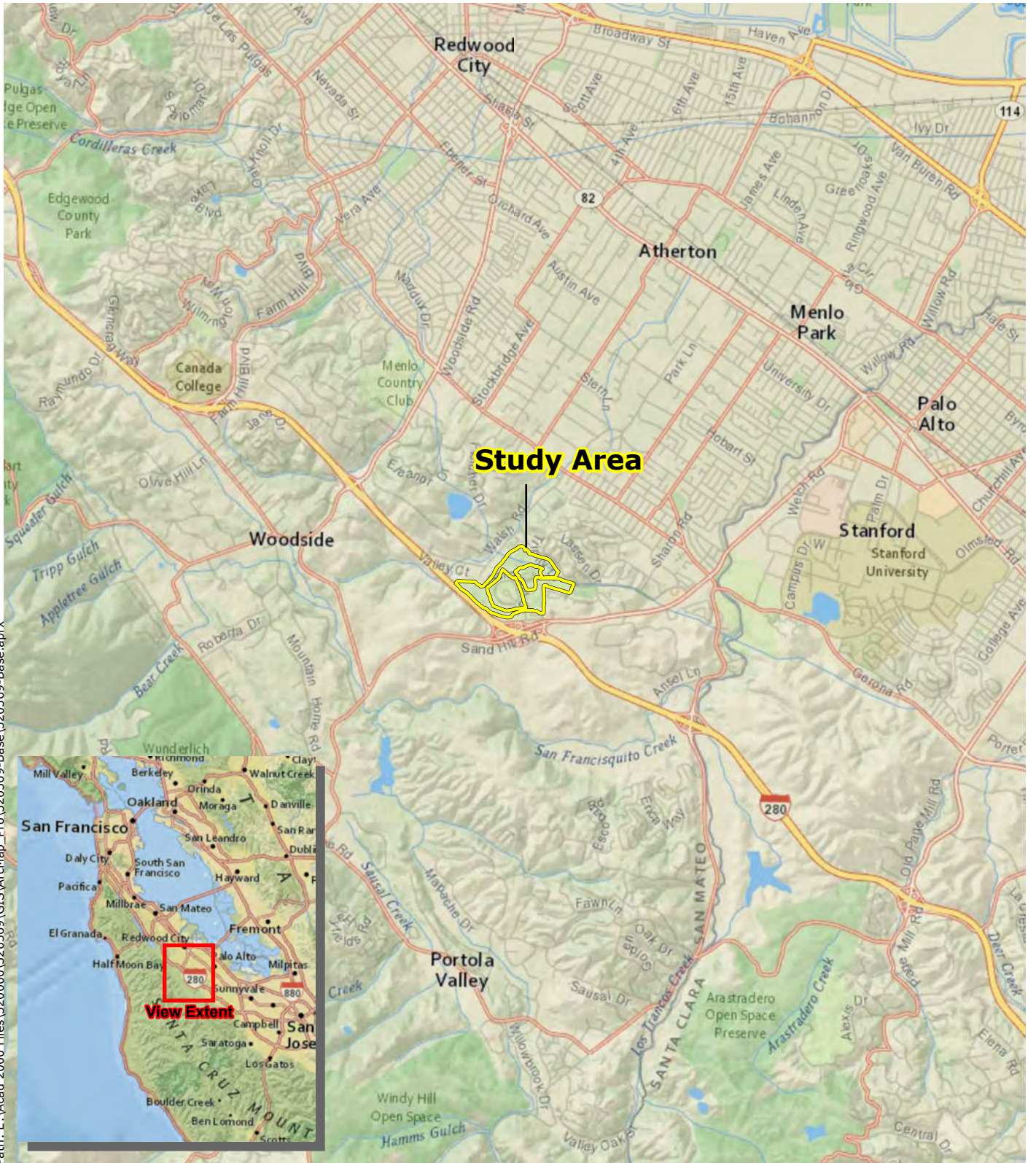


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APPENDIX A. FIGURES



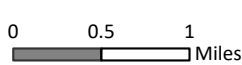
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Sources: National Geographic, WRA | Prepared By: mrochelle, 9/28/2022

Figure 1. Study Area Regional Location Map

Sharon Heights Golf Course Renovation Project
San Mateo, California



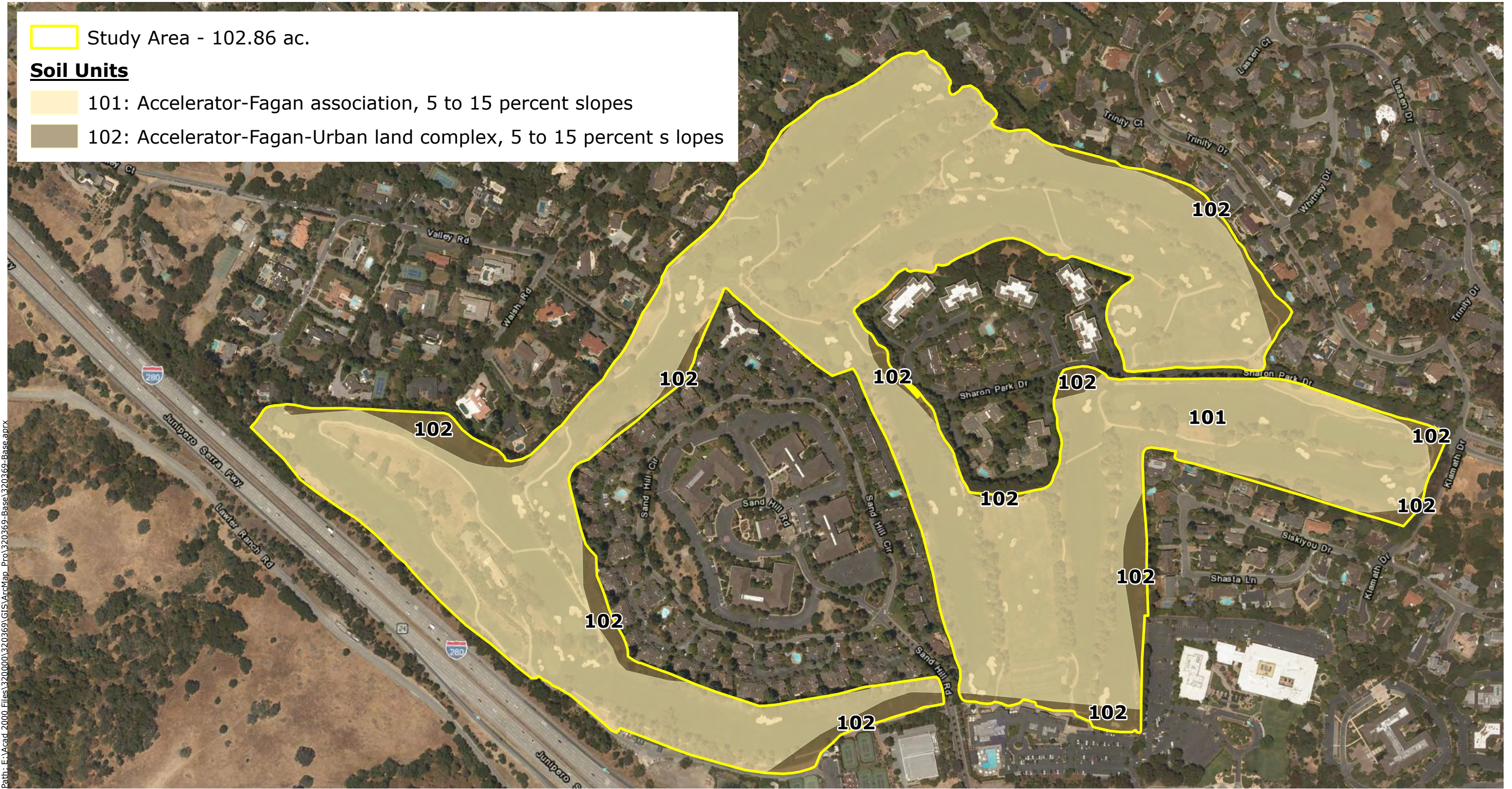


Figure 3. Soil Types within the Study Area



Figure 3. Land Cover Types within the Study Area

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APPENDIX B. SPECIES OBSERVED IN AND AROUND THE STUDY AREA



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Appendix B-1. Plant and Wildlife Species Observed within the Study Area on September 12, 2022

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Achillea millefolium</i>	Yarrow	native	perennial herb	-	-	FACU
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus	native	annual herb	-	-	UPL
<i>Aesculus californica</i>	Buckeye	native	tree	-	-	-
<i>Aira caryophylla</i>	Silvery hairgrass	non-native	annual grass	-	-	FACU
<i>Amaranthus deflexus</i>	Large fruited amaranth	non-native	annual herb	-	-	-
<i>Avena</i> sp.	Wild oat	non-native	annual herb	-	-	-
<i>Bellardia trixago</i>	Mediterranean linseed	non-native (invasive)	annual herb	-	Limited	-
<i>Bellis perennis</i>	English lawn daisy	non-native	perennial herb	-	-	-
<i>Bromus catharticus</i>	Rescue grass	non-native	annual, perennial grass	-	-	-
<i>Bromus diandrus</i>	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
<i>Bromus hordeaceus</i>	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
<i>Cortaderia selloana</i>	Pampas grass	non-native (invasive)	perennial grass	-	High	FACU
<i>Cotoneaster lacteus</i>	Milkflower cotoneaster	non-native (invasive)	shrub	-	Moderate	-
<i>Cynodon dactylon</i>	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU
<i>Cyperus eragrostis</i>	Tall cyperus	native	perennial grasslike herb	-	-	FACW
<i>Duchesnea indica</i> var. <i>indica</i>	Mock-strawberry	non-native	perennial herb	-	-	UPL
<i>Elymus glaucus</i>	Blue wildrye	native	perennial grass	-	-	FACU
<i>Eschscholzia californica</i>	California poppy	native	annual, perennial herb	-	-	-
<i>Euphorbia peplus</i>	Petty spurge	non-native	annual herb	-	-	-



Appendix B-1. Plant and Wildlife Species Observed within the Study Area on September 12, 2022

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Euphorbia</i> sp.	Spurge	-	annual herb	-	-	-
<i>Festuca perennis</i>	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
<i>Galium aparine</i>	Cleavers	native	annual herb	-	-	FACU
<i>Geranium molle</i>	Crane's bill geranium	non-native	annual, perennial herb	-	-	-
<i>Hedera helix</i>	English ivy	non-native (invasive)	vine, shrub	-	High	FACU
<i>Helminthotheca echioides</i>	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC
<i>Heteromeles arbutifolia</i>	Toyon	native	shrub	-	-	-
<i>Hordeum murinum</i>	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU
<i>Hypochaeris radicata</i>	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate	FACU
<i>Iris pseudacorus</i>	Horticultural iris	non-native (invasive)	perennial herb	-	Limited	OBL
<i>Juncus patens</i>	Common rush	native	perennial grasslike herb	-	-	FACW
<i>Lactuca serriola</i>	Prickly lettuce	non-native	annual herb	-	-	FACU
<i>Ligustrum lucidum</i>	Glossy privet	non-native (invasive)	tree, shrub	-	Limited	-
<i>Lotus corniculatus</i>	Bird's foot trefoil	non-native	perennial herb	-	-	FAC
<i>Lupinus bicolor</i>	Miniature lupine	native	annual, perennial herb	-	-	-
<i>Malva</i> sp.	Mallow	non-native	annual herb	-	-	-
<i>Medicago polymorpha</i>	Bur clover	non-native (invasive)	annual herb	-	Limited	FACU
<i>Paspalum dilatatum</i>	Dallis grass	non-native	perennial grass	-	-	FAC
<i>Pennisetum clandestinum</i>	Kikuyu grass	non-native (invasive)	perennial grass	-	Limited	FACU



Appendix B-1. Plant and Wildlife Species Observed within the Study Area on September 12, 2022

Scientific Name	Common Name	Origin	Form	Rarity Status ¹	CAL-IPC Status ²	Wetland Status ³
<i>Phalaris aquatica</i>	Harding grass	non-native (invasive)	perennial grass	-	Moderate	FACU
<i>Plantago lanceolata</i>	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC
<i>Plantago major</i>	Common plantain	non-native	perennial herb	-	-	FAC
<i>Poa annua</i>	Annual blue grass	non-native	annual grass	-	-	FAC
<i>Polygonum aviculare</i>	Prostrate knotweed	non-native	annual, perennial herb	-	-	FAC
<i>Portulaca oleracea</i>	Common purslane	non-native	annual herb	-	-	FAC
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	non-native	annual herb	-	-	FAC
<i>Quercus agrifolia</i>	Coast live oak	native	tree	-	-	-
<i>Quercus lobata</i>	Valley oak	native	tree	-	-	FACU
<i>Rumex acetosella</i>	Sheep sorrel	non-native (invasive)	perennial herb	-	Moderate	FACU
<i>Senecio vulgaris</i>	Common groundsel	non-native	annual herb	-	-	FACU
<i>Sequoia sempervirens</i>	Coast redwood	native	tree	-	-	-
<i>Sonchus oleraceus</i>	Common sow thistle	non-native	annual herb	-	-	UPL
<i>Stipa pulchra</i>	Purple needle grass	native	perennial grass	-	-	-
<i>Taraxacum officinale</i>	Red seeded dandelion	non-native	perennial herb	-	-	FACU
<i>Torilis arvensis</i>	Field hedge parsley	non-native (invasive)	annual herb	-	Moderate	-
<i>Toxicodendron diversilobum</i>	Poison oak	native	vine, shrub	-	-	FACU
<i>Umbellularia californica</i>	California bay	native	tree	-	-	FAC
<i>Urtica urens</i>	Annual stinging nettle	non-native	annual herb	-	-	-
<i>Vicia sativa</i>	Spring vetch	non-native	annual herb, vine	-	-	FACU

Appendix B-1. Plant and Wildlife Species Observed within the Study Area on September 12, 2022

Note: All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2022]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2022] or Inventory of Rare and Endangered Plants (CNPS 2022). Sp.: “species”, intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

¹ **California Native Plant Society. 2022. Inventory of Rare and Endangered Plants (online edition, v9-01 1.5). Sacramento, California. Online at: <http://rareplants.cnps.org/>; most recently accessed: September 2022.**

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extinct in California
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

² **California Invasive Plant Council. 2022. California Invasive Plant Inventory Database. California Invasive Plant Council, Berkeley, CA. Online at: <http://www.cal-ipc.org/paf/>; most recently accessed: September 2022.**

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

³ **U.S. Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH. Online at: <http://wetland-plants.usace.army.mil/>**

OBL:	Almost always found in wetlands
FACW:	Usually found in wetlands
FAC:	Equally found in wetlands and uplands
FACU:	Usually not found in wetlands
UPL:	Almost never found in wetlands
NL:	Not listed, assumed almost never found in wetlands
NI:	No information; not factored during wetland delineation



Appendix B-2. Wildlife Species Observed within the Study Area on September 12, 2022

Scientific Name	Common Name	Taxonomic Group	Status
<i>Trachemys scripta elegans</i>	Red-eared slider	Reptiles	No status
<i>Neotoma fuscipes</i>	San Francisco dusky-footed woodrat	Mammals	CDFW Species of Special Concern
<i>Otospermophilus beecheyi</i>	California ground squirrel	Mammals	No status
<i>Sciurus niger</i>	Fox squirrel	Mammals	No status
<i>Sylvilagus audubonii</i>	Cottontail rabbit	Mammals	No status
<i>Sitta carolinensis</i>	White-breasted nuthatch	Birds	No status
<i>Melospiza melodia</i>	Song sparrow	Birds	No status
<i>Chamaea fasciata</i>	Wrentit	Birds	No status
<i>Melospiza crissalis</i>	California towhee	Birds	No status
<i>Zenaidura macroura</i>	Mourning dove	Birds	No status
<i>Aphelocoma californica</i>	California scrub jay	Birds	No status
<i>Junco hyemalis</i>	Dark-eyed junco	Birds	No status
<i>Streptopelia decaocto</i>	Eurasian collared dove	Birds	No status
<i>Calypte anna</i>	Anna's hummingbird	Birds	No status
<i>Cathartes aura</i>	Turkey vulture	Birds	No status
<i>Corvus brachyrhynchos</i>	American crow	Birds	No status
<i>Anas platyrhynchos</i>	Mallard	Birds	No status
<i>Sialia mexicana</i>	Western bluebird	Birds	No status
<i>Haemorhous mexicanus</i>	House finch	Birds	No status
<i>Sayornis nigricans</i>	Black phoebe	Birds	No status
<i>Melanerpes formicivorus</i>	Acorn woodpecker	Birds	No status



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APPENDIX C. SPECIAL-STATUS SPECIES POTENTIAL TABLE



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Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
PLANTS				
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	Rank 1B.1	Chaparral, valley and foothill grassland. Elevation ranges from 165 to 985 feet (50 to 300 meters). Blooms Apr-Jun.	No Potential. This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	Rank 1B.2	Cismontane woodland, valley and foothill grassland. Elevation ranges from 170 to 1000 feet (52 to 305 meters). Blooms (Apr)May-Jun.	No Potential. This species is known from serpentine and/or clay substrates, which are absent from the Study Area.	No further actions are recommended for this species.
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	Rank 1B.2	Cismontane woodland, coastal bluff scrub, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Androsace elongata</i> ssp. <i>acuta</i> California androsace	Rank 4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland. Elevation ranges from 490 to 4280 feet (150 to 1305 meters). Blooms Mar-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Arctostaphylos andersonii</i> Anderson's manzanita	Rank 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Elevation ranges from 195 to 2495 feet (60 to 760 meters). Blooms Nov-May.	No Potential. This species occurs in the redwood zone, which is outside of the Study Area. Coast redwood trees in the Study Area are ornamentals.	No further actions are recommended for this species.
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	Rank 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Elevation ranges from 1000 to 2395 feet (305 to 730 meters). Blooms Dec-Apr.	No Potential. This species is known from granitic or sandstone outcrops, which are absent from the Study Area.	No further actions are recommended for this species.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> coastal marsh milk-vetch	Rank 1B.2	Coastal dunes, coastal scrub, marshes and swamps. Elevation ranges from 0 to 100 feet (0 to 30 meters). Blooms (Apr)Jun-Oct.	No Potential. Coastal dunes, coastal scrub, marsh, and swamp habitat are absent from the Study Area.	No further actions are recommended for this species.
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	Rank 1B.2	Playas, valley and foothill grassland, vernal pools. Elevation ranges from 5 to 195 feet (1 to 60 meters). Blooms Mar-Jun.	No Potential. This species is known from alkaline substrate, which is absent from the Study Area.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Calandrinia breweri</i> Brewer's calandrinia	Rank 4.2	Chaparral, coastal scrub. Elevation ranges from 35 to 4005 feet (10 to 1220 meters). Blooms (Jan)Mar-Jun.	No Potential. Chaparral and coastal scrub habitats are absent from the Study Area.	No further actions are recommended for this species.
<i>Calochortus umbellatus</i> Oakland star-tulip	Rank 4.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 2295 feet (100 to 700 meters). Blooms Mar-May.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Calochortus uniflorus</i> pink star-tulip	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 35 to 3510 feet (10 to 1070 meters). Blooms Apr-Jun.	No Potential. Coastal prairie, coastal scrub, meadows and seeps, and North Coast coniferous forest habitats are absent.	No further actions are recommended for this species.
<i>Castilleja ambigua</i> var. <i>ambigua</i> johnny-nip	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1425 feet (0 to 435 meters). Blooms Mar-Aug.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	Rank 1B.1	Valley and foothill grassland. Elevation ranges from 0 to 755 feet (0 to 230 meters). Blooms May-Oct(Nov).	No Potential. Alkaline substrate is absent, and the entirety of the Study Area is managed.	No further actions are recommended for this species.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes salty bird's-beak	Rank 1B.2	Marshes and swamps. Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Jun-Oct.	No Potential. This species is known from tidal salt marsh habitat, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Cirsium fontinale</i> var. <i>fontinale</i> fountain thistle	Rank 1B.1	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Elevation ranges from 150 to 575 feet (45 to 175 meters). Blooms (Apr)May-Oct.	No Potential. This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Cirsium praeteriens</i> lost thistle	Rank 1A		Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Clarkia concinna</i> ssp. <i>automixa</i> Santa Clara red ribbons	Rank 4.3	Chaparral, cismontane woodland. Elevation ranges from 295 to 4920 feet (90 to 1500 meters). Blooms (Apr)May-Jun(Jul).	Unlikely. No chaparral habitat is present. The understory of the small patch of oak woodland is managed and is therefore unlikely to support this species.	No further actions are recommended for this species.
<i>Collinsia corymbosa</i> round-headed Chinese-houses	Rank 1B.2	Coastal dunes. Elevation ranges from 0 to 65 feet (0 to 20 meters). Blooms Apr-Jun.	No Potential. Coastal dunes are absent from the Study Area.	No further actions are recommended for this species.
<i>Collinsia multicolor</i> San Francisco collinsia	Rank 1B.2	Closed-cone coniferous forest, coastal scrub. Elevation ranges from 100 to 900 feet (30 to 275 meters). Blooms (Feb)Mar-May.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Cypripedium fasciculatum</i> clustered lady's-slipper	Rank 4.2	Lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 330 to 7990 feet (100 to 2435 meters). Blooms Mar-Aug.	No Potential. Coniferous forest habitat is absent from the Study Area.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Cyripedium montanum</i> mountain lady's-slipper	Rank 4.2	Broadleafed upland forest, cismontane woodland, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 605 to 7300 feet (185 to 2225 meters). Blooms Mar-Aug.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Dirca occidentalis</i> western leatherwood	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland. Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar(Apr).	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Elymus californicus</i> California bottle-brush grass	Rank 4.3	Broadleafed upland forest, cismontane woodland, north coast coniferous forest, riparian woodland. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms May-Aug(Nov).	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	Rank 1B.1	Cismontane woodland, coastal scrub, lower montane coniferous forest. Elevation ranges from 150 to 1085 feet (45 to 330 meters). Blooms May-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	Rank 1B.1	Vernal pools. Elevation ranges from 10 to 150 feet (3 to 45 meters). Blooms (Jun)Jul(Aug).	No Potential. Vernal pool habitat is absent from the Study Area.	No further actions are recommended for this species.
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	Rank 1B.2	Valley and foothill grassland, vernal pools. Elevation ranges from 10 to 985 feet (3 to 300 meters). Blooms Apr-Aug.	No Potential. Vernal pool habitat is absent from the Study Area.	No further actions are recommended for this species.
<i>Erysimum franciscanum</i> San Francisco wallflower	Rank 4.2	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland. Elevation ranges from 0 to 1805 feet (0 to 550 meters). Blooms Mar-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Extriplex joaquinana</i> San Joaquin spearscale	Rank 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland. Elevation ranges from 5 to 2740 feet (1 to 835 meters). Blooms Apr-Oct.	No Potential. This species is known only from alkaline substrate, which is absent from the Study Area.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Fissidens pauperculus</i> minute pocket moss	Rank 1B.2	North coast coniferous forest. Elevation ranges from 35 to 3360 feet (10 to 1024 meters).	No Potential. North Coast coniferous forest habitat is absent from the Study Area.	No further actions are recommended for this species.
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	Rank 1B.1	Cismontane woodland, valley and foothill grassland. Elevation ranges from 490 to 490 feet (150 to 150 meters). Blooms Mar-Apr.	No Potential. This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Fritillaria liliacea</i> fragrant fritillary	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 1345 feet (3 to 410 meters). Blooms Feb-Apr.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 0 to 705 feet (0 to 215 meters). Blooms Mar-Jun.	No Potential. Coastal bluff scrub, coastal dunes, and coastal prairie habitats are absent from the Study Area.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Hesperolinon congestum</i> Marin western flax	Rank 1B.1	Chaparral, valley and foothill grassland. Elevation ranges from 15 to 1215 feet (5 to 370 meters). Blooms Apr-Jul.	No Potential. This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Hoita strobilina</i> Loma Prieta hoita	Rank 1B.1	Chaparral, cismontane woodland, riparian woodland. Elevation ranges from 100 to 2820 feet (30 to 860 meters). Blooms May-Jul(Aug-Oct).	No Potential. This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Hosackia gracilis</i> harlequin lotus	Rank 4.2	Broadleafed upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 0 to 2295 feet (0 to 700 meters). Blooms Mar-Jul.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Iris longipetala</i> coast iris	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May(Jun).	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Lasthenia conjugens</i> Contra Costa goldfields	Rank 1B.1	Cismontane woodland, playas, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1540 feet (0 to 470 meters). Blooms Mar-Jun.	No Potential. Vernal pool habitat is absent from the Study Area.	No further actions are recommended for this species.
<i>Legenere limosa</i> legenere	Rank 1B.1	Vernal pools. Elevation ranges from 5 to 2885 feet (1 to 880 meters). Blooms Apr-Jun.	No Potential. Vernal pool habitat is absent from the Study Area.	No further actions are recommended for this species.
<i>Leptosiphon ambiguous</i> serpentine leptosiphon	Rank 4.2	Cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 395 to 3710 feet (120 to 1130 meters). Blooms Mar-Jun.	No Potential. This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Leptosiphon aureus</i> bristly leptosiphon	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). Blooms Apr-Jul.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Leptosiphon grandiflorus</i> large-flowered leptosiphon	Rank 4.2	Cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 15 to 4005 feet (5 to 1220 meters). Blooms Apr-Aug.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Leptosiphon latisectus</i> broad-lobed leptosiphon	Rank 4.3	Broadleafed upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms Apr-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	Rank 1B.2	Cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 195 to 655 feet (60 to 200 meters). Blooms Jul-Oct.	No Potential. This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Lessingia hololeuca</i> woolly-headed lessingia	Rank 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Lessingia tenuis</i> spring lessingia	Rank 4.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 985 to 7055 feet (300 to 2150 meters). Blooms May-Jul.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	Rank 1B.2	Chaparral, cismontane woodland. Elevation ranges from 50 to 1165 feet (15 to 355 meters). Blooms Apr-Sep.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Monolopia gracilens</i> woodland woollythreads	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 3935 feet (100 to 1200 meters). Blooms (Feb)Mar-Jul.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Pedicularis dudleyi</i> Dudley's lousewort	Rank 1B.2	Chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 195 to 2955 feet (60 to 900 meters). Blooms Apr-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	Rank 1B.1	Cismontane woodland, valley and foothill grassland. Elevation ranges from 115 to 2035 feet (35 to 620 meters). Blooms Mar-May.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> Gairdner's yampah	Rank 4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 2000 feet (0 to 610 meters). Blooms Jun-Oct.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Piperia candida</i> white-flowered rein orchid	Rank 1B.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 100 to 4300 feet (30 to 1310 meters). Blooms (Mar)May-Sep.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Piperia michaelii</i> Michael's rein orchid	Rank 4.2	Chaparral, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal scrub, lower montane coniferous forest. Elevation ranges from 10 to 3000 feet (3 to 915 meters). Blooms Apr-Aug.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	Rank 1B.2	Chaparral, coastal prairie, coastal scrub. Elevation ranges from 10 to 525 feet (3 to 160 meters). Blooms Mar-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i> Hickman's popcornflower	Rank 4.2	Chaparral, closed-cone coniferous forest, coastal scrub, marshes and swamps, vernal pools. Elevation ranges from 50 to 1280 feet (15 to 390 meters). Blooms Apr-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species has no potential to occur in such areas. The small patch of oak woodland is generally too shady for this species, and the understory is managed. The small areas of roughs that are herb-dominated are disturbed, periodically mowed, and dominated by non-native species.	No further actions are recommended for this species.
<i>Plagiobothrys glaber</i> hairless popcornflower	Rank 1A	Marshes and swamps, meadows and seeps. Elevation ranges from 50 to 590 feet (15 to 180 meters). Blooms Mar-May.	No Potential. This species is known from coastal salt marsh and alkaline meadow habitats, which are absent from the Study Area	No further actions are recommended for this species.
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May.	Unlikely. This species is known from ponded areas that dry out seasonally, and such habitat is absent from the Study Area.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Sagittaria sanfordii</i> Sanford's arrowhead	Rank 1B.2	Marshes and swamps. Elevation ranges from 0 to 2135 feet (0 to 650 meters). Blooms May-Oct(Nov).	Unlikely. Pond habitat is heavily managed, and emergent vegetation is removed. The fringes where herbaceous vegetation is present are too infrequently inundated to support this species. Additionally, no species of <i>Sagittaria</i> were observed during the September 12, 2022, which occurred during a period of time when this species would have been evident and identifiable.	No further actions are recommended for this species.
<i>Sanicula hoffmannii</i> Hoffmann's sanicle	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, lower montane coniferous forest. Elevation ranges from 100 to 985 feet (30 to 300 meters). Blooms Mar-May.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Senecio aphanactis</i> chaparral ragwort	Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Elevation ranges from 50 to 2625 feet (15 to 800 meters). Blooms Jan-Apr(May).	No Potential. This species is known from drying alkaline flats, which are absent from the Study Area.	No further actions are recommended for this species.
<i>Silene verecunda</i> ssp. <i>verecunda</i> San Francisco campion	Rank 1B.2	Chaparral, coastal bluff scrub, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 100 to 2115 feet (30 to 645 meters). Blooms (Feb)Mar-Jul(Aug).	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurrey	Rank 1B.2	Marshes and swamps, meadows and seeps. Elevation ranges from 0 to 835 feet (0 to 255 meters). Blooms Feb-May.	No Potential. This species is known from alkaline substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Stuckenia filiformis</i> ssp. <i>alpina</i> northern slender pondweed	Rank 2B.2	Marshes and swamps. Elevation ranges from 985 to 7055 feet (300 to 2150 meters). Blooms May-Jul.	Unlikely. Pond habitat is heavily managed, and floating and submerged vegetation are absent.	No further actions are recommended for this species.
<i>Suaeda californica</i> California seablite	Rank 1B.1	Marshes and swamps. Elevation ranges from 0 to 50 feet (0 to 15 meters). Blooms Jul-Oct.	No Potential. This species is known from coastal salt marsh, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Trifolium amoenum</i> two-fork clover	Rank 1B.1	Coastal bluff scrub, valley and foothill grassland. Elevation ranges from 15 to 1360 feet (5 to 415 meters). Blooms Apr-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Trifolium buckwestiorum</i> Santa Cruz clover	Rank 1B.1	Broadleafed upland forest, cismontane woodland, coastal prairie. Elevation ranges from 345 to 2000 feet (105 to 610 meters). Blooms Apr-Oct.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Trifolium hydrophilum</i> saline clover	Rank 1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms Apr-Jun.	No Potential. This species is known from alkaline substrate, which is absent from the Study Area.	No further actions are recommended for this species.
<i>Triphysaria floribunda</i> San Francisco owl's-clover	Rank 1B.2	Coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 525 feet (10 to 160 meters). Blooms Apr-Jun.	Unlikely. Only a small fraction of the Study Area is not intensely manicured landscaping, and this species is presumed to have no potential to occur in such areas. The remaining areas are managed and unlikely to provide suitable habitat.	No further actions are recommended for this species.
<i>Usnea longissima</i> Methuselah's beard lichen	Rank 4.2	Broadleafed upland forest, north coast coniferous forest. Elevation ranges from 165 to 4790 feet (50 to 1460 meters).	No Potential. This species occurs in the redwood zone, which is outside of the Study Area. Coast redwood trees in the Study Area are ornamentals.	No further actions are recommended for this species.
MAMMALS				



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Sorex vagrans halicoetes</i> salt-marsh wandering shrew	SSC	Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6 to 8 feet above sea level where abundant driftwood is scattered among Salicornia.	No Potential. No salt-marsh habitat is present within the Study Area to support this species.	No further actions are recommended for this species.
<i>Antrozous pallidus</i> pallid bat	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees, and various man-made structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Unlikely. No caves or other potential roosting structures are present within the Study Area.	No further actions are recommended for this species.
<i>Corynorhinus townsendii townsendii</i> Townsend's western big-eared bat	SSC, WBWG High	Humid coastal regions of northern and central California. Roost in limestone caves, lava tubes, mines, buildings etc. Will only roost in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to disturbance.	Unlikely. No abandoned buildings or other potential roosting structures are present within the Study Area.	No further actions are recommended for this species.
<i>Lasiurus cinereus</i> hoary bat	WBWG Medium	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.	Moderate Potential. Forested areas could support roosting by this species.	See section 6.6.2 for a discussion of recommendations associated with this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	SSC	Forest habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials.	Presumed Present. Areas of dense underbrush throughout the Study Area could support potential nest locations for this species. Multiple nest structures were identified during field investigations.	See section 6.6.2 for a discussion of recommendations associated with this species.
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	FE, SE, CFP	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	No Potential. No salt-marsh habitat is present within the Project Area to support this species.	No further actions are recommended for this species.
<i>Taxidea taxus</i> American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	Unlikely. The majority of the Study Area is developed and does not provide suitable burrowing substrates for this species.	No further actions are recommended for this species.
<i>Puma concolor</i> Mountain lion	SC (central coast and southern CA)	Ranging from Chile to British Columbia, and adapting to virtually any habitat that contains its primary prey sources of deer and other large mammals. Widespread, yet uncommon in much of its range, and rarely seen.	Unlikely. While this species may occasionally traverse the Study Area while moving between patches of more suitable habitat, potential denning sites are not present within the Study Area.	No further actions are recommended for this species.
BIRDS				



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Phalacrocorax auratus</i> double-crested cormorant	none (breeding sites protected by CDFW)	(Rookery site) colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	No Potential. No suitable locations for the establishment of a breeding colony are present.	No further actions are recommended for this species.
<i>Ardea Herodias</i> great blue heron	none (breeding sites protected by CDFW)	Year-round resident. Nests colonially or semi-colonially in tall trees and on cliffs, also sequestered terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.	Unlikely. No suitable locations for the establishment of a breeding colony are present.	No further actions are recommended for this species.
<i>Egretta thula</i> snowy egret	none (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees, at times in sequestered beds of dense tules. Rookery sites usually situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	Unlikely. No suitable locations for the establishment of a breeding colony are present.	No further actions are recommended for this species.
<i>Nycticorax nycticorax</i> black-crowned night heron	none (breeding sites protected by CDFW)	Year-round resident. Nests colonially, usually in trees but also in patches of emergent vegetation. Rookery sites are often on islands and usually located adjacent to foraging areas: margins of lakes and bays.	Unlikely. No suitable locations for the establishment of a breeding colony are present.	No further actions are recommended for this species.
<i>Circus hudsonius (cyaneus)</i> northern harrier	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or	Unlikely. Locations for nesting of this species are not present within the Study Area, and foraging opportunities are minimal. May be observed flying over the Study Area.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
		otherwise moist areas. Preys on small vertebrates.		
<i>Elanus leucurus</i> white-tailed kite	CFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	Moderate Potential. Nesting habitat for this species is present in trees and shrubs throughout the Study Area.	See section 6.6.2 for a discussion of recommendations associated with this species.
<i>Haliaeetus leucocephalus</i> bald eagle	FD, SE, CFP	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	Unlikely. Nesting habitat near large bodies of water is not present for this species within the Study area or immediate vicinity.	No further actions are recommended for this species.
<i>Falco peregrinus anatum</i> American peregrine falcon	FD, SD, CFP	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on birds, especially waterbirds. Forages widely.	Unlikely. Nesting habitat for this species is not present for this species within the Study Area.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Coturnicops noveboracensis</i> yellow rail	SSC	Summer resident in eastern Sierra Nevada in Mono County, breeding in shallow freshwater marshes and wet meadows with dense vegetation. Also a rare winter visitor along the coast and other portions of the state. Extremely cryptic.	No Potential. The Project Area is outside of the known range of this species.	No further actions are recommended for this species.
<i>Laterallus jamaicensis coturniculus</i> California black rail	ST, CFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	No Potential. No marsh habitats are present within the Project Area to support this species.	No further actions are recommended for this species.
<i>Rallus obsoletus obsoletus</i> California Ridgway's (clapper) rail	FE, SE, CFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on molluscs and crustaceans.	No Potential. No salt-marsh habitat is present within the Project Area to support this species.	No further actions are recommended for this species.
western snowy plover <i>Charadrius nivosus (alexandrines) nivosus</i>	FT, SSC, RP	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	No Potential. No sand bars, mudflats, or other potential breeding or foraging habitat is present within the Project Area to support this species.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Rynchops niger</i> black skimmer	SSC	Found primarily in southern California; South San Francisco Bay has a small resident population. Nests colonially on gravel bars, low islets, and sandy beaches	No Potential. No sand bars, beaches, gravel bars, or open water are present within the Project Area to support this species.	No further actions are recommended for this species.
<i>Sternula antillarum browni</i> California least tern	FE, SE, CFP	Summer resident along the coast from San Francisco Bay south to northern Baja California; inland breeding also very rarely occurs. Nests colonially on barren or sparsely vegetated areas with sandy or gravelly substrates near water, including beaches, islands, and gravel bars. In San Francisco Bay, has also nested on salt pond margins.	No Potential. No sand bars, beaches, gravel bars, or open water are present within the Project Area to support this species.	No further actions are recommended for this species.
<i>Brachyramphus marmoratus</i> marbled murrelet	FT, SE	Predominantly coastal marine. Nests in old-growth coniferous forests up to 30 miles inland along the Pacific coast, from Eureka to Oregon border, and in Santa Cruz/San Mateo Counties. Nests are highly cryptic, and typically located on platform-like branches of mature redwoods and Douglas firs. Forages on marine invertebrates and small fishes.	Unlikely. While some of the trees to be removed are redwoods, none of them could be classified as old growth and thus do not possess suitable nesting substrate for this species.	No further actions are recommended for this species.
<i>Asio flammeus</i> short-eared owl	SSC	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals,	Unlikely. Grasslands to support nesting or foraging by this species are not present within the Study Area.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
		particularly voles.		
<i>Asio otus</i> long-eared owl	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	Unlikely. Foraging opportunities are minimal for this species within the heavily landscaped Study Area. May occasionally roost within trees of the Study Area during dispersal movements.	No further actions are recommended for this species.
<i>Athene cunicularia</i> burrowing owl	SSC, BCC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	Unlikely. Ground squirrel burrows were identified only infrequently in developed areas.	No further actions are recommended for this species.
<i>Geothlypis trichas sinuosa</i> San Francisco common yellowthroat	SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Unlikely. Dense riparian habitats or salt marshes are not present within the Study Area to support this species.	No further actions are recommended for this species.
<i>Riparia riparia</i> bank swallow	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and	No Potential. No embankments are present within the Study Area to support this species.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
		man-made) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.		
<i>Melospiza melodia pusillula</i> Alameda song sparrow	SSC	Year-round resident of salt marshes bordering the south arm of San Francisco Bay. Inhabits primarily pickleweed marshes; nests placed in marsh vegetation, typically shrubs such as gumplant.	No Potential. No salt marsh habitats are present within the Study Area to support this species.	No further actions are recommended for this species.
<i>Agelaius tricolor</i> tricolored blackbird	ST, SSC, RP	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	Unlikely. No dense stands of emergent vegetation are present within the Study Area to support the establishment of a nesting colony of this species.	No further actions are recommended for this species.
REPTILES AND AMPHIBIANS				
<i>Aneides flavipunctatus niger</i> Santa Cruz black salamander	SSC	Climbing salamanders of the genus <i>Aneides</i> frequent damp woodlands and are usually found hiding under various debris (i.e. bark, woodrat nests, logs). The Santa Cruz black salamander exists south of the San Francisco Bay and was only recently recognized as a separate and protected species. Santa Cruz black salamander is highly sedentary, preferring to stay	Unlikely. No suitable moist forested habitats are present within the Study area to support this species.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
		hidden under riparian debris. Prey items include millipedes, spiders, and other insects (Stebbins and McGinnis 2012).		
<i>Ambystoma californiense</i> California tiger salamander	FE/FT, ST, RP	Populations in Santa Barbara and Sonoma counties currently listed as endangered; threatened in remainder of range. Inhabits grassland, oak woodland, ruderal and seasonal pool habitats. Adults are fossorial and utilize mammal burrows and other subterranean refugia. Breeding occurs primarily in vernal pools and other seasonal water features.	Unlikely. The Study Area is separated from the nearest credible documented occurrences of this species by major barriers to dispersal.	No further actions are recommended for this species.
<i>Dicamptodon ensatus</i> California giant salamander	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	Unlikely. No permanent streams are present within the Study Area to support this species.	No further actions are recommended for this species.
<i>Taricha rivularis</i> red-bellied newt	SSC	Inhabits coastal forests from southern Sonoma County northward, with an isolated population in Santa Clara County. Redwood forest provides typical habitat, though other forest types (e.g., hardwood) are also occupied. Adults are terrestrial and fossorial. Breeding occurs in streams, usually with relatively strong flow.	Unlikely. No permanent streams are present within the Study Area to support this species.	No further actions are recommended for this species.



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<p><i>Rana draytonii</i> California red-legged frog</p>	<p>FT, SSC, RP</p>	<p>Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.</p>	<p>Moderate Potential. CRLF has been documented within dispersal distance of the Study Area. The eastern pond could potentially constitute aquatic habitat for this species, including for breeding. Uplands within the Study Area may be traversed by dispersing individuals during the rainy season.</p>	<p>See section 6.6.2 for a discussion of recommendations associated with this species.</p>
<p><i>Rana boylei</i> foothill yellow-legged frog</p>	<p>SC, SSC</p>	<p>Found in or adjacent to rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.</p>	<p>No Potential. No permanent streams are present within the Study Area to support this species.</p>	<p>No further actions are recommended for this species.</p>
<p><i>Actinemys marmorata</i> Pacific (western) pond turtle</p>	<p>SSC</p>	<p>A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.</p>	<p>High Potential. This species occurs in water bodies near the Study Area. Many turtles were observed in the eastern pond on the eastern side of the Study Area, although it could not be determined whether native turtles were present.</p>	<p>See section 6.6.2 for a discussion of recommendations associated with this species.</p>



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SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
<i>Chelonia mydas</i> green sea turtle	FT (west coast populations)	Found in fairly shallow waters inside reefs, bays and inlets with marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. This species exhibits high site fidelity.	No Potential. No marine habitats are present within the Project Area to support this species.	No further actions are recommended for this species.
<i>Thamnophis sirtalis tetrataenia</i> San Francisco garter snake	FE, SE, CFP, RP	Vicinity of freshwater marshes, ponds and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	Moderate Potential. The eastern pond on the eastern side of the Study Area could provide aquatic habitat and a prey base for this species if CRLF is present.	See section 6.6.2 for a discussion of recommendations associated with this species.
FISH				
<i>Acipenser medirostris</i> green sturgeon, southern Distinct Population Segment	FT, SSC	Spawn in the Sacramento River and the Feather River. Spawn at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No Potential. No natural water bodies are present within the Project Area to support this species.	No further actions are recommended for this species.
<i>Hypomesus transpacificus</i> Delta smelt	FT, SE, RP	Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	No Potential. The Project Area is outside of the known range of this species.	No further actions are recommended for this species.
<i>Spirinchus thaleichthys</i> longfin smelt	FC, ST, SSC, RP	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can	No Potential. The Project Area is outside of the known range of this species.	No further actions are recommended for this species.



Appendix C. Special-status Species Assessment Table

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE STUDY AREA	RESULTS AND RECOMMENDATIONS
		be found in completely freshwater to almost pure seawater.		
INVERTEBRATES				
<i>Danaus plexippus</i> monarch butterfly	SSI	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby.	Unlikely. Most roost sites in the vicinity are on the coastal side of the peninsula. Large stands of dense and tall trees are not present within the Study Area to support the necessary thermoregulation and windblock required by this species.	No further actions are recommended for this species.
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	FT, SSI, RP	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurascens</i> are the secondary host plants.	No Potential. The host plant for this species has low potential to occur within the Study Area.	No further actions are recommended for this species.
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	FE, RP, SSI	Restricted to the fog belt of northern Marin and southernmost Sonoma County, including the Point Reyes peninsula; extirpated from coastal San Mateo County. Occurs in coastal prairie, dunes, and grassland. Larval foodplant is typically <i>Viola adunca</i> . Adult flight season may range from late June to early September.	No Potential. The host plant for this species has low potential to occur within the Study Area.	No further actions are recommended for this species.

