Biological Resources Assessment

SCS DUBLIN DEVELOPMENT PROJECT (APNs: 985-52-25, 985-52-24, 985-51-6, 985-51-5) DUBLIN, ALAMEDA COUNTY, CALIFORNIA

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TABLE OF CONTENTS

1.0 INTRODUCTION....1
1.1 Project Area Description....1
1.1.1 Location....1
1.1.2 Existing Setting....1
1.1.3 Surrounding Land Uses....2
1.2 Existing Plans and Zoning....2
2.0 REGULATORY BACKGROUND....2
2.1 Sensitive Biological Communities....2
2.1.1 Waters of the United States....5
2.1.2 Waters of the State, Including Wetlands....5
2.1.3 Other Sensitive Biological Communities....5
2.1.4 Relevant Local Policies, Ordinances, and Regulations....5
2.2 Special-Status Species and Critical Habitat....6
3.0 METHODS....9
3.1 Biological Communities....9
3.1.1 Non-Sensitive Biological Communities....10
3.1.2 Sensitive Biological Communities....10
3.2 Special-Status Species....10
3.2.1 Literature Review....10
3.2.2 Site Assessment....11
4.0 RESULTS....11
4.1 Soils....11
4.2 Biological Communities....14
4.2.1 Non-Sensitive Biological Communities....17
4.2.2 Sensitive Biological Communities....17
4.2.3 City of Dublin Protected Trees....17
4.3 Special-Status Species....18
4.3.1 Special-Status Plant Species....18
4.3.2 Special-Status Wildlife Species....21
4.4 Special-Status Wildlife Species Unlikely to Occur within the Project Area....23
4.5 Critical Habitat....26
4.6 Wildlife Movement Corridors....26
5.0 POTENTIAL IMPACTS AND MITIGATION....26
5.1 Significance Threshold Criteria....26
5.2 Potential Impacts and Recommended Mitigation Measures....28
5.2.1 Summary of No and/or Beneficial Impacts....28
5.2.2 Impacts of the Proposed Project....28
5.2.3 Cumulative Impact Analysis....33
5.2.4 Level of Significance after Mitigation....34
6.0 REFERENCES....35

LIST OF FIGURES

Figure 1. Project Area Location Map....3
Figure 2. Soils within the Project Area....12
Figure 3. Biological Communities within the Project Area....15
Figure 4. Special-Status Plant Locations within the Project Area....19

LIST OF TABLES

Table 1. Description of East Bay CNPS Rare Plant Rankings 9
Table 2. Summary of Biological Communities in the Project Area 17

LIST OF APPENDICES

Appendix A – Wildlife and Plant Species Observed in the Project Area
Appendix B – Potential for Special-Status Species to Occur in the Project Area
Appendix C – Representative Photographs of the Project Area

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LIST OF ACRONYMS

CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California red-legged frog
CTS	California tiger salamander
CWA	Clean Water Act
Corps	U.S. Army Corps of Engineers
EACCS	East Alameda County Conservation Strategy
EPA	Environmental Protection Agency
ESA	Endangered Species Act
HCP	Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
NWI	National Wetland Inventory
Rank	California Rare Plant Rank
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

WRA, Inc. (WRA) prepared this biological resources assessment (BRA) report on behalf of Kimley-Horn for the SCS Dublin Development Project (project). The approximately 76.9-acre Project Area (APNs: 985-52-25, 985-52-24, 985-51-6, 985-51-5) consists of four vacant lots located between Tassajara Road, Brannigan Street, and Northside Drive in the City of Dublin, Alameda County, California (Figure 1). This assessment is based on site visits conducted on December 7, 2017, February 22 and March 19, 2018, and April 12, 2022, and published information.

The purpose of this assessment is to gather information necessary to complete a review of biological resources under the California Environmental Quality Act (CEQA) and to support the regulatory permit application process. This report describes the results of the site visits and review of existing information in order to assess the Project Area and immediately adjacent areas for: (1) the potential to support special-status plant and wildlife species; (2) the potential presence of sensitive biological communities, such as wetlands or riparian habitats; and (3) the potential presence of other sensitive biological resources protected by local, state, and federal laws and regulations. This report also identifies impacts to biological resources that would occur as a result of the project and recommends mitigation measures for potentially significant impacts under CEQA.

The development project would encompass the entirety of the 76.9-acre site. This assessment is based on information available at the time of the study and on-site conditions as observed during the various surveys performed in the Project Area. A delineation of Waters of the U.S. subject to the United States Environmental Protection Agency (EPA) and United States Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act (CWA) and Waters of the State subject to Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter-Cologne Water Quality Control Act was conducted on February 22 and March 19, 2018 (WRA 2018a), and the results are incorporated into this report. Additionally, a protocol-level special-status plant survey was performed concurrently with the December 7, 2017, site visit, and a second special-status plant survey was conducted on March 19, 2018 (WRA 2018b). The results from the special-status plant surveys are also included here. The April 12, 2022, site visit served to review site conditions for any changes or new information prior to the publishing of this report. The habitat and species information assembled for the Project Area at the time of this writing and presented herein is considered suitable for an evaluation of the project's biological resources impacts under CEQA; however, additional protocol-level plant and wildlife surveys for certain species may ultimately be necessary to obtain permits or other regulatory approvals from state and federal regulatory agencies prior to project development.

1.1 Project Area Description

1.1.1 Location

The approximate 76.9-acre project site is located in the City of Dublin, Alameda County, north of Interstate 580 and between Tassajara Road and Brannigan Street. The project site is located within the Livermore, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle (USGS 2021) in Township 2S, Range 1E, Section 33 (northern portion) and Township 3S, Range 1E, Section 4 (southern portion).

1.1.2 Existing Setting

The project site is vacant land and is generally flat with a slight slope from a higher elevation at the northerly boundary to a slightly lower elevation towards the southerly boundary. At one time, the property was used for agricultural purposes and has remained vacant (except for temporary

seasonal uses) with low lying native and non-native grasses turned periodically for the purposes of weed abatement. A small group of primarily ornamental trees and shrubs is located near the corner of Tassajara Road and Central Parkway. No grading for development purposes has occurred to date.

1.1.3 Surrounding Land Uses

The site is surrounded by commercial uses to the southwest and southeast and residential uses to the northwest and northeast. Single family medium density residential uses are located to the north. A broad mix of land uses are located to the east including multi-family residential, general commercial, and a vacant parcel at the southeast corner of Dublin Boulevard and Brannigan Street. Interstate 580 and the City of Pleasanton are located south of the project site. Medium density residential, parks/public recreation, general commercial, and campus office uses are located to the west.

1.2 Existing Plans and Zoning

Most of the project site is designated General Commercial with varying densities of residential uses along Brannigan Street and Gleason Drive. The southern and western portions of the project site are designated General Commercial. The northern and eastern portions of the project site are designated Medium Density Residential, Public/Semi-Public, Medium/High Density Residential, and Neighborhood Commercial.

The following City of Dublin General Plan land use designations surround the project site: Medium Density Residential to the north; Medium Density Residential, Medium-High Density Residential, High Density Residential, General Commercial, and General Commercial/Campus Office to the east; Medium Density Residential, and Parks/Public Recreation and General Commercial and Campus Office to the west, and Interstate 580 to the South.

2.0 REGULATORY BACKGROUND

2.1 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the CWA; state regulations such as the Porter-Cologne Act, Section 1600-1616 of the California Fish and Game Code (CFGC), CEQA, Habitat Conservation Plans (HCPs) or local ordinances or policies such as city or county tree ordinances and General Plan elements.

Path: L:\Acad 2000 Files\27000\27344\GIS\ArcMap\Location.mxd

Sources: National Geographic, WRA | Prepared By: smortensen, 3/13/2018

Figure 1. Project Area Location

SCS Dublin Development Project,
Dublin, Alameda County, California

0 1 2 Miles N

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2.1.1 Waters of the United States

The Corps regulates "Waters of the United States" under Section 404 of the CWA. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology.

Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark, and herein referred to as non-wetland waters. Non-wetland waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S. generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

2.1.2 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.

2.1.3 Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats identified in local or regional plans, policies, or regulations, by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS), or that must otherwise be considered and evaluated under CEQA (California Code of Regulations Title 14, Div. 6, Chap. 3, Appendix G).

Sensitive plant communities are identified the California Native Plant Society (CNPS; CNPS 2022a). The CDFW maintains a list of vegetation Alliances, Associations, and Special Stands and their Global and State rarity ranks in its Natural Communities Lists (CDFW 2022b) and keeps records of sensitive occurrences in its California Natural Diversity Database (CNDDB; CDFW 2022a). Vegetation alliances are ranked 1 through 5 by the CNDDB based on NatureServe's (2022) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive.

2.1.4 Relevant Local Policies, Ordinances, and Regulations

<u>East Alameda County Conservation Strategy</u>

Although not formally adopted, the East Alameda County Conservation Strategy (EACCS; EACCS Steering Committee 2010) is intended to provide an effective framework to protect, enhance, and restore natural resources. In this document, conservation priorities are given as

guidelines to protect the resources known to occur in the conservation zones. The priorities for the Conservation Zone 3 (CZ-3), which the Project Area is located in, are listed below:

Select Policies from the East Alameda County Conservation Strategy

- Protection of known occurrences of San Joaquin spearscale (*Extriplex joaquinana*) and surveys of other potential habitat
- Protection of known occurrences of Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) and surveys of other potential habitat
- Protection of known California tiger salamander (CTS; *Ambystoma californiense*) and California red-legged frog (CRLF; *Rana draytonii*) breeding habitat, sufficient upland habitat surrounding those sites, and connections between breeding and upland habitat
- Protection of CTS and CRLF critical habitat

City of Dublin Heritage Tree Ordinance

The City of Dublin encourages the preservation of heritage trees through its development review and permit approval process. Chapter 5.60, "Heritage Trees", of the City of Dublin Municipal Code defines a heritage tree as any oak, bay, cypress, maple, redwood, buckeye and sycamore tree having a trunk or main stem of 24 inches or more in diameter at 4 feet 6 inches above natural grade; a tree required to be preserved as part of an approved development plan, zoning permit, use permit, site development review of subdivision map; or a tree required to be planted as a replacement for an unlawfully removed tree. A tree permit is required for the removal of any heritage tree as defined above on public or private property. Furthermore, the City may require additional conditions barring the issuance of a tree removal permit including that one or more replacement trees be planted of a designated species, size, and location.

City of Dublin General Plan

The *City of Dublin General Plan* (City General Plan) contains goals, objectives, and policies associated with preservation and management of biological resources within the City. A listing of policies with potential relevance to this analysis is provided below.

Select Policies from the City General Plan Conservation Element

> Policy 7.2.1 A-1: Protect riparian vegetation as a protective buffer for stream quality and for its value as a habitat and aesthetic resource.
>
> Policy 7.2.1 A-2: Promote access to stream corridors for passive recreational use and to allow stream maintenance and improvements as necessary, while respecting the privacy of owners of property abutting stream corridors.
>
> Policy 7.3.1 A-1: Maintain natural hydrologic systems.
>
> Policy 7.4.1 A-1: Protect oak woodlands.

2.2 Special-Status Species and Critical Habitat

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 (CFGC 2050 et seq.) prohibits the take of any plant and animal species that the CFGC 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 CFGC 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 CFGC. 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 CFGC, 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 CNDDB 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) Inventory of Rare and Endangered Plants (Inventory) 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. Many Rank 3 species 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. Some species listed in the *Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties (web application)* (Lake 2022) are considered sensitive (see below). 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.

Locally Rare, Unusual, and Significant Plants

Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties (web application) (Lake 2022) is a database produced by the East Bay Chapter of the CNPS that lists plant taxa which are considered locally rare, unusual, or significant in Alameda and Contra Costa counties. Species that occur in two or fewer regions in Alameda and Contra Costa counties are ranked "A1." Species that occur in five or fewer regions in the two counties, or are otherwise threatened, are ranked "A2." Species that are only known from the area historically and are presumed to have been extirpated from the East Bay during the last 100 years are ranked "A1x." A-ranked species receive consideration under sections 15380 and 15125(c) of CEQA and are considered "locally rare" for the purposes of this report. Any locally rare species observed in the Project Area are discussed in this report. See Table 1 – Description of East Bay CNPS Rare Plant Rankings.

Table 1. Description of East Bay CNPS Rare Plant Rankings

Rank	Description
A1	Species occurring in two or fewer regions in Alameda and Contra Costa counties
A1x	Species presumed extirpated from Alameda and Contra Costa counties
A1?	Species possibly occurring in Alameda and Contra Costa counties. Identification or location is uncertain
A2	Plants occurring in three to five regions or are otherwise threatened in Alameda and Contra Costa counties.
B	Species occurring in six to nine regions or are otherwise threatened in Alameda and Contra Costa counties (high priority watch list).
C	Species occurring in 10 to 15 regions or are otherwise threatened in Alameda and Contra Costa counties (second priority watch list).

*Ranks preceded by an asterisk (e.g. "*A1") also have a statewide rarity ranking.
*Species on the watch lists (ranks B and C) are not considered to be special-status based on CEQA guidelines.

3.0 METHODS

Prior to conducting the field survey, available reference materials were reviewed, including online soil survey data for the Project Area (CSRL 2022), the USGS 7.5-minute quadrangle map for Livermore and the eight surrounding quadrangle maps (USGS 2021a-i), the USFWS National Wetland Inventory (NWI) data (USFWS 2022a), precipitation data (Deters 2022), the EACCS (EACCS Steering Committee 2010), Alameda County Breeding Bird Atlas (Richmond et al. 2011), and available aerial photographs of the site (Google Earth 2022, NETR 2022). On December 7, 2017, and April 12, 2022, WRA conducted a BRA within the Project Area. The findings of the BRA, as well as relevant reference materials, are incorporated into this report. The Project Area was traversed on foot for the survey, which sought to determine (1) plant communities present within the Project Area, (2) if existing conditions provided suitable habitat for any special-status plant or wildlife species, and (3) if sensitive habitats are present.

All plant and wildlife species encountered were recorded and are listed in Appendix A. Plants were identified using Jepson eFlora (Jepson Flora Project 2022) to the taxonomic level necessary to determine rarity. Plant nomenclature follows the Jepson Flora Project (2022), except where noted. For cases in which regulatory agencies, CNPS, or other entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities. Appendix B provides a list of species-status species that have been documented in the vicinity and summarizes the potential for occurrence for each of these species based on observed habitat suitability, proximity of known occurrences, or the direct observation of a species. Appendix C includes representative photographs of the Project Area taken during field visits.

3.1 Biological Communities

Prior to the site visit, online soil survey data for the Project Area (CSRL 2022), the USGS 7.5-minute quadrangle map for Livermore (USGS 2021a), USFWS NWI data (USFWS 2022a), precipitation data (Deters 2022), and available aerial photographs of the site (Google Earth 2022, NETR 2022) were reviewed to identify potential sensitive habitats and areas for further investigation during the site visit. Following the site visit, biological communities present in the Project Area were classified based on existing plant community descriptions described in *A Manual of California Vegetation, Online Edition* (CNPS 2022a; CDFW 2022b). However, in some cases, it was necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive

or non-sensitive as defined by CEQA and other applicable laws and regulations (see Section 2.1, above).

3.1.1 Non-Sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA and other state, federal, and local laws, regulations, and ordinances. These communities may however, provide suitable habitat for some special-status plant or wildlife species and are identified or described in Section 4.4.1 below.

3.1.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive biological communities are discussed below.

Wetlands and Waters

The Project Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFW were present. A routine delineation of Waters of the U.S. subject to EPA/Corps jurisdiction under Section 404 of the CWA was conducted on February 22 and March 19, 2018.

Other Sensitive Biological Communities

The Project Area was evaluated for the presence of other sensitive biological communities, including riparian areas, or sensitive plant communities recognized by the CDFW. These communities are described in Section 4.1.2 below.

3.2 Special-Status Species

3.2.1 Literature Review

The potential for special-status species to occur in the Project Area was evaluated by first determining which special-status species have been documented previously in the Project Area and in the vicinity of the Project Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Livermore USGS 7.5-minute quadrangle and eight surrounding quadrangles (USGS 2015a-i). The following sources were reviewed to determine which special-status plant and wildlife species have been documented to occur within and within five miles of the Project Area:

- CNDDB records (CDFW 2022a)
- CNPS Inventory (CNPS 2022b)
- EACCS (EACCS Steering Committee 2010)
- Alameda County Breeding Bird Atlas (Richmond et al. 2011)
- USFWS Information for Planning and Conservation Species Lists (USFWS 2022b)
- California Department of Fish and Game publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- California Amphibian and Reptile Species of Special Concern (Thomson et al 2016)
- California Bird Species of Special Concern (Shuford and Gardali 2008)
- USFWS Critical Habitat Mapper (USFWS 2022c)
- Western Bat Working Group, species accounts (WBWG 2022)

- Maps for the California Essential Habitat Connectivity Project (Spencer et al. 2010).

3.2.2 Site Assessment

Habitat conditions were assessed and were used to evaluate the potential for presence of special-status species. The potential for each special-status species to occur in the Project Area was then evaluated 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., CNDDB, other reports) on the site recently.

The site assessment is intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity in order to determine its potential to occur in the Project Area. All species observed in the Project Area were recorded and are listed in Appendix A.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of WRA biologists with experience working with the species and habitats.

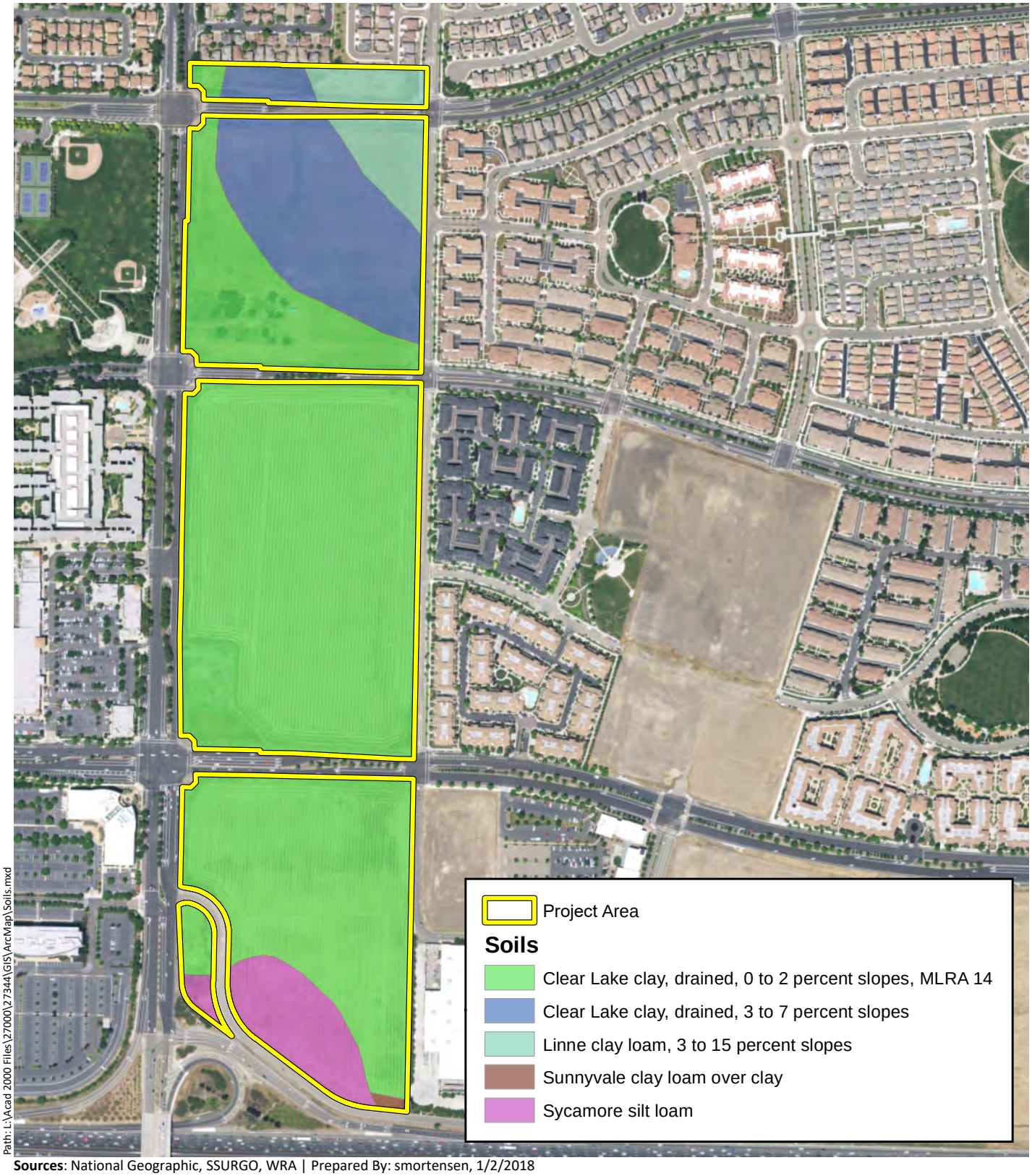
An assessment of the potential for special-status species to occur within the Project Area is provided below in Section 4.4.1 and in Appendix B. For species with a moderate or high potential to occur within the Project Area, but which have not been observed on the site, the site assessments conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies. In these cases, further protocol-level special-status species surveys may ultimately be necessary to obtain permits or approvals from regulatory agencies.

4.0 RESULTS

4.1 Soils

The online soil survey of the Project Area (CSRL 2022) indicates that the Project Area contains five native soil mapping units (Figure 2). The soil series that contain those mapping units are described below.

Clear Lake Series. The Clear Lake series consists of very deep, poorly drained soils located on plains and flat basins, which formed in alluvium derived from sandstone and shale. A representative profile for the series consists of a very dark gray (N 3/0) clay layer, 39 inches thick, with few faint redoximorphic concentrations in the upper 13 inches. A light olive brown (2.5Y 5/4) clay layer with light yellowish brown (10YR 6/4) masses of iron accumulations occurs below this



Sources: National Geographic, SSURGO, WRA | Prepared By: smortensen, 1/2/2018

Figure 2. Soils Located within the Project Area

SCS Dublin Development Project,
Dublin, Alameda County, California

0 250 500 Feet

N

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layer to a depth of approximately 60 inches. This soil is a very hard, firm, and very sticky clay. This soil type is listed as hydric (USDA 2022b), but the two soil mapping units in this series thatare present within the Project Area are drained (Clear Lake clay, drained, 3 to 7 percent slopes, and Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14), and any hydric soil indicators observed within these mapping units may be relict.

Sycamore Series. The Sycamore series consists of poorly drained soils that formed in alluvium from sedimentary rock on floodplains. Typically, Sycamore soils contain grayish-brown (2.5Y 5/2), slightly acidic, slightly clay loam A horizons that are approximately 15 inches thick; grayish brown and light brownish-gray (2.5Y 4/4), distinctly mottled, mildly to moderately alkaline, silt loam B horizons that extend to a depth of 27 inches; and stratified light brownish-gray and pale brown (10YR 6/3) mottled loam, fine sandy loam and loamy fine sand calcareous C horizons. This soil type is listed as hydric (USDA 2022b).

Linne Series. The Linne series consists of moderately deep, well drained soils on hills with slopes of 5 to 75 percent. They formed in material weathered from fairly soft shale and sandstone and have medium to very rapid runoff and moderately slow permeability. In a typical profile, the surface layer is composed of black (10YR 2/1), moderately alkaline clay loam that extends 9 inches in depth. This soil is underlain by black to very dark gray (10YR 3/1), moderately alkaline clay loam that extends up to 29 inches in depth. From 29 to 32 inches, the soil is composed of gray and light brownish gray (10YR 5/1 and 6/2), moderately alkaline sandy clay loam. From 32 to 36 inches, the soil is composed of very pale brown and white (10YR 7/2 and 8/2) moderately alkaline fine sandy loam. Lastly, from 36 to 51 inches, the soil is comprised of light gray and pale yellow (2.5Y 7/2 and 8/4) moderately alkaline mudstone. This soil type is listed as hydric (USDA 2022b).

Sunnyvale Series. The Sunnyvale series consists of poorly drained, calcareous soils on nearly level valley floors north of Pleasanton. The surface soil is gray, granular, slightly calcareous, heavy clay loam. Sunnyvale soils are often used for irrigated row crops, for pasture, and for dry-farmed grain. A representative profile for the Sunnyvale series consists of an Ap horizon from 0 to 6 inches with dark gray to very dark grey (N4/ - N3/) silty clay. Similar colors are seen in an Alc2 horizon of silty clay from 6 to 14 inches in depth. A Clca horizon extends from 14 to 34 inches in depth, with light grey to dark grey (N7/ - N3/) silty clay. This soil type is listed as hydric (USDA 2022b).

4.2 Biological Communities

Non-sensitive biological communities in the Project Area consist of ruderal areas. Potentially sensitive biological communities include five seasonal wetland features. See Table 3 – Summary of Biological Communities in the Project Area and Figure 3.

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Sources: National Geographic, SSURGO, WRA | Prepared By: smortensen, 3/21/2018

Figure 3. Biological Communities Located within the Project Area

SCS Dublin Development Project,
Dublin, Alameda County, California

0 250 500 Feet

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Table 2. Summary of Biological Communities in the Project Area

Community Type	Area (acres)
Non-Sensitive	
Ruderal	76.24
Sensitive	
Seasonal wetland	0.66
Total	**76.9**

4.2.1 Non-Sensitive Biological Communities

Ruderal

Ruderal habitats include areas that have been heavily altered by humans and may contain built structures, gravel roads, paved areas, or other non-natural surfaces. The Project Area is composed of approximately 76.24 acres ruderal habitat, comprised primarily of disced and mowed areas of disturbed vegetation. Ruderal areas are primarily composed of ruderal herbaceous vegetation dominated by non-native annual species, such as slim oat (*Avena barbata*), ripgut brome *(Bromus diandrus)*, soft chess (*B. hordeaceus*), and black mustard (*Brassica nigra*). Native species, such as common fiddleneck (*Amsinckia intermedia*) and tarweed fiddleneck (*A. lycopsoides*), are also present. The majority of the Project Area is disced for fuel reduction purposes, with small margins of intact ruderal vegetation along the margins and southwest of Northside Drive.

4.2.2 Sensitive Biological Communities

Seasonal wetland

Seasonal wetlands comprise approximately 0.66 acre of the Project Area and occur as five separate topographic depressions and one flat-to-sloping area where seasonal inundation and/or saturation occurs during the rainy season. Four of these features had varying levels of apparent regular disturbance, including discing and use as a parking area for vehicles. Vegetation within the seasonal wetlands is often sparse. The plant community in this habitat is dominated by a mixture of predominantly non-native grasses and forbs, all of which are adapted to high levels of disturbance. Commonly observed species include Italian ryegrass (*Festuca perennis*), hyssop loosestrife (*Lythrum hyssopifolia*), and curly dock (*Rumex crispus*). Given the highly altered and regularly disturbed nature of the site, as well as the lack of a dominance by or characteristic presence of species associated with vernal pools, wetlands within the Project Area were classified as seasonal wetlands rather than vernal pools.

4.2.3 City of Dublin Protected Trees

No trees defined as “heritage trees” under the City of Dublin Heritage Tree Ordinance are present on site. Several remnant trees, located on the abandoned homestead area in the northern portion of the Project Area, exceed 24 inches in diameter at breast height but are not species included under the definition of heritage trees. Additionally, two coast live oak (*Quercus agrifolia*) saplings with a measurement of less than 24 inches in diameter at breast height were observed in the northern parcel of the Project Area but are too small to be included under the heritage tree definition.

4.3 Special-Status Species

4.3.1 Special-Status Plant Species

Based on a review of the resource databases listed in Section 3.2.1, 59 statewide special-status plant species have been documented in the vicinity of the Project Area, which was defined to include the Livermore USGS 7.5-minute quadrangle and eight surrounding quadrangles (Appendix B), an area encompassing approximately 335,757 acres and extending up to 33 miles from the Project Area boundary.

Two statewide special-status plant species, Congdon's tarplant and San Joaquin spearscale, were observed in the Project Area during site visits and are discussed below. One statewide special-status plant species has moderate potential to occur within the Project Area: saline clover (*Trifolium hydrophilum*). This species is discussed below. In addition, two locally rare species observed in the Project Area are also discussed below, smooth boisduvalia (*Epilobium campestre*) and woolly marbles (*Psilocarphus oregonus*).

Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*). Rank 1B.1. Present. Congdon's tarplant is an annual herb in the composite family (Asteraceae) that blooms from May to October (November). It typically occurs on alkaline soils, sometimes described as heavy white clay in valley and foothill grassland habitats ranging from 0 to 755 feet (0 to 230 meters) in elevation (CDFW 2022a, CNPS 2022b). Known associated species include hyssop loosestrife, coyote thistle (*Eryngium* sp.), annual beard grass (*Polypogon monspeliensis*), and Bermuda grass (*Cynodon dactylon*) (CDFW 2022a).

Approximately 371 individuals of Congdon's tarplant were observed in the Project Area in the large seasonal wetland in the southeastern corner, as well as in scattered locations in mesic, upland areas along the eastern boundary (Figure 4). Observed associated species in the Project Area include hyssop loosestrife, alkali mallow (*Malvella leprosa*), Italian ryegrass, smooth boisduvalia (*Epilobium campestre*), and annual beard grass.

San Joaquin spearscale (*Extriplex joaquinana*). Rank 1B.2. Moderate Potential. San Joaquin spearscale is an annual herb in the goosefoot family (Chenopodiaceae) that blooms from April to October. It typically occurs in seasonal alkali sink scrub and wetlands in chenopod scrub, alkali meadow, and valley and foothill grassland habitat at elevations ranging from 0 to 2,740 feet in elevation (CDFW 2022a, CNPS 2022b). Known associated species include salt grass (*Distichlis spicata*), alkali heath (*Frankenia salina*), Mediterranean barley (*Hordeum marinum*), Italian rye grass, bird's-foot trefoil (*Lotus corniculatus*), docks (*Rumex crispus, R. pulcher*), tarplants (*Centromadia parryi, C. pungens*), pickleweed (*Salicornia pacifica*), and fat hen (*Atriplex triangularis*) (CDFW 2022a).

Approximately 345 individuals of San Joaquin spearscale were observed in and near the small seasonal wetland in the southeastern portion of the Project Area, just southwest of the intersection of Dublin Boulevard and Brannigan Street (Figure 4). Observed associated species in the Project Area include black mustard, Italian ryegrass, needle microseris (*Microseris acuminata*), ripgut brome, and scarlet pimpernel (*Lysimachia arvensis*).

Saline clover (*Trifolium hydrophilum*). Rank 1B.2. Moderate Potential. Saline clover is an annual herb in the pea family (Fabaceae) that blooms from April to June. It typically occurs in mesic, alkali sites in marsh, swamp, valley and foothill grassland, and vernal pool habitat at elevations ranging from 0 to 980 feet (0 to 300 meters) in elevation (CDFW 2022a, CNPS 2022b). Known associated species include semaphore grass (*Pleuropogon californicus*), salt grass, Italian rye grass, brass buttons (*Cotula coronopifolia*), calico flowers (*Downingia* spp.),

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Sources: USDA NAIP Imagery 2020, WRA | Prepared By: mrochelle, 4/27/2022

Figure 4. Special-status Plant Locations within the Project Area

SCS Dublin Development Project,
Dublin, Alameda County, California

0 200 400 Feet

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Congdon's tarplant, hyssop loosestrife, toad rush (*Juncus bufonius*), California oat grass (*Danthonia californica*), purslane speedwell (*Veronica peregrina* ssp. *xalapensis*), meadow barley (*Hordeum brachyantherum*), clovers (*Trifolium microdon*, *T. wormskioldii*, *T. fucatum*), and sand spurry (*Spergularia macrotheca*) (CDFW 2022a).

Saline clover is known from 42 USGS 7.5-minute quadrangles in Alameda, Contra Costa, Lake, Mendocino, Monterey, Napa, Sacramento, San Benito, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, and Yolo counties (CNPS 2022b). There are two CNDDB (CDFW 2022a) records in the greater vicinity of the Project Area, and 15 Consortium of California Herbaria (CCH2 2022) records in Alameda County. The nearest and most recent known occurrence is from April 2006, approximately 0.5 mile east of the Project Area, which may now be extirpated (CDFW 2018a). Saline clover has a moderate potential to occur in the Project Area due to the presence of seasonally inundated depressions and alkaline substrate and the fact that this species has been documented near the Project Area in disced conditions (CDFW 2022a).

Locally rare species observed in the Project Area

Five locally rare species were observed in the Project Area:

- Congdon's tarplant (*A2)
- Smooth boisduvalia (A1)
- San Joaquin spearscale (*A2)
- Needle microseris (A1)
- Woolly marbles (A2)

Congdon's tarplant and San Joaquin spearscale are discussed above. Remnant ornamental plantings of Northern California black walnut (*Juglans hindsii*) are present in the Project Area. This species has a rank of A2, but ornamental plantings are not considered special-status.

Smooth boisduvalia. A small number of smooth boisduvalia individuals were observed in a flat, mesic, grassy area northwest the intersection of Dublin Boulevard and Brannigan Street.

Needle microseris. Approximately 100 individuals of needle microseris were observed co-occurring with San Joaquin spearscale in the southeastern portion of the Project Area, just southwest of the intersection of Dublin Boulevard and Brannigan Street.

Woolly marbles. A small number of woolly marbles individuals were observed in in a flat, mesic, grassy area northwest the intersection of Dublin Boulevard and Brannigan Street and in one of the seasonal wetland depressions in the southwestern portion of the Project Area, southwest of Northside Drive.

4.3.2 Special-Status Wildlife Species

Based upon a review of the resources databases listed in Section 3.2.1, 38 special-status wildlife species have been documented in the nine quadrangles surrounding the Project Area. Appendix B summarizes the potential for each of these species to occur within the Project Area. Three special-status wildlife species have been observed or were considered to have moderate or high potential to occur in the Project Area and are discussed below. The remaining 41 species are considered unlikely, or have no potential to occur in the Project Area for one or more of the following reasons:

- The Project Area is outside of the known or historical range of the species;
- The Project Area lacks suitable aquatic habitat (e.g., rivers, streams, vernal pools);
- The Project Area lacks suitable foraging habitat (e.g., marshes);

- The Project Area lacks suitable tall nesting structures (e.g., trees or snags);
- The Project Area lacks suitable soil for den development;
- No mine shafts, caves or abandoned buildings are present;
- There is a lack of connectivity with suitable habitat.

While the aforementioned factors contribute to the absence of many special-status wildlife species from the Project Area, the following three species were determined to have adequate conditions and locality to warrant a moderate, or high potential to occur.

Western burrowing owl (*Athene cunicularia*), CDFW Species of Special Concern, USFWS Bird of Conservation Concern. High Potential. Burrowing owl typically favors flat, open grassland or gentle slopes and sparse shrubland ecosystems. These owls prefer annual or perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. This species is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting, and in northern California is typically found in close association with California ground squirrels (*Spermophilus beecheyi*). Manmade substrates, such as pipes or debris piles, may also be occupied in place of burrows. Burrowing owls exhibit high site fidelity.

Burrowing owls were documented within the Project Area (CNDDB occurrence numbers 671 and 2066) in 2004, 2006, 2009, and 2020. During site visits, ground squirrels and ground squirrel burrow complexes were observed throughout the Project Area. In addition, multiple debris piles were present within the Project Area, which may provide additional nesting habitat for the species. Vegetation height within the Project Area is variable and in some areas may be suitable for the species throughout the year, including during nesting season (February 1 – August 31). Although no burrowing owls were observed on the project site during site visits, due to the presence of suitable nesting and foraging habitat, as well as previous occurrences of burrowing owl within the Project Area, the species has high potential to occur.

Loggerhead shrike (*Lanius ludovicianus*). CDFW Species of Special Concern, USFWS Bird of Conservation Concern. Moderate Potential. Loggerhead shrike is a year-round resident or winter visitor in lowlands and foothills throughout California. This species is associated with open country with short vegetation and scattered trees, shrubs, fences, utility lines, and/or other perches. Although they are songbirds, shrikes are predatory and forage on a variety of invertebrates and small vertebrates. Captured prey items are often impaled for storage purposes on suitable substrates, including thorns or spikes on vegetation and barbed wire fences.

The loggerhead shrike nests in trees and large shrubs; nests are usually placed 3 to 10 feet off the ground (Shuford and Gardali 2008). The trees located in the northwestern portion of the site provide suitable habitat to support nesting by this species. Grasslands within the Project Area may also provide sufficient area to support foraging by the species. While the Project Area is surrounded by development, due to the presence of potentially suitable nesting and foraging habitat, this species has moderate potential to occur.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. High Potential. White-tailed kite is a 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 are 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.

The Project Area contains open habitat for foraging by this species, as well as shrubs and trees suitable for nesting. A white-tailed kite was observed foraging on the December 7, 2017, site visit. White-tailed kite has a high potential to occur.

4.4 Special-Status Wildlife Species Unlikely to Occur within the Project Area

Six federally-listed wildlife species including CRLF, CTS, San Joaquin kit fox (*Vulpes macrotis*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), longhorn fairy shrimp (*Branchinecta longiantenna*) and callippe silverspot butterfly (*Speyeria callippe callippe*) have been documented in the vicinity, but are unlikely to inhabit the Project Area. These species are discussed in more detail below.

California Red-Legged Frog (*Rana draytonii*), Federal-Threatened, CDFW Species of Special Concern. Unlikely. CRLF requires four habitat components: aquatic breeding, upland, aquatic non-breeding, and dispersal habitats. Aquatic breeding habitat consists of low-gradient freshwater bodies, including natural and manmade ponds, backwaters within streams and streams, and marshes. Upland habitats include areas within 300 feet of aquatic and riparian habitat and are comprised of grasslands, woodlands, and/or vegetation that provide shelter, forage, and predator avoidance. These upland features provide feeding and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat can include structural features such as boulders, rocks, and organic debris (e.g., downed trees, logs), as well as small mammal burrows and moist leaf litter (USFWS 2010). Aquatic non-breeding habitat may or may not hold water long enough for this species to hatch and complete its aquatic life cycle, but it provides shelter, foraging, predator avoidance, and aquatic dispersal for juvenile and adult CRLF. Dispersal habitat includes upland or riparian habitats within 2 miles of breeding habitat that allow for movement between these sites. Dispersal habitat includes various natural and altered habitats, such as agricultural fields, which do not contain barriers to dispersal. Moderate to high density urban or industrial developments, large reservoirs, and heavily traveled roads without bridges or culverts are considered barriers to dispersal (USFWS 2010).

The lack of suitable aquatic features and lack of connectivity to source populations make it unlikely that this species would occur within the Project Area. Additionally, the Project Area is outside of mapped red-legged frog critical habitat (EACCS Steering Committee 2010). CRLF require still, deep ponds that hold water until at least July to be able to support breeding (Ford et al. 2013). Given this long ponding requirement, wetlands within the Project Area do not have the inundation period to support breeding by the species. The nearest recorded occurrence of this species is within 0.50 mile of the Project Area (CDFW 2022a). However, the locations of nearby occurrences have since been developed and are now residential areas. The dense urban development surrounding the Project Area isolates the site and prevents frogs from being able to enter the Project Area. The absence of suitable breeding habitat and migratory corridors that connect to occupied habitat make it unlikely that CRLF will occur within the Project Area.

California Tiger Salamander (*Ambystoma californiense*), Federal Threatened, State Threatened. Unlikely. CTS is a California endemic species that historically occurred in grassland habitats throughout much of the state. This species inhabits valley and foothill grasslands and the grassy understory of open woodlands, usually within one mile of water (Jennings and Hayes 1994). CTS requires two primary habitat components: aquatic breeding sites and upland terrestrial refuge sites. Adult CTS spend most of their time underground in upland subterranean refugia. Underground retreats usually consist of ground-squirrel burrows but may also be beneath logs and piles of lumber (Holland et al. 1990, Trenham 2001). CTS emerge from underground to breed and lay eggs primarily in vernal pools and other ephemeral water bodies. These sites must remain inundated for at least 10 weeks, the minimum time needed

for larvae to complete metamorphosis. Adults migrate from upland habitats to aquatic breeding sites during the first major rainfall events, between November and February (Shaffer and Fisher 1991, Barry and Shaffer 1994), and return to upland habitats after breeding. This species has been known to disperse up to 1.3 miles from a breeding site (Orloff 2007).

The Project Area is outside of the mapped critical habitat zone for CTS (EACCS Steering Committee 2010). CTS require seasonal ponds that hold water for a minimum of 20 weeks, and yet still have suitable water depth to provide cover from predators (Ford et al 2013). Ideal water depths should also range from 2 to 4 feet (Ford et al 2013). Given this time requirement, and depths required for breeding, wetlands within the Project Area do not support suitable inundation time periods or depth requirements to support breeding by the species. There is a recorded occurrence of CTS within 0.25 mile of the Project Area (CDFW 2022a). However, the suitable habitat has since been developed into a residential area. Dense urban development surrounding the Project Area isolates the site and prevents CTS in occupied habitats from entering and using the Project Area. Due to this high level of isolation, burrows within the Project Area cannot provide estivation habitat for the species. The absence of suitable breeding habitat and absence of migratory corridors makes the Project Area unsuitable for all life stages of this species. Given this information, CTS is unlikely to occur within the Project Area

San Joaquin kit fox (*Vulpes macrotis*). Federally Endangered. State Threatened. Unlikely. The San Joaquin kit fox is an uncommon to rare, permanent resident of arid regions of the southern half of the state. It generally lives in annual grasslands or open stages of vegetation with scattered shrubby vegetation. They are primarily carnivorous, choosing to feed on prey including black-tailed jackrabbits and desert cottontails, rodents, insects, reptiles, and some birds, bird eggs and vegetation. The kit fox digs dens in open, level areas with loose-textures soils to provide cover and a place to birth pups. Furthermore, cultivation has eliminated much of the kit fox habitat. This species is also vulnerable to many human activities, such as hunting, use of rodenticides and other poisons, off-road vehicles and trapping.

The Project Area is located within an urbanized area, eliminating connectivity to other suitable occupied habitats and creating high levels of anthropogenic disturbances that dissuade San Joaquin kit fox from occurring at the site. Urban development and major roads and highways surround the Project Area in all directions (Google Earth 2022), making it unlikely that a fox could enter the Project Area. It is also unlikely that foxes could withstand the continual anthropogenic disturbances associated with the major multi-lane roadways surrounding the Project Area (Dublin Boulevard – 6 lanes, Highway 580 – 10 lanes). Such major roadways provide barriers to dispersal, high levels of noise and change the dispersal patterns of kit fox (Gerrard et al 2001). The EACCS (EACCS Steering Committee 2010) does not identify recent occurrences of SJKF or designate critical habitat in the vicinity of the Project Area. Due to the high levels of urban development and major infrastructure which causes changes in San Joaquin kit fox dispersal, it is unlikely that the species would occur within the Project Area.

Alameda whipsnake (*Masticophis lateralis euryxanthus*). Federal Threatened Species, State Threatened Species. Unlikely. The range of the Alameda whipsnake is restricted to the inner Coast Range in western and central Contra Costa and Alameda Counties (USFWS 2000). The physical and biological features for Alameda whipsnake include: scrub/shrub communities with a mosaic of open and closed canopy; woodland or annual grassland plant communities contiguous to lands containing scrub communities; lands containing rock outcrops, talus, and small mammal burrows within or in proximity to scrub communities; and accessible dispersal habitat (USFWS 2000). Rock outcroppings are important, as they are a favored location for lizard prey. Whipsnakes frequently venture into adjacent habitats, including grassland, oak savanna, and occasionally oak-bay woodland.

The Project Area does not contain the scrub communities associated with this species. The vegetation has been regularly disced, resulting in a lack of vegetative cover and undisturbed mammal burrows. In addition, the Project Area is surrounded by residential and commercial development and roadways on all sides, making it unlikely for Alameda whipsnake to disperse through the Project Area to access adjacent habitat. Due to the lack of suitable habitat and surrounding development, it is unlikely for Alameda whipsnake to occur within the Project Area.

Longhorn fairy shrimp (*Branchinecta longiantenna*), Federal Endangered Species. Unlikely. The longhorn fairy shrimp was listed as Federal Threatened on September 19, 1994 (59 FR 48136-48153). Critical Habitat for this species was designated on August 6, 2003 (68 FR 46683-46732). The longhorn fairy shrimp is currently covered under the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon issued December 15, 2005, and the EACCS (EACCS Steering Committee 2010). Longhorn fairy shrimp occurrences are rare and highly disjunct with largely unknown specific pool characteristics (USFWS 2003). The nearby Altamont pass subunits in the northern range of the species occur within clear depression pools in sandstone outcrops (Eriksen and Belk 1999; CDFW 2022a). Other populations in the middle and southern range of the species occur in loam and shallow alkaline soil, respectively (USFWS 2006). Longhorn fairy shrimp in Contra Costa and Alameda Counties are primarily reported from water pooled in sandstone depressions. Vernal pools in other parts of California that support these fairy shrimp are either loam, sandy loam, or shallow alkaline pools (USFWS 1994). The seasonal pool habitat is subject to seasonal variations; including duration of inundation and presence or absence of water at specific times of the year (USFWS 1994). The longhorn fairy shrimp is capable of living in vernal pools of relatively short duration (pond 6 to 7 weeks in winter and 3 weeks in spring) (Eriksen and Belk 1999).

The Project Area does not contain clear depression pools in sandstone outcrops that typically support longhorn fairy shrimp in this portion of its range. In addition, the Project Area is not designated critical habitat for this species. The nearest recorded occurrence of this species is over 5 miles from the Project Area (EACCS Steering Committee 2010). It is unlikely that longhorn fairy shrimp will occur within the Project Area.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*). Federal Threatened Species. Unlikely. The vernal pool fairy shrimp (VPFS) was listed as Federally Threatened September 19, 1994 (59 FR 48136-48153). This species ranges in size from 10.9 to 25.0 millimeters, has an elongate body, large stalked compound eyes, no carapace, and 11 pairs of swimming legs (Eng et al. 1990). VPFS are found from Jackson County in Oregon, throughout the Central Valley, and west to the central Coast Ranges. VPFS occurs mostly in vernal pools; however, it is also found in a variety of both natural and artificial wetland habitats, such as alkali pools, ephemeral drainages, stock ponds, roadside ditches, vernal swales, and rock outcrop pools (Helm 1997). Occupied wetlands are typically small (ranging from 0.05 to 0.1 acre in size) and pond for a relatively short duration (3 to 4 weeks) (Eriksen and Belk 1999). This species is susceptible to the same activities that threaten other vernal pool invertebrates, including the conversion of vernal pool habitat to agricultural and urban development and stochastic extinction due to the small numbers and isolated nature of remaining populations (USFWS 2006). Any activities that damage the clay and/or hardpan which supports ponding, fill wetlands, and alter or destroy the watershed that conveys flow into suitable ponds pose a threat to this species. Additional threats include non-native plants, degradation of the surrounding upland habitat, and introduction of exotic fish species (such as *Gambusia* spp.) into suitable habitats. Furthermore, activities discouraging or preventing waterfowl and/or wading animals from feeding in occupied water bodies restricts gene flow between populations (Jones and Stokes 2005). Habitat fragmentation can isolate and reduce population size. Small or isolated populations are more susceptible to extinction from random environmental disturbance. Recolonization opportunities are diminished when physical barriers isolate populations from one another or inhibit the transport of cysts (Jones and Stokes 2006).

The combination of regular site disturbance (e.g. discing), surrounding development and lack of occurrences within the vicinity of the Project Area make it unlikely that this species would be present within the Project Area. In addition, the Project Area is not designated critical habitat for this species. Lastly, the nearest occurrence of this species is more than 6 miles from the Project Area (CDFW 2022b). Therefore, given the level of development within the Project Area, level of surrounding development and distance to known occurrences, this species is unlikely to be present.

Callippe Silverspot Butterfly (*Speyeria callippe callippe*), Federal Endangered. Unlikely. The Callippe silverspot was historically found around the eastern, southern, and western sides of San Francisco Bay, but is now limited to just seven sites. The Callippe silverspot is found in native grassland and adjacent habitats. Females lay their eggs on the dry remains of the perennial larval food plant, Johnny-jump- up (*Viola pedunculata*). Threats to this species include introduced plant species, grazing by cattle, mining, or heavy recreational use (Black and Vaughan 2005).

The Project Area contains disturbed grassland unlikley to support the larval host plant and is outside of the range of the callippe silverspot butterfly according to the EACCS (EACCS Steering Committee 2010). It is unlikely for this species to occur within the Project Area.

4.5 Critical Habitat

The Project Area is not located within any units of designated critical habitat (USFWS 2022c, EACCS Steering Committee 2010).

4.6 Wildlife Movement Corridors

Wildlife movement between suitable habitat areas typically occurs via wildlife movement corridors. The primary function of wildlife corridors is to connect two larger habitat blocks, also referred to as core habitat areas (Beier 1992, Soulé and Terborgh 1999). The Project Area does not fall within any previously identified wildlife corridors or natural habitat blocks (Spencer et al 2010). In addition, the Project Area is surrounded on all sides by roadways, two of which are multi-lane roadways (Highway 580 – 8 lanes, Dublin Boulevard – 6 lanes, Central Parkway – 4, Gleason Drive – 4 lanes, and Tassajara Road – 6 lanes). There are several vacant lots west of Arnold Road. However, there is greater than 1 mile of residential and commercial development separating the Project Area from the vacant lots, preventing dispersal into the Project Area. The roadways and surrounding infrastructure create an anthropogenic barrier to dispersal around the Project Area and precludes the primary function of a habitat corridor, to link two separated but occupied habitats. Therefore, given that the Project Area is bounded by urban development the Project Area does not function as a wildlife corridor connecting two or more areas of occupied habitat.

5.0 POTENTIAL IMPACTS AND MITIGATION

5.1 Significance Threshold Criteria

Pursuant to Appendix G, Section IV of the State CEQA Guidelines, a project would have a significant impact on biological resources if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,

f) Conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

This report uses these thresholds in the analysis of impacts and determination of the significance of those impacts. The assessment of impacts under CEQA is based on the change caused by the project relative to the CEQA baseline, which in this case are the existing conditions at the site. In applying CEQA Appendix G, the terms "substantial" and "substantially" are used as the basis for significance determinations in many of the thresholds but are not defined qualitatively or quantitatively in CEQA or in technical literature. In some cases, the determination of a substantial adverse effect (i.e., significant impact) may be relatively straightforward. For instance, "take" or other direct adverse impacts to special-status species listed under the CESA or ESA or their habitat without implementation of appropriate mitigation is considered a significant impact. In other cases, the determination of a substantial adverse effect (i.e., significant impact) requires application of best professional judgment based on knowledge of site conditions as well as the ecology and physiology of biological resources present in a given area and the type of effect that would be caused by a project. Determinations of whether or not project activities would result in a substantial adverse effect to biological resources are discussed in the following sections for sensitive biological communities, special-status plant species, and special-status wildlife species.

Regarding items a, b, and c, above, the project would convert existing biological communities that provide habitat to special-status species, and project activities would create a potential to have adverse impacts on special-status plant and animal species that may be present in the Project Area. Impacts BIO-1 through BIO-4 discuss potential impacts associated with these items.

Regarding item d, above, Impact BIO-5 discusses the project's potential to interfere with wildlife movement.

Regarding item e, above, no protected trees are present within the Project Area, and therefore the project would not impact protected trees. The assessment of other local policies or ordinances protecting biological resources is incorporated into the impact analyses below.

Regarding item f, above, no HCPs are applicable within the Project Area. Thus, the project would not conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2 Potential Impacts and Recommended Mitigation Measures

5.2.1 Summary of No and/or Beneficial Impacts

There are no adopted Habitat Conservation or Natural Community Conservation Plans applicable to the project site, and no protected trees are present within the Project Area.

5.2.2 Impacts of the Proposed Project

Impact BIO-1: The Project will have a substantial adverse effect on special-status plant and wildlife species (Class II).

Three special-status plant species and three special-status wildlife species have moderate or high potential to occur within or are present within the project site.

Special-Status Plant Species

Of the 59 statewide special-status plant species known to occur in the Project Area, Congdon's tarplant, San Joaquin spearscale, and the locally rare species needle microseris, smooth boisduvalia, and wooly marbles were observed within the Project Area. In addition, and saline clover has moderate potential to occur in the Project Area, but site visits completed to date were not timed to coincide with the blooming period for this species. Most of the species found in the review of background literature occur in high-quality vernal pool habitat, in different plant communities than those present in the Project Area, often at higher elevations, or in high-quality grassland habitat. Because of the history of disturbance and change in hydrologic regime, the grassland and potential seasonal wetlands in the project site are likely too low in quality to support other special-status plant species.

The proposed project would have a significant impact on Congdon's tarplant, San Joaquin spearscale, and needle microseris. Impacts could occur through direct removal of populations through grading and fill placement, changed land management practices in occupied areas following construction, changes in hydrology, and reduction of populations below viable sizes to sustain on-site occurrences. These are potentially significant impacts. Smooth boisduvalia and wooly marbles were observed as isolated individuals (two and one individual observed, respectively) within the Project Area. Given the small number of individuals observed, these occurrences do not represent viable long-term populations, and impacts resulting from the project are less than significant.

For saline clover, special-status plant surveys will be required prior to the start of construction to confirm the presence or absence of this species (MM BIO-1.1). For special status plant species occurring within the Project Area, MM BIO-1.2 would avoid or minimize impacts to these special-status plant species to a less-than-significant level (Class II).

Mitigation for Impact BIO-1

MM BIO-1.1: Special-Status Plant Surveys

Prior to any vegetation removal or ground-disturbing activities, a focused survey shall be conducted to determine the presence of saline clover, or other special-status plant species with potential to occur within the Project Area. Surveys shall be conducted in accordance with the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018). These guidelines require special-status plant surveys to be conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Field surveys shall be scheduled to coincide with known blooming periods, and/or

during periods of physiological development that are necessary to identify the plant species of concern. If no special-status plant species are found, then the project will not have any impacts to the species and no additional mitigation measures are necessary. If any of the species are found on-site and cannot be avoided, the following measures shall be required:

MM BIO-1.2: Special-Status Plants Avoidance and Mitigation

If the survey determines that Congdon's tarplant, San Joaquin spearscale, or other special-status plant species are present within or adjacent to the proposed project site, direct and indirect impacts of the project on the species shall be avoided where feasible through the establishment of activity exclusion zones, where no ground-disturbing activities shall take place, including construction of new facilities, construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species shall be established prior to construction activities around each occupied habitat site, the boundaries of which shall be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones shall not be required if no construction-related disturbances would occur within 250 feet of the occupied habitat site.

If exclusion zones and avoidance of impacts on Congdon's tarplant, San Joaquin spearscale, or other special-status species within the Project Area are not feasible, then the loss of individuals or occupied habitat of special-status plants shall be compensated for through the acquisition, protection, and subsequent management of other existing occurrences. Before the implementation of compensation measures, the project's applicant shall provide detailed information to the lead agency on the quality of preserved habitat, location of the preserved occurrences, provisions for protecting and managing the areas, the responsible parties involved, and other pertinent information that demonstrates the feasibility of the compensation. A mitigation plan identifying appropriate mitigation ratios at a minimum ratio of 1:1 shall be developed in consultation with, and approved by the City prior to the commencement of any activities that would impact special-status plant species which occur within the Project Area. A mitigation plan may include but is not limited to the following: the acquisition of off-site mitigation areas presently supporting the Congdon's tarplant, San Joaquin spearscale, or other special-status species within the Project Area, purchase of credits in a mitigation bank that is approved to sell credits for special-status plants, or payment of in-lieu fees to a public agency or conservation organization (e.g., a local land trust) for the preservation and management of existing populations of special-status plants.

Special-Status Wildlife Species

Of the 38 special-status wildlife species known to occur in the Project Area, three were determined to have moderate potential to occur in the project site, namely western burrowing owl, loggerhead shrike, and white-tailed kite, the latter two being included below as potential nesting birds. Most of the species found in the review of background literature occur in habitats not found in the project site. Habitat suitability for many grassland-associated species in the project site has been reduced by repeated discing of the site, surrounding development, and major roads acting as dispersal barriers. These factors have also dramatically reduced or eliminated the potential for riparian and aquatic species to occur within the project site. Similarly, all seasonal wetland habitat suitable for vernal pool crustaceans appears to have been eliminated through repeated discing. Bats are also unlikely to roost within the project site, due to the lack of suitable thermal conditions and roost structures present. Specific impacts to special-status wildlife species are discussed as follows.

Western Burrowing Owl

Burrowing owl has been documented within the project site, and there is a high potential for this species to inhabit ground squirrel burrows present on-site. Project activities, including vegetation removal and ground disturbance, may affect this species by causing auditory, vibratory, and/or visual disturbance of a sufficient level to cause abandonment of the site or active nests, or by removing foraging habitat or access to burrows, which are required to support nesting.

Although this species was not observed during site visits, the project site has the continued potential to support this species; the project may result in a potentially significant impact under CEQA. Implementation of MM BIO-1.2: Burrowing Owl Avoidance and Exclusion Measures would reduce this potential impact to a less-than-significant level (Class II).

Nesting Birds

The project has the potential to impact special-status and non-special-status native nesting birds protected by the MBTA and/or CFGC. Baseline protections for most native birds under federal law and state codes include active nests (those with eggs or young).

Project activities, such as vegetation removal and ground disturbance associated with development, would have the potential to affect these species by causing direct mortality of eggs or young, or by causing auditory, vibratory, and/ or visual disturbance of a sufficient level to cause abandonment of an active nest. If project activities occur during the nesting season, which generally extends from February 1 through August 31, nests of both special-status and non-special-status native birds could be impacted by construction and other ground disturbing activities. Implementation of MM BIO-1.3: Nesting Bird Avoidance Measures would reduce this potential impact to a less-than-significant level (Class II).

MM BIO-1.3: Burrowing Owl Avoidance and Exclusion Measures

Prior to obtaining the first site grading, building, or other permit for development activities involving ground disturbance, the project applicant shall prepare the documentation acceptable to the Community Development Department that demonstrates compliance with the following:

Conduct a Burrowing Owl Survey

Prior to the first ground-disturbing activities, the project applicant shall retain a qualified biologist to conduct two pre-construction surveys for the western burrowing owl for the project site.

The first survey shall be conducted no more than 14 days prior to ground-disturbing activities and the second survey shall be conducted within 48 hours of initial ground disturbance. The surveys shall be conducted in accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation. If the surveys determine owls are present, then the measures set forth below shall be followed.

Implement Avoidance Measures

If direct impacts to owls can be avoided, prior to the first ground-disturbing activities, the project applicant shall implement the following avoidance measures during all phases of construction to reduce or eliminate potential impacts to California burrowing owls.

- A pre-construction survey shall be performed prior to start of ground disturbance activities. This survey will occur regardless of the time of year, as burrowing owls may use the project site during the non-nesting season. The survey shall be performed

according to the standards set forth by the Staff Report on Burrowing Owl Mitigation (CDFG 2012).

- The project site should be managed to prevent burrowing owl from occupying the site prior to any project activities

- All suitable burrows should be closed by hand once it has been determined that the burrow is unoccupied.

- Maintenance of the property to ensure burrows are not rebuilt will be necessary throughout the year to preclude the presence of burrowing owl and suitable burrowing owl habitat. Maintenance should occur approximately every 8 weeks, and burrows should be inspected prior to closure to ensure no burrowing owl are present. The frequency of burrow closure may be adjusted based upon ground squirrel and burrow reestablishment progress.

- The debris within the project site should be removed.

- If discing is chosen as a preferred method for burrow maintenance, it is recommended that any sensitive biological resources (populations of special-status plants, wetland boundaries and any active bird nests, etc.) be flagged by a qualified biologist and avoided.

Conduct Burrow Exclusion

If avoidance of burrowing owl or their burrows is not possible, prior to the first ground-disturbing activities, the project applicant, in consultation with the CDFW, shall prepare a Burrowing Owl Relocation Plan as indicated and following the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Monitoring of the excluded owls shall be carried out as per the Staff Report on Burrowing Owl Mitigation (CDFG 2012).

Prepare and Implement a Mitigation Plan

If avoidance of burrowing owl or their burrows is not possible and project activities may result in impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat, the project applicant shall consult with the CDFW and develop a detailed mitigation plan that shall include replacement of impacted habitat, number of burrows, and burrowing owl at a ratio approved by CDFW, but no less than a 1:1 ratio of impacted habitat to mitigated habitat. The mitigation plan shall be based on the requirements set forth in Appendix A of the 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012), and the plan shall be reviewed and accepted by CDFW and the City prior to the first ground-disturbing activities.

MM BIO-1.4: Nesting Bird Avoidance Measures

Prior to obtaining the first site, building or other permit for development activities relevant to the timing identified below, the project Applicant shall prepare the documentation acceptable to the Community Development Department that demonstrates compliance with the following:

Pre-construction Breeding Bird Surveys

No more than 14 days prior to initial ground disturbance and vegetation removal during the nesting season (February 1 to August 31), the project Applicant shall retain a qualified biologist to perform pre-construction breeding bird surveys. If any nests are found, they shall be flagged and protected with a suitable buffer. Buffer distance would vary based on species and conditions at the project

site, but is usually at least 50 feet, and up to 250 feet for raptors. Note that this mitigation measure does not apply to ground disturbance and vegetation removal activities that occur outside of the nesting season (September 1 to January 31).

Impact BIO-2: Have a substantial adverse effect on sensitive natural communities or riparian habitat (Class III).

The project site contains 76.24 acres of non-sensitive ruderal habitat comprised primarily of disced and mowed areas of disturbed vegetation. These biological communities are not considered sensitive natural communities or riparian habitat and therefore impacts would be less than significant.

Impact BIO-3: Have a substantial adverse effect on wetlands or jurisdictional features (Class II).

The project site contains 0.66 acre of seasonal wetlands. These wetlands occur as five separate topographic depressions and one flat-to-sloping area where seasonal inundation and/or saturation occurs during the rainy season. Four wetlands had varying levels of apparent regular disturbance, including discing and use as a parking area for vehicles.

Vegetation within these seasonal wetlands is sometimes sparse and is dominated by a mixture of predominantly non-native grasses and forbs, all of which are adapted to high levels of disturbance. Commonly observed species include Italian ryegrass, hyssop loosestrife, and curly dock.

Given the highly altered and regularly disturbed nature of the project site, as well as the lack of a dominance by or characteristic presence of species associated with vernal pools, the wetlands were classified as seasonal wetlands rather than vernal pools.

Development of the project site as proposed would result in direct and permanent impacts to 0.66 acre of seasonal wetlands. The direct loss of these wetland features is considered a potentially significant impact under CEQA. These wetlands are likely within the jurisdiction of the Corps under Section 404 of the CWA and the RWQCB under Section 401 of the CWA and the Porter-Cologne Act. Implementation of MM BIO-3.1: Design Development Area to Minimize Effects to Preserved Wetland, and Obtain and Comply with Resource Agency Approvals would reduce this potentially significant impact to wetlands to a less-than-significant level (Class II).

Mitigation for Impact BIO-3

MM BIO-3: Wetland Mitigation Plan

Prior to obtaining the first site grading or building permit for development activities involving ground disturbance, the project applicant shall prepare the documentation acceptable to the Community Development Department that demonstrates compliance with the following:

The project applicant shall acquire the appropriate applicable permit(s) (e.g. Section 404, Section 401) from the respective regulating agency(s) (i.e. Corps and/or RWQCB). A wetland mitigation plan shall be prepared that will establish suitable compensatory mitigation based on the concept of no net loss of wetland habitat values or acreages, to the satisfaction of the regulatory agencies. Specifically, a wetland mitigation plan shall be developed and implemented that includes creation, restoration, and/or enhancement of off-site wetlands prior to project ground disturbance. Mitigation areas shall be established in perpetuity through dedication of a conservation easement (or similar mechanism) to an approved environmental organization and payment of an endowment for the long-term management of the site. The mitigation plan shall be subject to the approval of the applicable regulatory agency (Corps and/or RWQCB).

Impact BIO-4: Have a substantial adverse effect on wildlife movement. (Class III).

The project site is surrounded on four sides by roadways, two of which are multi-lane roadways (Highway 580 – 8 lanes, Dublin Boulevard – 6 lanes, Central Parkway – 4, Gleason Drive – 4 lanes, and Tassajara Road – 6 lanes). In addition, there are several vacant lots west of Arnold Road. The roadways and surrounding infrastructure create an anthropogenic barrier to dispersal around the project site and precludes the primary function of a habitat corridor, to link two separated but occupied habitats. Therefore, given that the project site is bounded by urban development, the project site does not function as a wildlife corridor connecting two or more areas of occupied habitat and impacts would be less than significant.

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Class III).

Heritage Tree Ordinance

The project site does not contain any oak, bay, cypress, maple, redwood, buckeye or sycamore trees that are 24 inches in diameter as measured 4.5 feet above natural grade. Therefore, the project would not be subject to the City's Heritage Tree Ordinance, and no significant impacts would occur.

East Alameda County Conservation Strategy

The project site is in Conservation Zone 3 (CZ-3) of the EACCS. The EACCS is a guidance document that is used by the City for public projects, but compliance is not mandated for private development as it is not an adopted or approved plan that requires a consistency determination under CEQA. Therefore, no conflicts would occur and impacts would be less than significant.

5.2.3 Cumulative Impact Analysis

The geographic extent for the analysis of cumulative impacts related to biological resources includes the City of Dublin, which contains suitable and occupied habitat of Congdon's tarplant, San Joaquin spearscale, saline clover, locally rare plant species, western burrowing owl, loggerhead shrike, and white-tailed kite. This area may also support core, critical, or unique populations essential to recovery and long-term survival of these species.

Impact BIO-6: Contribute to cumulatively considerable impacts on biological resources (Class II).

As stated above, the project would not result in a net loss of riparian habitat and would not result in a loss of any heritage trees.

Past, present, and reasonably foreseeable future projects would affect 0.66 acres of seasonal wetlands, and the project would considerably contribute to these significant cumulative impacts. Implementation of MM BIO-3.1 would reduce the project's contribution to less-than-cumulatively considerable.

The project's impacts to Congdon's tarplant, San Joaquin spearscale, saline clover, needle microseris, western burrowing owl, loggerhead shrike, and white-tailed kite would be reduced through adherence to MM BIO-1.1. MM BIO-1.2, and MM BIO-1.3. Although past, present, and reasonably foreseeable future projects may result in impacts to special-status plants (Congdon's tarplant, San Joaquin spearscale, saline clover) and special-status wildlife (western burrowing owl, loggerhead shrike, and white-tailed kite), such impacts would be site-specific and could be mitigated through adherence to similar standard mitigation. As such, cumulative impacts to special-species plants and wildlife species would be less than significant.

5.2.4 Level of Significance after Mitigation

The level of significance after mitigation will be less than significant.

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Appendix A

List of Plant and Wildlife Species Observed in the Project Area

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Appendix A-1. List of Plant Species Observed in the Project Area.

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Anacardiaceae	*Pistacia chinensis*	Chinese pistache	non-native	tree	-	-	-	-
Apiaceae	*Foeniculum vulgare*	Fennel	non-native (invasive)	perennial herb	-	High	-	-
Apiaceae	*Torilis arvensis*	Field hedge parsley	non-native (invasive)	annual herb	-	Moderate	-	-
Arecaceae	*Washingtonia robusta*	Washington fan palm	non-native (invasive)	tree	-	Moderate	FACW	-
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	Coyote brush	native	shrub	-	-	-	-
Asteraceae	*Carduus pycnocephalus* ssp. *pycnocephalus*	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-	-
Asteraceae	*Carduus tenuiflorus*	Slender flowered thistle	non-native (invasive)	annual herb	-	Limited	-	-
Asteraceae	*Centaurea solstitialis*	Yellow starthistle	non-native (invasive)	annual herb	-	High	-	-
Asteraceae	*Centromadia parryi* ssp. *congdonii*	Congdon's tarplant	native	annual herb	Rank 1B.1	-	FACW	*A2

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Asteraceae	*Cirsium vulgare*	Bullthistle	non-native (invasive)	perennial herb	-	Moderate	FACU	-
Asteraceae	*Dittrichia graveolens*	Stinkwort	non-native (invasive)	annual herb	-	Moderate	-	-
Asteraceae	*Erigeron bonariensis*	Flax-leaved horseweed	non-native	annual herb	-	-	FACU	-
Asteraceae	*Erigeron canadensis*	Canada horseweed	native	annual herb	-	-	FACU	-
Asteraceae	*Helminthotheca echioides*	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC	-
Asteraceae	*Lactuca serriola*	Prickly lettuce	non-native	annual herb	-	-	FACU	-
Asteraceae	*Microseris campestris*	Needle microseris	native	annual herb	-	-	-	A1
Asteraceae	*Psilocarphus oregonus*	Woolly marbles	native	annual herb	-	-	OBL	A2
Asteraceae	*Senecio vulgaris*	Common groundsel	non-native	annual herb	-	-	FACU	-
Asteraceae	*Silybum marianum*	Milk thistle	non-native (invasive)	annual, perennial herb	-	Limited	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Asteraceae	*Soliva sessilis*	South American soliva	non-native	annual herb	-	-	FACU	-
Asteraceae	*Sonchus asper* ssp. *asper*	Sow thistle	non-native	annual herb	-	-	FAC	-
Asteraceae	*Sonchus oleraceus*	Sow thistle	non-native	annual herb	-	-	UPL	-
Asteraceae	*Tragopogon porrifolius*	Salsify	non-native	perennial herb	-	-	-	-
Boraginaceae	*Amsinckia intermedia*	Common fiddleneck	native	annual herb	-	-	-	-
Boraginaceae	*Amsinckia lycopsoides*	Tarweed fiddleneck	native	annual herb	-	-	-	B
Boraginaceae	*Plagiobothrys stipitatus* var. *micranthus*	Common stipitate popcornflower	native	annual herb	-	-	FACW	-
Boraginaceae	*Plagiobothrys stipitatus* var. *stipitatus*	Stipitate popcornflower	native	annual herb	-	-	FACW	C
Brassicaceae	*Brassica nigra*	Black mustard	non-native (invasive)	annual herb	-	Moderate	-	-
Brassicaceae	*Capsella bursa-pastoris*	Shepherd's purse	non-native	annual herb	-	-	FACU	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Brassicaceae	*Hirschfeldia incana*	Short-podded mustard	non-native (invasive)	perennial herb	-	Moderate	-	-
Brassicaceae	*Lepidium nitidum*	Shining pepper grass	native	annual herb	-	-	FAC	-
Brassicaceae	*Raphanus sativus*	Radish	non-native (invasive)	annual, biennial herb	-	Limited	-	-
Chenopodiaceae	*Extriplex joaquinana*	San Joaquin spearscale	native	annual herb	Rank 1B.2	-	FACU	*A2
Chenopodiaceae	*Salsola australis*	Russian thistle	non-native	annual herb	-	-	-	-
Convolvulaceae	*Convolvulus arvensis*	Field bindweed	non-native	perennial herb, vine	-	-	-	-
Convolvulaceae	*Cressa truxillensis*	Alkali weed	native	perennial herb	-	-	FACW	-
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	native	perennial grasslike herb	-	-	FACW	-
Euphorbiaceae	*Croton setiger*	Turkey-mullein	native	perennial herb	-	-	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Euphorbiaceae	*Euphorbia peplus*	Petty spurge	non-native	annual herb	-	-	-	-
Fabaceae	*Acacia melanoxylon*	Blackwood acacia	non-native (invasive)	tree	-	Limited	-	-
Fabaceae	*Lupinus bicolor*	Lupine	native	annual, perennial herb	-	-	-	-
Fabaceae	*Medicago polymorpha*	California burclover	non-native (invasive)	annual herb	-	Limited	FACU	-
Fabaceae	*Trifolium hirtum*	Rose clover	non-native (invasive)	annual herb	-	Limited	-	-
Fabaceae	*Vicia sativa*	Spring vetch	non-native	annual herb, vine	-	-	FACU	-
Fagaceae	*Quercus agrifolia* var. *agrifolia*	Coast live oak	native	tree	-	-	-	B
Frankeniaceae	*Frankenia salina*	Alkali heath	native	perennial herb	-	-	FACW	-
Geraniaceae	*Erodium botrys*	Big heron bill	non-native	annual herb	-	-	FACU	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	non-native (invasive)	annual herb	-	Limited	-	-
Geraniaceae	*Erodium moschatum*	Whitestem filaree	non-native	annual herb	-	-	-	-
Geraniaceae	*Geranium dissectum*	Wild geranium	non-native (invasive)	annual herb	-	Limited	-	-
Geraniaceae	*Geranium molle*	Crane's bill geranium	non-native	annual, perennial herb	-	-	-	-
Juglandaceae	*Juglans hindsii*	Northern California black walnut	native	tree	-	-	FAC	A2[#]
Lamiaceae	*Lamium amplexicaule*	Henbit	non-native	annual herb	-	-	-	-
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	non-native (invasive)	annual, perennial herb	-	Limited	OBL	-
Lythraceae	*Punica granatum*	Pomegranate	non-native	shrub	-	-	-	-
Malvaceae	*Malva cf. nicaeensis*	Bull mallow	non-native	annual herb	-	-	-	-
Malvaceae	*Malvella leprosa*	Alkali mallow	native	perennial herb	-	-	FACU	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Montiaceae	*Calandrinia menziesii*	Red maids	native	annual herb	-	-	FACU	-
Moraceae	*Ficus carica*	Common fig	non-native (invasive)	tree	-	Moderate	FACU	-
Myrsinaceae	*Lysimachia arvensis*	Scarlet pimpernel	non-native	annual herb	-	-	FAC	-
Oleaceae	*Ligustrum* sp.	Privet	non-native	tree, shrub	-	-	-	-
Oleaceae	*Olea europaea*	Olive	non-native (invasive)	tree, shrub	-	Limited	-	-
Onagraceae	*Epilobium brachycarpum*	Willow herb	native	annual herb	-	-	-	-
Onagraceae	*Epilobium campestre*	Smooth boisduvalia	native	annual herb	-	-	OBL	A1
Onagraceae	*Epilobium ciliatum*	Slender willow herb	native	perennial herb	-	-	FACW	-
Onagraceae	*Oenothera cf. elata*	Evening-primrose	native	perennial herb	-	-	FACW	-
Oxalidaceae	*Oxalis pes-caprae*	Bermuda buttercup	non-native (invasive)	perennial herb	-	Moderate	-	-
Plantaginaceae	*Kickxia spuria*	Fluellin	non-native	perennial herb	-	-	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Plantaginaceae	*Plantago lanceolata*	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC	-
Plantaginaceae	*Veronica persica*	Bird's eye speedwell	non-native	annual herb	-	-	-	-
Poaceae	*Avena barbata*	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-	-
Poaceae	*Bromus diandrus*	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-	-
Poaceae	*Bromus hordeaceus*	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU	-
Poaceae	*Bromus madritensis*	Foxtail brome	non-native	annual grass	-	-	UPL	-
Poaceae	*Bromus rubens*	Red brome	non-native (invasive)	annual grass	-	High	UPL	-
Poaceae	*Cynodon dactylon*	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU	-
Poaceae	*Distichlis spicata*	Salt grass	native	perennial grass	-	-	FAC	-
Poaceae	*Elymus glaucus*	Blue wildrye	native	perennial grass	-	-	FACU	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Poaceae	*Elymus triticoides*	Beardless wild rye	native	perennial grass	-	-	FAC	-
Poaceae	*Festuca bromoides*	Brome fescue	non-native	annual grass	-	-	FACU	-
Poaceae	*Festuca myuros*	Rattail sixweeks grass	non-native (invasive)	annual grass	-	Moderate	FACU	-
Poaceae	*Festuca perennis*	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC	-
Poaceae	*Hordeum marinum* ssp. *gussoneanum*	Barley	non-native (invasive)	annual grass	-	Moderate	FAC	-
Poaceae	*Hordeum murinum*	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU	-
Poaceae	*Phalaris aquatica*	Harding grass	non-native (invasive)	perennial grass	-	Moderate	FACU	-
Poaceae	*Poa annua*	Annual blue grass	non-native	annual grass	-	-	FAC	-
Poaceae	*Polypogon monspeliensis*	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Polygonaceae	*Polygonum aviculare*	Prostrate knotweed	non-native	annual, perennial herb	-	-	FAC	-
Rosaceae	*Cotoneaster* sp.	Cotoneaster	non-native	shrub	-	-	-	-
Rosaceae	*Prunus cerasifera*	Cherry plum	non-native (invasive)	tree	-	Limited	-	-
Rosaceae	*Prunus dulcis*	Almond	non-native	tree	-	-	-	-
Rosaceae	*Pyracantha* sp.	Firethorn	non-native	shrub	-	-	-	-
Tamaricaceae	*Tamarix cf. ramosissima*	Tamarisk	non-native	tree, shrub	-	High	FAC	-
Ulmaceae	*Ulmus* sp.	Elm	non-native	tree	-	-	-	-
Vitaceae	*Vitis vinifera*	Cultivated grape	non-native	vine, shrub	-	-	-	-

- All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2022]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2022]

[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: April 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: April 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/; most recently accessed: April 2022.**

OBL: Almost always found in wetlands; >99% frequency
FACW: Usually found in wetlands; 67-99% frequency
FAC: Equally found in wetlands and uplands; 34-66% frequency
FACU: Usually not found in wetlands; 1-33% frequency
UPL: Almost never found in wetlands; >1% frequency
NL: Not listed, assumed almost never found in wetlands; >1% frequency
NI: No information; not factored during wetland delineation

[4] **Lake, D [compiler]. 2022. Rare, Unusual, and Significant Plants of Alameda and Contra Costa Counties (web application). Berkeley, California: East Bay Chapter of the California Native Plant Society. Online at: https://ruspdb.ebcnps.org/cgi-bin/ebrare/ebrare.cgi; most recently accessed: April 2022.**

A1: Locally Rare Species. Species occurring in two or fewer regions in Alameda and Contra Costa counties
A1x: Locally Rare Species. Species presumed extirpated from Alameda and Contra Costa counties
A1?: Locally Rare Species. Species possibly occurring in Alameda and Contra Costa counties. Identification or location is uncertain
A2: Locally Rare Species. Plants occurring in three to five regions or are otherwise threatened in Alameda and Contra Costa counties.
B: High Priority Watch List. Plants occurring in six to nine regions in Alameda and Contra Costa counties.
C: Second Priority Watch List. Plants occurring in ten to fifteen regions in Alameda and Contra Costa counties.
*: Ranks preceded by an asterisk (e.g. "*A1") also have a statewide rarity ranking
#: Ornamental plantings are not considered locally rare. The individuals in the Project Area are ornamental plantings

Appendix A-2. Wildlife Species Observed in the Project Area.

Common Name (status if applicable)	**Species**
BIRDS	
White-tailed kite	*Elanus leucurus*
Great egret	*Ardea alba*
American crow	*Corvus brachyrhynchos*
Red-tailed hawk	*Buteo jamaicensis*
Red-shouldered hawk	*Buteo lineatus*
Rock pigeon	*Columba livia*
Red-winged blackbird	*Agelaius phoeniceus*
American kestrel	*Falco sparverius*
White-crowned sparrow	*Zonotrichia leucophrys*
Song sparrow	*Melospiza melodia*
Eurasian collared dove	*Streptopelia decaocto*
Black phoebe	*Sayornis nigricans*
Say's phoebe	*Sayornis saya*
MAMMALS	
UID mouse	Unknown species
Black-tailed jackrabbit	*Lepus californicus*
California ground squirrel	*Otospermophilus beecheyi*
Coyote	*Canis latrans*
REPTILES	
Western fence lizard	*Sceloporus occidentalis*

Appendix B

Potential for Occurrence of Special Status Species in the Project Area

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Appendix B. Potential for special-status species to occur in the Project Area. List compiled from U.S. Fish and Wildlife Service IPaC Trust Report (USFWS 2022b), a search of the California Department of Fish and Wildlife Natural Diversity Database (CDFW 2022a) and the California Native Plant Society Inventory of Rare and Endangered Plants (CNPS 2022b) for the Dublin USGS 7.5' quadrangle and eight surrounding quadrangles (USGS 2021a-i).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Plants				
Santa Clara thorn-mint *Acanthomintha lanceolata*	Rank 4.2	Chaparral (often serpentine), cismontane woodland, coastal scrub. Elevation ranges from 260 to 3935 feet (80 to 1200 meters). Blooms Mar-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitats or serpentine substrate.	No further actions are recommended for this species.
large-flowered fiddleneck *Amsinckia grandiflora*	FE, SE, Rank 1B.1	Cismontane woodland, valley and foothill grassland. Elevation ranges from 885 to 1805 feet (270 to 550 meters). Blooms (Mar)Apr-May.	**No Potential.** This species is restricted to very steep, north-facing slopes, and such habitat is absent from the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 5 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
California androsace *Androsace elongata ssp. acuta*	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.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
slender silver moss *Anomobryum julaceum*	Rank 4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 325 to 3280 feet (100 to 1000 meters).	**No Potential.** The Project Area does not contain broadleafed upland forest, lower montane coniferous forest, or North Coast coniferous forest habitats. In addition, the Project Area is highly disturbed as a result of historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Mt. Diablo manzanita *Arctostaphylos auriculata*	Rank 1B.3	Chaparral (sandstone), cismontane woodland. Elevation ranges from 440 to 2135 feet (135 to 650 meters). Blooms Jan-Mar.	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.
Contra Costa manzanita *Arctostaphylos manzanita ssp. laevigata*	Rank 1B.2	Chaparral (rocky). Elevation ranges from 1410 to 3610 feet (430 to 1100 meters). Blooms Jan-Mar(Apr).	**No Potential.** The Project Area does not contain chaparral habitat or rocky substrate.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
alkali milk-vetch *Astragalus tener var. tener*	Rank 1B.2	Playas, valley and foothill grassland (adobe clay), vernal pools. Elevation ranges from 0 to 195 feet (1 to 60 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains mesic areas and seasonally inundated depressions and alkaline substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
heartscale *Atriplex cordulata var. cordulata*	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland (sandy). Elevation ranges from 0 to 1835 feet (0 to 560 meters). Blooms Apr-Oct.	**Unlikely.** The Project Area does not contain chenopod scrub or meadows and seeps habitat or sandy substrate.	No further actions are recommended for this species.
crownscale *Atriplex coronata var. coronata*	Rank 4.2	Chenopod scrub, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1935 feet (1 to 590 meters). Blooms Mar-Oct.	**Unlikely.** The Project Area contains alkaline, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
brittlescale *Atriplex depressa*	Rank 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1050 feet (1 to 320 meters). Blooms Apr-Oct.	**Unlikely.** The Project Area contains alkaline, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
lesser saltscale *Atriplex minuscula*	Rank 1B.1	Chenopod scrub, playas, valley and foothill grassland. Elevation ranges from 45 to 655 feet (15 to 200 meters). Blooms May-Oct.	**Unlikely.** The Project Area contains alkaline, soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is known from sandy soils (CDFW 2022a), which are not present within the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
big-scale balsamroot *Balsamorhiza macrolepis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 145 to 5100 feet (45 to 1555 meters). Blooms Mar-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
big tarplant *Blepharizonia plumosa*	Rank 1B.1	Valley and foothill grassland. Elevation ranges from 95 to 1655 feet (30 to 505 meters). Blooms Jul-Oct.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, no individuals or possible remnants of individuals of this species were observed during the December 7, 2022, site visit.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Mt. Diablo fairy-lantern *Calochortus pulchellus*	Rank 1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation ranges from 95 to 2755 feet (30 to 840 meters). Blooms Apr-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Oakland star-tulip *Calochortus umbellatus*	Rank 4.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 325 to 2295 feet (100 to 700 meters). Blooms Mar-May.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
chaparral harebell *Campanula exigua*	Rank 1B.2	Chaparral (rocky, usually serpentine). Elevation ranges from 900 to 4100 feet (275 to 1250 meters). Blooms May-Jun.	**No Potential.** The Project Area does not contain chaparral habitat or rocky or serpentine substrate.	No further actions are recommended for this species.
Congdon's tarplant *Centromadia parryi ssp. congdonii*	Rank 1B.1	Valley and foothill grassland (alkaline). Elevation ranges from 0 to 755 feet (0 to 230 meters). Blooms May-Oct(Nov).	**Present.** This species was observed in seasonal wetlands and mesic ruderal areas near the eastern boundary of the Project Area.	Recommendations for this species are provided in Section 5.2

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
hispid bird's-beak *Chloropyron molle ssp. hispidum*	Rank 1B.1	Meadows and seeps, playas, valley and foothill grassland. Elevation ranges from 0 to 510 feet (1 to 155 meters). Blooms Jun-Sep.	**Unlikely.** The Project Area contains mesic alkaline soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
palmate-bracted bird's-beak *Chloropyron palmatum*	FE, SE, Rank 1B.1	Chenopod scrub, valley and foothill grassland. Elevation ranges from 15 to 510 feet (5 to 155 meters). Blooms May-Oct.	**No Potential.** This species is known from highly alkaline substrate, often in alkaline scalds, and such habitat is absent from the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Santa Clara red ribbons *Clarkia concinna ssp. automixa*	Rank 4.3	Chaparral, cismontane woodland. Elevation ranges from 295 to 4920 feet (90 to 1500 meters). Blooms (Apr)May-Jun(Jul).	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.
small-flowered morning-glory *Convolvulus simulans*	Rank 4.2	Chaparral (openings), coastal scrub, valley and foothill grassland. Elevation ranges from 95 to 2430 feet (30 to 740 meters). Blooms Mar-Jul.	**Unlikely.** The Project Area does not contain chaparral or coastal scrub habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is sometimes known from serpentine substrate (CDFW 2022a), which is not present within the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Livermore tarplant *Deinandra bacigalupii*	SE, Rank 1B.1	Meadows and seeps (alkaline). Elevation ranges from 490 to 605 feet (150 to 185 meters). Blooms Jun-Oct.	**Unlikely.** The Project Area does not contain meadow and seep habitat, and the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is only known to occur on fine sandy loam substrate, which is absent from the Project Area.	No further actions are recommended for this species.
Hospital Canyon larkspur *Delphinium californicum ssp. interius*	Rank 1B.2	Chaparral (openings), cismontane woodland (mesic), coastal scrub. Elevation ranges from 635 to 3595 feet (195 to 1095 meters). Blooms Apr-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitat.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
recurved larkspur *Delphinium recurvatum*	Rank 1B.2	Chenopod scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 5 to 2590 feet (3 to 790 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area does not contain chenopod scrub or cismontane woodland habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
western leatherwood *Dirca occidentalis*	Rank 1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar(Apr).	**No Potential.** The Project Area does not contain broadleafed upland forest, closed-cone coniferous forest, chaparral, cimsontane woodland, North Coast coniferous forest, or riparian habitat.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Mt. Diablo buckwheat *Eriogonum truncatum*	Rank 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Elevation ranges from 5 to 1150 feet (3 to 350 meters). Blooms Apr-Sep(Nov-Dec).	**Unlikely.** The Project Area does not contain chaparral or coastal scrub habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Jepson's woolly sunflower *Eriophyllum jepsonii*	Rank 4.3	Chaparral, cismontane woodland, coastal scrub. Elevation ranges from 655 to 3365 feet (200 to 1025 meters). Blooms Apr-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitat.	No further actions are recommended for this species.
Jepson's coyote thistle *Eryngium jepsonii*	Rank 1B.2	Valley and foothill grassland, vernal pools. Elevation ranges from 5 to 985 feet (3 to 300 meters). Blooms Apr-Aug.	**Unlikely.** The Proejct Area contains seasonally inundated habitat, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
spiny-sepaled button-celery *Eryngium spinosepalum*	Rank 1B.2	Valley and foothill grassland, vernal pools. Elevation ranges from 260 to 3200 feet (80 to 975 meters). Blooms Apr-Jun.	**Unlikely.** The Project Area contains seasonally inundated habitat, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
diamond-petaled California poppy *Eschscholzia rhombipetala*	Rank 1B.1	Valley and foothill grassland (alkaline, clay). Elevation ranges from 0 to 3200 feet (0 to 975 meters). Blooms Mar-Apr.	**Unlikely.** The Project Area contains alkaline clay substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
San Joaquin spearscale *Extriplex joaquinana*	Rank 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland. Elevation ranges from 0 to 2740 feet (1 to 835 meters). Blooms Apr-Oct.	**Present.** This species was observed in a seasonal wetland and adjacent ruderal areas near the eastern boundary in the southern portion of the Project Area.	Recommendations for this species are provided in Section 5.2

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
stinkbells *Fritillaria agrestis*	Rank 4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Elevation ranges from 30 to 5100 feet (10 to 1555 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area does not contain chaparral, cismontane woodland, or pinyon and juniper woodland habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is sometimes found on serpentine substrate (CDFW 2022a), which is not present within the Project Area.	No further actions are recommended for this species.
fragrant fritillary *Fritillaria liliacea*	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 5 to 1345 feet (3 to 410 meters). Blooms Feb-Apr.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Diablo helianthella *Helianthella castanea*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation ranges from 195 to 4265 feet (60 to 1300 meters). Blooms Mar-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
hogwallow starfish *Hesperevax caulescens*	Rank 4.2	Valley and foothill grassland (mesic, clay), vernal pools (shallow). Elevation ranges from 0 to 1655 feet (0 to 505 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains mesic habitat and clay substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Brewer's western flax *Hesperolinon breweri*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 95 to 3100 feet (30 to 945 meters). Blooms May-Jul.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, the Project Area does not contain serpentine substrate.	No further actions are recommended for this species.
Contra Costa goldfields *Lasthenia conjugens*	FE, Rank 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1540 feet (0 to 470 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains alkaline, mesic and seasonally inundated depressions, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
legenere *Legenere limosa*	Rank 1B.1	Vernal pools. Elevation ranges from 0 to 2885 feet (1 to 880 meters). Blooms Apr-Jun.	**Unlikely.** The Project Area contains seasonally inundated depressions, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
bristly leptosiphon *Leptosiphon acicularis*	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.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, the Project Area does not contain serpentine substrate.	No further actions are recommended for this species.
serpentine leptosiphon *Leptosiphon ambiguus*	Rank 4.2	Cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 390 to 3705 feet (120 to 1130 meters). Blooms Mar-Jun.	**No Potential.** This species is known from serpentine substrate (CDFW 2022a), which is not present in the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Mt. Hamilton coreopsis *Leptosyne hamiltonii*	Rank 1B.2	Cismontane woodland (rocky). Elevation ranges from 1800 to 4265 feet (550 to 1300 meters). Blooms Mar-May.	**No Potential.** The Project Area does not contain cismontane woodland habitat or rocky substrate.	No further actions are recommended for this species.
Hall's bush-mallow *Malacothamnus hallii*	Rank 1B.2	Chaparral, coastal scrub. Elevation ranges from 30 to 2495 feet (10 to 760 meters). Blooms (Apr)May-Sep(Oct).	**No Potential.** The Project Area does not contain chaparral or coastal scrub habitat.	No further actions are recommended for this species.
San Antonio Hills monardella *Monardella antonina ssp. antonina*	Rank 3	Chaparral, cismontane woodland. Elevation ranges from 1045 to 3280 feet (320 to 1000 meters). Blooms Jun-Aug.	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.
woodland woolythreads *Monolopia gracilens*	Rank 1B.2	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, north coast coniferous forest (openings), valley and foothill grassland. Elevation ranges from 325 to 3935 feet (100 to 1200 meters). Blooms (Feb)Mar-Jul.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is known from sandy to rocky and sometimes on serpentine substrate, which are not present in the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
little mousetail *Myosurus minimus ssp. apus*	Rank 3.1	Valley and foothill grassland, vernal pools (alkaline). Elevation ranges from 65 to 2100 feet (20 to 640 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains mesic, alkaline soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
adobe navarretia *Navarretia nigelliformis ssp. nigelliformis*	Rank 4.2	Valley and foothill grassland vernally mesic, vernal pools sometimes. Elevation ranges from 325 to 3280 feet (100 to 1000 meters). Blooms Apr-Jun.	**Unlikely.** The Project Area contains mesic, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is sometimes known from serpentine substrate, which is not present within the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
shining navarretia *Navarretia nigelliformis ssp. radians*	Rank 1B.2	Cismontane woodland, valley and foothill grassland, vernal pools. Elevation ranges from 210 to 3280 feet (65 to 1000 meters). Blooms (Mar)Apr-Jul.	**Unlikely.** The Project Area contains mesic, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
prostrate vernal pool navarretia *Navarretia prostrata*	Rank 1B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools. Elevation ranges from 5 to 3970 feet (3 to 1210 meters). Blooms Apr-Jul.	**Unlikely.** The Project Area contains mesic and seasonally inundated depressions and alkaline substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Mt. Diablo phacelia *Phacelia phacelioides*	Rank 1B.2	Chaparral, cismontane woodland. Elevation ranges from 1640 to 4495 feet (500 to 1370 meters). Blooms Apr-May.	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
hairless popcornflower *Plagiobothrys glaber*	Rank 1A	Meadows and seeps (alkaline), marshes and swamps (coastal salt). Elevation ranges from 45 to 590 feet (15 to 180 meters). Blooms Mar-May.	**Unlikely.** The Project Area does not contain marsh or swamp habitats. Mesic, alkaline substrate is present, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Oregon polemonium *Polemonium carneum*	Rank 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation ranges from 0 to 6005 feet (0 to 1830 meters). Blooms Apr-Sep.	**No Potential.** The Project Area does not contain coastal prairie, coastal scrub, or lower montane coniferous forest.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
California alkali grass *Puccinellia simplex*	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. Elevation ranges from 5 to 3050 feet (2 to 930 meters). Blooms Mar-May.	**Unlikely.** The Project Area contains mesic areas and seasonally inundated depressions, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
rock sanicle *Sanicula saxatilis*	SR, Rank 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland. Elevation ranges from 2030 to 3855 feet (620 to 1175 meters). Blooms Apr-May.	**No Potential.** This species is known from bedrock outcrops and talus slopes (CDFW 2022a), which are not present in the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
chaparral ragwort *Senecio aphanactis*	Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Elevation ranges from 45 to 2625 feet (15 to 800 meters). Blooms Jan-Apr(May).	**Unlikely.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitats. This species is known from "drying, alkaline flats" (CDFW 2022a), and while the Project Area contains mesic areas and seasonally inundated depressions and alkaline substrate, the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
most beautiful jewelflower *Streptanthus albidus ssp. peramoenus*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 310 to 3280 feet (95 to 1000 meters). Blooms (Mar)Apr-Sep(Oct).	**No Potential.** This species is known from serpentine substrate (CDFW 2022a), which is not present in the Project Area.	No further actions are recommended for this species.
Mt. Diablo jewelflower *Streptanthus hispidus*	Rank 1B.3	Chaparral, valley and foothill grassland. Elevation ranges from 1195 to 3935 feet (365 to 1200 meters). Blooms Mar-Jun.	**No Potential.** This species is known from talus or rocky outcrops (CDFW 2022a), which are not present in the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
slender-leaved pondweed *Stuckenia filiformis ssp. alpina*	Rank 2B.2	Marshes and swamps (assorted shallow freshwater). Elevation ranges from 980 to 7055 feet (300 to 2150 meters). Blooms May-Jul.	**No Potential.** The Project Area does not contain marsh or swamp habitat.	No further actions are recommended for this species.
saline clover *Trifolium hydrophilum*	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms Apr-Jun.	**Moderate Potential.** The Project Area contains potentially suitable mesic areas and seasonally inundated depressions and alkaline substrate, and this species has been observed in the disced conditions in the vicinity of the Project Area.	Recommendations for this species are provided in Section 5.2
coastal triquetrella *Triquetrella californica*	Rank 1B.2	Coastal bluff scrub, coastal scrub. Elevation ranges from 30 to 330 feet (10 to 100 meters).	**No Potentia**l. The Project Area does not contain coastal bluff scrub or coastal scrub habitat.	No further actions are recommended for this species.
caper-fruited tropidocarpum *Tropidocarpum capparideum*	Rank 1B.1	Valley and foothill grassland (alkaline hills). Elevation ranges from 0 to 1495 feet (1 to 455 meters). Blooms Mar-Apr.	**Unlikely.** Although alkaline clay substrate is present, the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
oval-leaved viburnum *Viburnum ellipticum*	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 705 to 4595 feet (215 to 1400 meters). Blooms May-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or lower montane coniferous forest habitat.	No further actions are recommended for this species.
Wildlife				
Mammals				
pallid bat *Antrozous pallidu*s	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 human 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.** The Project Area does not contain buildings or crevices for roosting. However, the species may occasionally forage over the area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Townsend's big-eared bat *Corynorhinus townsendii*	SSC, WBWG High	Associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging typically occurs in open forests.	**Unlikely.** The Project Area does not contain buildings or cavernous roost sites typically associated with this species.	No further actions are recommended for this species.
hoary bat *Lasiurus cinereus*	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. Feeds primarily on moths. Wide range of habitats mostly arid wooded and brushy uplands near water. Seeks cover in caves, buildings, mines, and crevices. Prefers open stands in forests and woodlands. Requires drinking water. Feeds on a wide variety of small flying insects.	**Unlikely.** The Project Area is lacking the forested, dense, wooded, brushy upland associated with the species. There are no caves or crevices present for roosting.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	SSC	Forest habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Nests constructed of grass, leaves, sticks, feathers, etc. Population may be limited by availability of nest materials	**Unlikely.** The Project Area does not contain forest habitat or chaparral. Trees present on site are sparse with little understory.	No further actions are recommended for this species.
American badger *Taxidea taxus*	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.** No signs of badger were observed during site visits. Additionally, the Project Area is surrounded on four sides by suburban and commercial development, rendering the site unlikely to be colonized.	No further actions are recommended for this species.
San Joaquin kit fox *Vulpes macrotis mutica*	FE, ST, RP	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	**Unlikely.** No signs of San Joaquin kit fox were observed within the Project Area during site visits. This species is generally considered to be absent west of the Altamont Hills (Sproul and Flett 1993). Additionally, the Project Area is surrounded on four sides by suburban and commercial development, rendering the site unlikely to be colonized.	No further actions are recommended for this species.
Birds				

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
tricolored blackbird *Agelaius tricolor*	SSC, BCC, 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.** The Project Area does not contain or is not adjacent to any freshwater. There is no presence of riparian thickets for nesting.	No further actions are recommended for this species.
grasshopper sparrow *Ammodramus savannarum*	SSC	Summer resident. Breeds in open grasslands in lowlands and foothills, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	**Unlikely.** The Project Area does not contain suitable grasslands for this species. The Project Area vegetation is managed and disked, resulting in minimal nesting substrate.	No further actions are recommended for this species.
golden eagle *Aquila chrysaetos*	BCC, CFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	**Unlikely.** The Project Area does not contain any large trees, cliff walls, or other favorable nesting areas.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
great blue heron *Ardea herodias*	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.** The Project Area is not in close proximity to foraging areas including marshes, lake margins, or tidal flats. There is no presence of tall trees or cliffs for nesting habitat.	No further actions are recommended for this species.
burrowing owl *Athene cunicularia*	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.	**High Potential.** The Project Area contains abundant mammal burrows of suitable size for burrowing owl. This species has been observed within the Project Area in 2004, 2006, 2009, and 2020 (CDFW 2022b). There were no detections or signs of burrowing owl during site visits.	Recommendations for this species are provided in Section 5.2.
ferruginous hawk *Buteo regalis*	BCC	Winter visitor to open habitats, including grasslands, sagebrush flats, scrub, and low foothills surrounding valleys. Preys on mammals. Does not breed in California.	**Unlikely.** The Project Area provides marginal foraging habitat for wintering birds; however, this species does not breed in the region.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Swainson's hawk *Buteo swainsoni*	ST, BCC	Summer resident in California's Central Valley. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	**Unlikely.** The Project Area is not located within large stretches of flat land that this species typically uses for breeding. The Project Area is also west of this species' typical breeding range in the Central Valley. This species may occasionally pass through the Project Area during migration.	No further actions are recommended for this species.
northern harrier *Circus hudsonius*	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 otherwise moist areas. Preys on small vertebrates.	**Unlikely.** The Project Area lacks dense vegetation that this species typical uses for nesting. The species may be observed foraging within the Project Area.	No further actions are recommended for this species.
white-tailed kite *Elanus leucurus*	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.	**High Potential.** The species was observed foraging within the Project Area on the December 7, 2022, site visit. Small mammal prey is present in the Project Area and some scattered trees and large shrubs provide potential nesting habitat.	Recommendations for this species are provided in Section 5.2.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
prairie falcon *Falco mexicanus*	BCC	Year-round resident and winter visitor. Inhabits dry, open terrains, including foothills and valleys. Breeding sites located on steep cliffs. Forages widely.	**Unlikely.** The Project Area contains open terrain that could be used for foraging. However, there are no cliffs for breeding site within or near the Project Area.	No further actions are recommended for this species.
American peregrine falcon *Falco peregrinus anatum*	FD, SD, CFP, BCC	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.** The Project Area and surrounding areas do not provide tall habitats near water to support nesting. This species may occasionally fly over or forage in the Project Area, but there is no potential to nest.	No further actions are recommended for this species.
bald eagle *Haliaeetus leucocephalus*	FD, SE, CFP, BCC	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.** The Project Area is not near any lake or reservoir habitat that could support a nesting pair. This species may occasionally fly through the Project Area by is highly unlikely to nest there.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
loggerhead shrike *Lanius ludovicianus*	SSC, BCC	Year-round resident in open woodland, grassland, savannah and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	**Moderate Potential.** The Project Area contains grassland for foraging as well as sparse shrubs and trees for perching and nesting.	Recommendations for this species are provided in Section 5.2.
California black rail *Laterallus jamaicensis coturniculus*	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.** The Project Area is outside of this species' known range and does not contain marsh habitat.	No further actions are recommended for this species.
Alameda song sparrow *Melospiza melodia pusillula*	BCC, 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.** The Project Area is outside of this subspecies' range in wetlands in eastern San Francisco Bay	No further actions are recommended for this species.
Amphibians				

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
California tiger salamander *Ambystoma californiense*	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 Project Area does not contain and is not adjacent to suitable breeding habitat. The Project Area is separated from potential breeding habitat by roads and residential development making it unlikely that the species would disperse through the site.	No further actions are recommended for this species.
foothill yellow-legged frog *Rana boylii*	SC, SSC	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.	No Potential. There are no rocky streams present within or adjacent to the Project Area	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
California red-legged frog *Rana draytonii*	FT, SSC, RP	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.	Unlikely. There are no permanent sources of deep water within or near the Project Area. There are CNDDB occurrences as close as 0.50-mile from the Project Area (CDFW 2022b). However, residential development has removed these habitat features as well as created a dispersal barrier from suitable habitat.	No further actions are recommended for this species
western spadefoot *Spea (=Scaphiopus) hammondii*	SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Shallow temporary pools formed by winter rains are essential for breeding and egg-laying.	**Unlikely.** The Project Area does not contain suitable breeding habitat for western spadefoot. The nearest CNDDB occurrence for this species is approximately 9 miles southeast of the Project Area from 2004 (CDFW 2022b). The Project Area is also just west of the species known range in eastern Alameda County near the Altamont Pass, and is separated from these occurrences by suburban development.	No further actions are recommended for this species
Reptiles				

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Pacific (western) pond turtle *Actinemys marmorata*	SSC, FS sensitive, RP	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nests sites may be found up to 0.5 kilometers from water.	**Unlikely.** There is no permanent water in the Project Area. The Project Area is separated from potential habitat by roadways and development making it unlikely that the species would nest within the Project Area.	No further actions are recommended for this species
San Joaquin coachwhip *Masticophis flagellum ruddocki*	SSC	Found in valley grassland and saltbush scrub in the San Joaquin Valley in open, dry habitats with little or no tree cover. Requires mammal burrows for refuge and breeding sites.	**Unlikely.** The Project Area has been disked and contains no saltbush scrub, leaving little vegetative cover for the species. There is not suitable habitat adjacent to the Project Area due to residential development, making it unlikely that the species would disperse through the site. This species is not known to occur west of the Altamont Hills.	No further actions are recommended for this species
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT, ST	Inhabits chaparral and foothill-hardwood habitats in the eastern Bay Area. Prefers south-facing slopes and ravines with rock outcroppings where shrubs form a vegetative mosaic with oak trees and grasses and small mammal burrows provide basking and refuge.	**Unlikely.** The Project Area has been disked and contains no scrub, leaving little vegetative cover for the species. There is not suitable habitat adjacent to the Project Area due to residential development, making it unlikely that the species would disperse through the site.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Blainville's (Coast) horned lizard *Phrynosoma blainvillii (coronatum)*	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Prefers friable, rocky, or shallow sandy soils for burial; open areas for sunning; bushes for cover; and an abundant supply of ants and other insects.	**Unlikely**. The Project Area and vicinity do not contain any scrub-type habitats to support this species, and the Project Area has been regularly disked, reducing the habitat suitability for this species.	No further actions are recommended for this species
Fish				
steelhead - central CA coast DPS *Oncorhynchus mykiss irideus*	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**No Potential.** There are no streams in or near the Project Area.	No further actions are recommended for this species
Invertebrates				

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Crotch bumble bee *Bombus crotchii*	SC	Range largely restricted to California, favoring grassland and scrub habitats. Typical of bumble bees, nests are usually constructed underground.	**Unlikely.** The nearest CNDDB record for this species is 2.5 miles south of the Project Area in 1932 (CDFW 2022b).	No further actions are recommended for this species
western bumble bee *Bombus occidentalis*	SSI	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2022). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	**Unlikely.** The nearest CNDDB record for this species is 3 miles south of the Project Area in 1952 (CDFW 2022b).	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
longhorn fairy shrimp *Branchinecta longiantenna*	FE, SSI, RP	Endemic to the eastern margin of the central coast mountains in seasonally astatic grassland vernal pools. Inhabit small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales.	**Unlikely.** The Project Area does not contain vernal pools or seasonal wetlands which are inundated long enough to support this species. Additionally, the Project site has been disked regularly for agricultural and rangeland management for over 30 years. The species has not been recorded in the vicinity (CDFW 2022b).	No further actions are recommended for this species
vernal pool fairy shrimp *Branchinecta lynchi*	FT, SSI, RP	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**Unlikely.** The nearest CNDDB occurrence is approximately 6 miles east of the Project Area from 1996 (CDFW 2022b). The Project Area does not contain vernal pools or seasonal wetlands which are inundated long enough to support this species. Additionally, the Project site has been disked regularly for agricultural and rangeland management for over 30 years.	No further actions are recommended for this species
midvalley fairy shrimp *Branchinecta mesovallensis*	SSI	Known only from the Central Valley, primarily its central portions. Typically inhabits short-lived, grass-bottomed vernal pools and other seasonal water features.	**Unlikely.** The nearest record of this species in CNDDB is 14 miles northeast of the Project Area in 2017 (CDFW 2022b). The Project Area does not contain vernal pools or seasonal wetlands which are inundated long enough to support this species.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Antioch efferian robberfly *Efferia antiochi*	SSI	Known only from Antioch, Fresno, and Scout Island in the San Joaquin River.	**No Potential.** The Project Area is outside of this species' range.	No further actions are recommended for this species
vernal pool tadpole shrimp *Lepidurus packardi*	FE, SSI, RP	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	**Unlikely.** The Project Area does not contain vernal pools or seasonal wetlands which are inundated long enough to support this species.	No further actions are recommended for this species
Callippe silverspot butterfly *Speyeria callippe callippe*	FE, SSI	Two populations in San Bruno Mountain and the Cordelia Hills are recognized. Hostplant is Viola pedunculata. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	**No Potential.** The Project Area is outside of the known range for this species.	No further actions are recommended for this species

*** Key to status codes:**

BCC	U.S. Fish and Wildlife Service Birds of Conservation Concern
CFP	California Department of Fish and Wildlife Fully Protected Animal
FCT	Federal Candidate Threatened
FE	Federal Endangered
FT	Federal Threatened
RP	Sensitive species included in a U.S. Fish and Wildlife Service Recovery Plan or Draft Recovery Plan
SE	State Endangered
SCT	State Candidate Threatened
SI	California Department of Fish and Wildlife Special-Status Invertebrate.
SSC	California Department of Fish and Game Species of Special Concern
ST	State Threatened
Rank 1A	California Native Plant Society Rank 1A: Plants presumed extirpated in California and rare or extinct elsewhere
Rank 1B.1	California Native Plant Society Rank 1B.1: Plants rare, threatened or endangered in California and elsewhere (seriously threatened in California)
Rank 1B.2	California Native Plant Society Rank 1B.2: Plants rare, threatened, or endangered in California and elsewhere (moderately threatened in California)
Rank 2B.2	California Native Plant Society Rank 2B.2: Plants rare, threatened, or endangered in California, but more common elsewhere (moderately threatened in California)
Rank 3	California Native Plant Society Rank 3: Plants about which more information is needed (a review list).
Rank 4.3	California Rare Plant Rank 4.3: Plants of Limited Distribution - A Watch List (not very threatened in California)
WBWG	Western Bat Working Group Priority Species
WL	California Department of Fish and Wildlife Watch List

****Potential species occurrence definitions:**

Present. Species was observed on the site during site visits or has been recorded (i.e. CNDDB, other reports) on the site recently.

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.

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.

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 has a low probability of being found on the site.

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).

Appendix C

Representative Photographs of the Project Area

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Photograph 1. Image shows the seasonal wetland at the southeast boundary of the Project Area. View facing south. Photograph taken December 7, 2017.

Photograph 2. Image shows the seasonal wetland at the southeast boundary of the Project Area. View facing north. Photograph taken April 12, 2022.

Photograph 3. Image shows the seasonal wetland and surrounding disced ruderal habitat in the far northern portion of the Project Area. View facing west. Photograph taken December 7, 2017.

Photograph 4. Image shows the seasonal wetland and surrounding disced ruderal habitat in the far northern portion of the Project Area. View facing west. Photograph taken April 12, 2022.

Photograph 5. Image shows a seasonal wetland in the portion of the Project Area west and south of Northside Drive. View facing east. Photograph taken February 22, 2018.

Photograph 6. Image shows a seasonal wetland in the portion of the Project Area west and south of Northside Drive. View facing east. Photograph taken April 12, 2022.

Photograph 7. Image shows a seasonal wetland in the portion of the Project Area west and south of Northside Drive. View facing east. Photograph taken February 22, 2018.

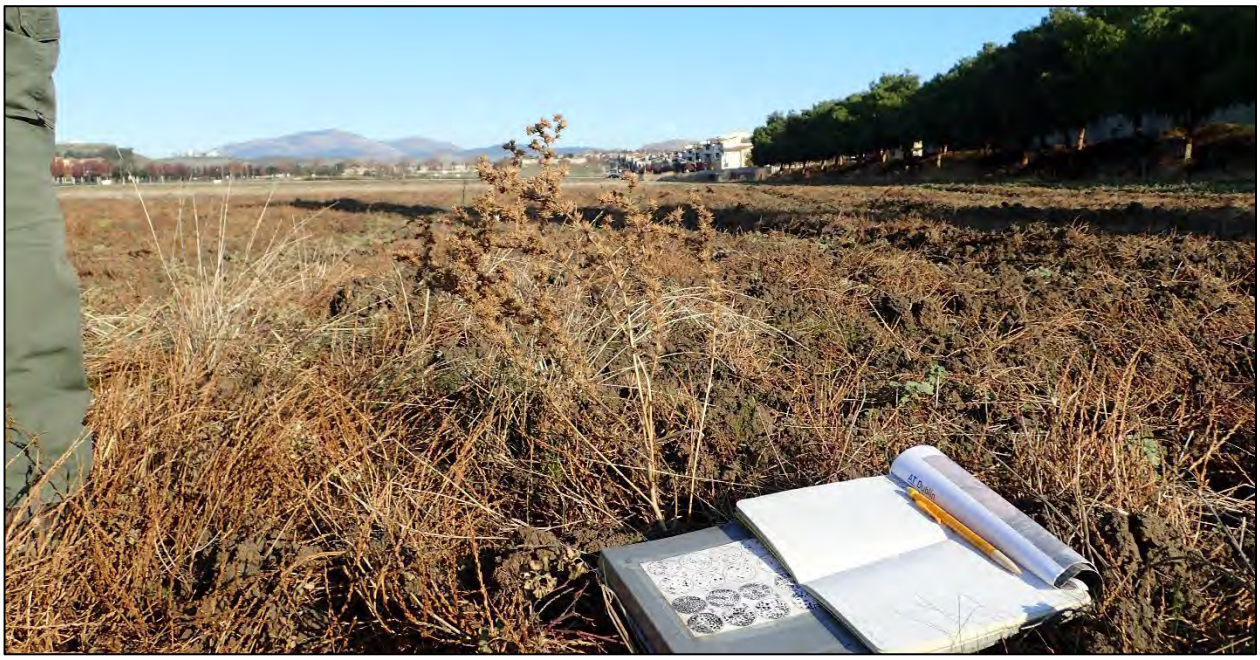
Photograph 8. Image shows representative ruderal habitat in the southern portion of the Project Area. View facing northeast. Photograph taken April 12, 2022.

Photograph 9. Image shows the abandoned homestead site in the northern portion of the Project Area. View facing west. Photograph taken December 7, 2017.

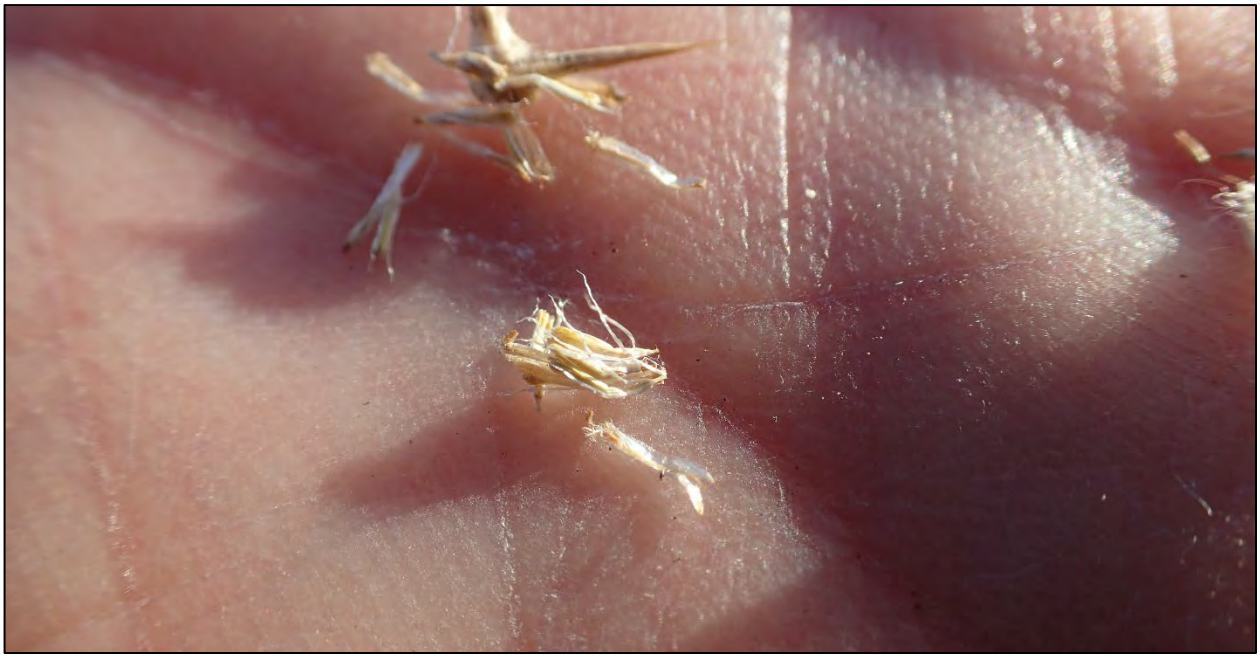
Photograph 10. Image shows the abandoned homestead site in the northern portion of the Project Area. View facing east. Photograph taken April 12, 2022.

Photograph 11. Image shows the area in the central portion of the Project Area that is seasonally used as a Christmas tree lot. View facing northeast. Photograph taken December 7, 2017.

Photograph 12. Image shows the area in the central portion of the Project Area that is seasonally used as a Christmas tree lot. View facing south. Photograph taken April 12, 2022.



Photograph 13. Image shows a Congdon's tarplant individual in the seasonal wetland in the southeastern portion of the Project Area. View facing north. Photograph taken December 7, 2017.



Photograph 14. Image shows a close up of the pappus on disk flowers of Congdon's tarplant. Photograph taken December 7, 2017.

Photograph 15. Image shows a close-up of a flower head as well as peduncle bracts that are not coarsely glandular. Photograph taken December 7, 2017.

Photograph 16. Image shows the coarsely hairy and scabrous-puberulent leaves of Congdon's tarplant. Photograph taken December 7, 2017.

Photograph 17. Image shows a close-up San Joaquin spearscale *(Extriplex joaquinana*) in the Project Area. Photograph taken April 12, 2022.

Photograph 18. Image shows San Joaquin spearscale in habitat. Photograph taken April 12, 2022.