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## **APPENDIX C**

### **BIOLOGICAL RESOURCES REPORTS AND PEER REVIEWS**

# BIOLOGICAL RESOURCES TECHNICAL REPORT

## VISTA COVE PROJECT

VALLEJO, SOLANO COUNTY, CALIFORNIA



### Prepared for:

Sancerra Management  
2618 San Miguel Drive, Suite 1223  
Newport Beach, CA 92660

Attn: Adam Smith  
asmith@sancerra.com

### Prepared by:

WRA, Inc.  
2169-G East Francisco Boulevard  
San Rafael, CA 94901

Attn: Patricia Valcarcel  
valcarcel@wra-ca.com

WRA #320072  
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## LIST OF PREPARERS

Patricia Valcarcel – Principal-in-Charge  
Matt Osowski – Project Manager  
Scott Batiuk – Associate Plant Biologist  
Katie Tyree – Plant Biologist  
Sean MacDonald – Wildlife Biologist  
Sundaran Gillespie – GIS Analyst

## LIST OF ACRONYMS

|           |                                                  |
|-----------|--------------------------------------------------|
| APN       | Assessor Parcel Number                           |
| BIOS      | Biogeographic Information and Observation System |
| CCR       | California Code of Regulations                   |
| CDFW      | California Department of Fish and Wildlife       |
| CESA      | California Endangered Species Act                |
| CEQA      | California Environmental Quality Act             |
| CFGF      | California Fish and Game Code                    |
| CFP       | California Fully Protected Species               |
| CFR       | Code of Federal Regulations                      |
| CNDDDB    | California Natural Diversity Database            |
| CNPPA     | California Native Plant Protection Act           |
| CNPS      | California Native Plant Society                  |
| Corps     | U.S. Army Corps of Engineers                     |
| CWA       | Clean Water Act                                  |
| EFH       | Essential Fish Habitat                           |
| ESA       | Federal Endangered Species Act                   |
| NCCP      | Natural Community Conservation Plan              |
| NOAA      | National Oceanic and Atmospheric Administration  |
| NMFS      | National Marine Fisheries Service                |
| NWI       | National Wetland Inventory                       |
| OHWM      | Ordinary High Water Mark                         |
| Inventory | Inventory of Rare and Endangered Plants          |
| Rank      | California Rare Plant Ranks                      |
| RHA       | Rivers and Harbors Act                           |
| RWQCB     | Regional Water Quality Control Board             |
| SSC       | Species of Special Concern                       |
| SWRCB     | State Water Resource Control Board               |
| TPZ       | Tree Protection Zone                             |
| USDA      | U.S. Department of Agriculture                   |
| USFWS     | U.S. Fish and Wildlife Service                   |
| USGS      | U.S. Geological Survey                           |
| WBWG      | Western Bat Working Group                        |
| WRA       | WRA, Inc.                                        |

## 1.0 INTRODUCTION

This Biological Resources Technical Report evaluates existing biological resources, potential impacts, and mitigation measures for the Vista Cove Project (Project) located in the City of Vallejo, Solano County, California (Figure 1, Appendix A). An approximately 20.13-acre Study Area was evaluated that includes Assessor Parcel Numbers (APN) 079-12-100 and 079-171-170. The proposed Project involves the construction of a residential development.

### 1.1 Overview and Purpose

This report provides an assessment of biological resources within the Study Area and immediate vicinity. The purpose of the assessment is to develop and gather information on sensitive biological communities and special-status plant and wildlife species to support an evaluation of the Project under the California Environmental Quality Act (CEQA). This report describes the results of the site visit, which assessed the Study Area for: (1) the presence of sensitive biological communities, special-status plant species, and special-status wildlife species, and (2) the potential for the site to support special-status plant and wildlife species. The assessment includes a formal wetland delineation. Based on the results of the site assessment, potential impacts to sensitive biological communities and special-status species resulting from the Project are evaluated. If the Project has the potential to result in significant impacts to sensitive biological resources, measures to avoid, minimize, or mitigate for those significant impacts are described.

A biological resources assessment provides general information on the presence, or potential presence, of sensitive species and habitats. This assessment is based on information available at the time of the study and on-site conditions that were observed on the dates the site was visited. Conclusions are based on currently available information used in combination with the professional judgement of the biologists completing this study.

### 1.2 Project Description

The Study Area, located northeast of the intersection of Shady Lane and Wildflower Avenue in the City of Vallejo, CA is comprised of 20.13 acres of undeveloped land designated by the City of Vallejo for Residential land uses. The Project Area, listed as Lot 1 within the design plans, includes the northern half of the Study Area, approximately 10.40 acres. Parcel A, the southern half of the Study Area, and Parcel B, the riparian and intermittent stream within Lot 1, will not be impacted as a result of this proposed Project (Appendices A and D).

The Project Area encompasses APN 0079-171-170 and a portion of APN 0079-120-100. The western parcel, APN 0079-171-170, approximately 1 acre, is zoned Residential Low Density and has a General Plan designation as primarily single-family. The other parcel, APN 0079-120-100, is zoned Residential Medium Density and has a General Plan designation of Mix of Housing Types/Medium Density. The Project is development for a 10.40-acre property. The Project would provide for development of 51 single-family residential homes. The proposed 51 dwelling units are comprised of two floor plans with three elevations each. For parking, 102 covered garage spaces, 102 driveway stalls, 24 on-street stalls, and 1 mailbox stall will be provided. Grading proposed by the project would disturb the entirety of the Project Area (10.40 acres). Access to the Project would be provided by one (1) full access driveway through an established residential community to the west.

### **1.3 Summary of Results**

Sensitive vegetation communities or land cover types in the Study Area include riparian, seasonal wetland, freshwater marsh, intermittent stream, and toyon chaparral habitats. Non-sensitive land cover types in the Study Area include non-native grassland, artichoke thistle fields, poison oak scrub, and coyote brush scrub. Only one sensitive land cover type, seasonal wetland, is present within the Project Area. No special-status or rare plant species were observed during the site visits or have potential to occur within the Study Area. One special-status bird, as well as non-status birds with baseline legal protections, have potential to occur within the Study Area. Recommended avoidance, minimization, and mitigation measures are provided to ensure potential impacts to sensitive resources are less than significant.

## 2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts. Table 1 shows the correlation between these regulations and each Biological Resources question in the Environmental Checklist Form (Appendix G) of the CEQA guidelines.

### 2.1 Federal and State Regulatory Setting

#### 2.1.1 Vegetation and Aquatic Communities

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

Sensitive Natural Communities: Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFW 2022a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB; CDFW 2022b). Vegetation alliances are ranked 1 through 5 in the CNDDDB based on NatureServe's (2022) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). In addition, this general class includes oak woodlands that are protected by local ordinances under the Oak Woodlands Protection Act and Section 21083.4 of California Public Resources Code.

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

**TABLE 1. SUMMARY OF BIOLOGICAL RESOURCES EVALUATION**

| <b>CEQA ASSESSMENT<br/>CATEGORY<sup>1</sup> IV. -BIOLOGICAL<br/>RESOURCES</b> | <b>BIOLOGICAL RESOURCES<br/>CONSIDERED</b>                                      | <b>RELEVANT LAWS AND<br/>REGULATIONS</b>                                                                                                                                           | <b>RESPONSIBLE REGULATORY<br/>AGENCY</b>                                                                                                                                                          | <b>SUMMARY OF FINDINGS &amp;<br/>REPORT SECTION<sup>2</sup></b>                                                                                                                                                       |
|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Question A. Special-status species                                            | Special-status Plants<br>Special-status Wildlife<br>Designated Critical Habitat | Federal Endangered Species Act<br>California Endangered Species Act<br>California Native Plant Protection Act<br>Migratory Bird Treaty Act<br>Bald and Golden Eagle Protection Act | U.S. Fish and Wildlife Service<br>National Marine Fisheries Service<br>California Department of Fish and Wildlife                                                                                 | Potentially significant impacts were identified, and mitigation measures are included that reduce those impacts to a level that is less than significant.<br><br><b>See Sections 5.2 and 7.1 for more information</b> |
| Question B. Sensitive natural communities & riparian habitat                  | Sensitive Natural Communities<br>Streams, Lakes, & Riparian Habitat             | California Fish and Game Code<br>Oak Woodland Conservation Act<br>Porter-Cologne Act<br>Clean Water Act                                                                            | California Department of Fish and Wildlife<br>U.S. Army Corps of Engineers<br>U.S. Environmental Protection Agency<br>State Water Resources Control Board<br>Regional Water Quality Control Board | Potentially significant impacts were identified, and mitigation measures are included that reduce those impacts to a level that is less than significant.<br><b>See Section 5.1 and 7.2 for more information</b>      |
| Question C. State and federally protected wetlands                            | Wetlands<br>Unvegetated surface waters                                          | Clean Water Act Sections 404/401<br>Rivers and Harbors Act Section 10<br>Porter Cologne Act                                                                                        | U.S. Army Corps of Engineers<br>U.S. Environmental Protection Agency<br>State Water Resources Control Board<br>Regional Water Quality Control Board                                               | Potentially significant impacts were identified, and mitigation measures are included that reduce those impacts to a level that is less than significant.<br><br><b>See Section 5.1 and 7.3 for more information</b>  |

<sup>1</sup> CEQA Questions have been summarized here; see Section 6.0 for details.

<sup>2</sup> As given in this report; see Section 5.0 subheadings

|                                                      |                                                                           |                                                                                            |                                                                                                                           |                                                                                                                                                         |
|------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Question D. Fish & wildlife corridors                | Essential Fish Habitat<br>Wildlife Corridors                              | California Fish and Game Code<br>Magnuson-Stevens Fishery Conservation & Management Act    | California Department of Fish and Wildlife<br>National Marine Fisheries Service                                           | No potentially significant impacts were identified, and no mitigation measures are required.<br><br><b>See Section 5.3 and 7.4 for more information</b> |
| Question E. Local policies                           | Protected Trees<br>Coastal zone resources<br>Other biological protections | Local Tree Ordinance<br>General Plan (e.g., Stream & Wetland Setbacks)<br>Local ordinances | Local and regional agencies<br>California Coastal Commission<br>San Francisco Bay Conservation and Development Commission | No potentially significant impacts were identified, and no mitigation measures are required.<br><br><b>See Section 7.5 for more information</b>         |
| Question F. Local, state, federal conservation plans | Habitat Conservation Plans<br>Natural Community Conservation Plans        | Federal Endangered Species Act<br>Natural Community Conservation Planning Act              | U.S. Fish and Wildlife Service<br>California Department of Fish and Wildlife                                              | No potentially significant impacts were identified, and no mitigation measures are required.<br><br><b>See Section 7.6 for more information</b>         |

The Corps also regulates construction in navigable waterways of the U.S. through Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 USC 403). Section 10 of the RHA requires Corps approval and a permit for excavation or fill, or alteration or modification of the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States. Section 10 requirements apply only to navigable waters themselves, and are not applicable to tributaries, adjacent wetlands, and similar aquatic features not capable of supporting interstate commerce.

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

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

### **2.1.2 Special-status Species**

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

The ESA (16 USC 1531 et seq.) is implemented by the USFWS and the National Marine Fisheries Service (NMFS). The USFWS and NMFS maintain lists of endangered and threatened plant and animal species (referred to as “listed species”). “Proposed” or “candidate” species are those that are being considered for listing and are not protected until they are formally listed as threatened or endangered. Under the ESA, authorization must be obtained from the USFWS or NMFS prior to take of any listed species. “Take”

under the ESA is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Take under the ESA includes direct injury or mortality to individuals, disruptions in normal behavioral patterns resulting from factors such as noise and visual disturbance, and impacts to habitat for listed species. Actions that may result in take of an ESA-listed species may obtain a permit under ESA Section 10, or via the interagency consultation described in ESA Section 7. Federally listed plant species are only protected when take occurs on federal land.

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

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

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

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

Essential Fish Habitat. The Magnuson-Stevens Fishery Conservation and Management Act provides for conservation and management of fishery resources in the U.S., administered by NMFS. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat

(EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g., eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

Species of Special Concern, Movement Corridors, and Other Special-status Species under CEQA. A Species of Special Concern (SSC) is a species formally designated by the CDFW which meets one or more criteria related to a Federal ESA status (if it is not listed under CESA), including extirpation from California, documented population declines, or small population size within California and risk of declines. In addition, CDFW has developed a list of special species as “a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status.” This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management Sensitive Species, and USFWS Birds of Conservation 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, are also considered special-status plant species and must be considered under CEQA. Some Rank 3 species and all Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. Additionally, any species listed as sensitive within local plans, policies and ordinances are likewise considered sensitive. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

## 2.2 Local Plans and Policies

City of Vallejo General Plan. The City of Vallejo General Plan 2040 (City of Vallejo 2020) contains policies pertaining to the following biological resources categories:

- Wetlands, streams, riparian, and aquatic areas (Policies NBE-1.1G, 1.2D, 1.4A),
- Vegetation communities (Policy NBE 1.2D),
- Plant Species (Policies NBE-1.1E, NBE 1.2D, 1.2E), and
- Wildlife Species (Policies NBE-1.2C, NBE 1.2D, 1.2E)

City of Vallejo Tree Ordinance. The City of Vallejo municipal code (Tree Protection 16.504.07) requires a tree inventory for all trees that will be preserved on the project site prior to construction or permit submittal. For trees that are proposed for removal, “[t]he director may approve the removal of trees based on a determination that there is no feasible alternative design for developing the site and based on report and recommendation by a qualified arborist submitted by the applicant”.

The municipal code requires the replacement of “Significant Trees” if they are removed. With the exception of the fire-prone species defined as: blue gum eucalyptus (*Eucalyptus globulus*), Monterey pines (*Pinus radiata*), juniper (*Cupressaceae* spp.), Tree of Heaven (*Ailanthus altissima*), black acacia (*Acacia melanoxylon*), and bamboo. Significant Trees are defined as: “any tree or stand of trees on private property having either a height of twenty-five feet measured above ground level, or a diameter of ten or more inches” (16.701.02). Significant trees shall be replaced at a ratio of at least 3:1, and with at least 15-gallon replacement trees on the project site, adjacent to the project site (subject to the owner’s approval), or in the public right-of-way adjacent to the property (subject to approval from the director of public works).

### 3.0 ASSESSMENT METHODOLOGY

On February 28, 2022, and July 14, 2022, WRA, Inc. (WRA) biologists visited the Study Area to map vegetation, aquatic communities, unvegetated land cover types, document plant and wildlife species present, and evaluate on-site habitat for the potential to support special-status species as defined by CEQA. The site visits did not constitute protocol-level surveys for special status plants or wildlife. Prior to the site visit, WRA biologists reviewed literature resources and performed database searches to assess the potential for sensitive biological communities and special-status species, including:

- Soil Survey of Solano County, California (USDA 1969)
- Benicia 7.5-minute U.S. Geological Survey (USGS) quadrangle (USGS 2021)
- Contemporary aerial photographs (Google Earth 2024)
- Nationwide Environmental Title Research (NETR 2024)
- National Wetlands Inventory (NWI) (USFWS 2024)
- California Aquatic Resources Inventory (SFEI 2024)
- CNDDB (CDFW 2024b)
- CNPS Inventory (CNPS 2024a)
- Consortium of California Herbaria (CCH1 2024, CCH2 2024)
- USFWS List of Federal Endangered and Threatened Species (USFWS 2024)
- eBird Online Database (Cornell 2024)
- California Bird Species of Special Concern in California (Shuford and Gardali 2008)
- California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)
- A Manual of California Vegetation, Online Edition (CNPS 2024b)
- Preliminary Descriptions of the Terrestrial Natural Communities (Holland 1986)
- California Natural Community List (CDFW 2024a)
- Database searches (i.e., CNDDB, CNPS) for special-status species focused on the Cuttings Wharf, Cordelia, Fairfield South, Mare Island, Benicia, Vine Hill, Richmond, Briones Valley, and Walnut Creek USGS 7.5-minute quadrangles.

Following the remote assessment, WRA biologists conducted field assessments on February 28 and July 14, 2022 to document: (1) land cover types (e.g., terrestrial communities, aquatic resources), (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic natural communities (e.g., wetlands) are present, and (4) if special-status species are present<sup>3</sup>.

#### 3.1 Vegetation Communities and Other Land Cover Types

During the site visits, WRA evaluated the species composition and area occupied by distinct vegetation communities, aquatic communities, and other land cover types. Mapping of these classifications utilized a combination of aerial imagery and ground surveys. In most instances, communities are characterized and mapped based on distinct shifts in plant assemblage (vegetation) and follow the California Natural Community List (CDFW 2024a) and A Manual of California Vegetation, Online Edition (CNPS 2024b). These

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<sup>3</sup> Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 5.2 if the site assessment would constitute a formal or protocol-level species survey.

resources cannot anticipate every component of every potential vegetation assemblage in California, and so in some cases, it is necessary to identify other appropriate vegetative classifications based on best professional judgment of WRA biologists. When undescribed variants are used, it is noted in the description. Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled [S1/G1], imperiled [S2/G2], or vulnerable [S3/G3]) (CDFW 2024a), were evaluated as sensitive as part of this evaluation.

The site was reviewed for the presence of wetlands and other aquatic resources during a formal delineation on July 14, 2022. The delineation was conducted according to the methods described in the Corps Manual (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West* (Corps 2008), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008). Areas meeting these indicators were mapped as aquatic resources and categorized using the vegetation community classification methods described above. Aquatic communities which are mapped in the NMFS EFH Mapper (NMFS 2024) or otherwise meet criteria for designation as EFH are indicated as such in the community description below in Section 5.1. The presence of riparian habitat was evaluated based on woody plant species meeting the definition of riparian provided in *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607, California Fish and Game Code* (CDFG 1994) and based on best professional judgement of biologists completing the field surveys.

### 3.2 Special-status Species

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

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

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

### **3.3 Wildlife Corridors and Native Wildlife Nursery Sites**

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010), and habitat connectivity data available through the CDFW Biogeographic Information and Observation System (BIOS; CDFW and Caltrans 2024). Additionally, aerial imagery (Google Earth 2024) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Study Area. This assessment was refined based on observations of on-site physical and/or biological conditions, including topographic and vegetative factors that can facilitate wildlife movement, as well as on-site and off-site barriers to connectivity.

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

## 4.0 ECOLOGICAL SETTING

The approximately 20.13-acre Study Area is located in the City of Vallejo, Solano County, California. The Study Area is located north of the Carquinez Strait, south of Interstate 780, west of the Benicia State Recreation Area, and east of a residential area. The Study Area includes all areas that may be affected by the proposed Project. Additional details of the local setting are below.

### 4.1 Soils and Topography

The topography of the Study Area contains undulating hills with flat areas, with elevations ranging from approximately 97 to 180 feet above sea level. According to the *Web Soil Survey* (USDA 2024b), the Study Area is underlain by Dibble-Los Osos clay loams, including three soil mapping units: 2 to 9 percent slopes, 9 to 30 percent slopes, and 30 to 50 percent slopes. Soils within the Study Area are shown in Appendix A – Figure 2. The parent soil series of all the Study Area's mapping units is summarized below.

Dibble-Los Osos Clay Loam: This series consists of moderately deep, well drained soils that formed in material weathered from shale, sandstone and semi consolidated densic material. The soil pH ranges from 5.6 to 7.3, resulting in neutral to acidic soils. Dibble soils are on foothills and fan remnants and have slopes of 2 to 75 percent (USDA 2024b). These soils are not considered hydric (USDA 2024a).

### 4.2 Climate and Hydrology

The average monthly maximum temperature in the area is 68.6 degrees Fahrenheit, while the average monthly minimum temperature is 49.3 degrees Fahrenheit. Predominantly, precipitation falls as rainfall between November and March with an annual average precipitation of 17.7 inches.

The regional watershed for the Study Area is San Francisco Bay (HUC 6: 180500) between the San Pablo Bay (HUC 8:18050002) and Suisun Bay (HUC 8: 18050001) watersheds. The Study Area is located in the central portions of the Suisun/San Pablo Bay watersheds. There are two streams mapped within the Study Area in the National Wetland Inventory (NWI) (USFWS 2024). NWI is a USFWS web application displaying the extent and type of wetlands within a given area. However, there are no mapped blue line streams within the Study Area according to the Benicia 7.5 minute quadrangle (USGS 2021). The stream features, shown in the NWI start at the edge of the residential properties to the east of the Study Area and run west towards the marsh within the Benicia State Recreation Area, and eventually, the Southampton Bay within the Carquinez Strait (0.9 miles south of the Study Area). These aquatic features receive runoff from the neighboring properties via culverts. Although NWI classifies the southern feature as a stream, due to wetland vegetation growing in the channel, it was classified as a freshwater marsh (Section 5.1.2).

### 4.3 Land-use

The majority of the Study Area is dominated by non-native annual grassland. The Study Area contains one intermittent stream, connected to a seasonal wetland, and one linear freshwater marsh. Detailed plant community descriptions are included in Section 5.1 below, and all observed plant species are included in Appendix B. Surrounding land use includes a residential community, Interstate 780, and open space/recreation area (Google Earth 2024). The area has been used for agriculture as early as 1948, and was left as open space following the construction of the neighboring community to the east of the Study Area, in the early 1980's (NETR 2024). The natural topography of the Study Area contained one drainage. The northern aquatic feature is a topographical low, but seems to have started conveying water and

supporting riparian vegetation after the adjacent housing development was constructed in the 1980's and the stormwater basin directed runoff to this area (NETR, Google Earth 2024). The southern aquatic feature within the Study Area is a historical drainage that conveys water from the hillside to the adjacent marsh southeast of the Study Area; however, additional stormwater and other runoff is directed into this feature.

## 5.0 ASSESSMENT RESULTS

### 5.1 Vegetation Communities and Other Land Cover

WRA observed nine land cover types within the Study Area as shown on Figure 3 (Appendix A) and summarized in Table 2. The non-sensitive land cover types in the Study Area include coyote brush scrub, poison oak scrub, non-native grasslands, and artichoke thistle field. The sensitive land cover types in the Study Area include intermittent stream, seasonal wetland, freshwater marsh, riparian, and toyon chaparral.

TABLE 2. VEGETATION COMMUNITY AND LAND COVER TYPES

| COMMUNITY/LAND COVERS                   | SENSITIVE STATUS | RARITY RANKING | ACRES WITHIN STUDY AREA |
|-----------------------------------------|------------------|----------------|-------------------------|
| <b>Terrestrial Community/Land Cover</b> |                  |                |                         |
| Riparian                                | Sensitive        | S3/G3          | 0.91                    |
| Toyon Chaparral                         | Sensitive        | S4/G5          | 1.24                    |
| Coyote Brush Scrub                      | Not Sensitive    | S5/G5          | 0.43                    |
| Poison Oak Scrub                        | Not Sensitive    | S4/G4          | 0.91                    |
| Artichoke Thistle Field                 | Not Sensitive    | None           | 3.29                    |
| Non-native Grassland                    | Not Sensitive    | None           | 12.70                   |
| <b>Aquatic Resources</b>                |                  |                |                         |
| Intermittent Stream                     | Sensitive        | None           | 0.05                    |
| Seasonal Wetland                        | Sensitive        | None           | 0.49                    |
| Freshwater Marsh                        | Sensitive        | None           | 0.12                    |

#### 5.1.1 Terrestrial Land Cover

Riparian (*Platanus racemosa* – *Quercus agrifolia* Woodland Alliance). CDFW Rank: S3/G3. The riparian land cover type borders the intermittent stream in the northern portion of the Study Area. The vegetation is characterized by a dense tree canopy dominated by coast live oak (*Quercus agrifolia*) with occasional red willows (*Salix laevigata*) and meets the membership rules for the California sycamore – coast live oak riparian woodlands (*Platanus racemosa* – *Quercus agrifolia* Woodland Alliance) (CNPS 2024b). Where there are gaps in the canopy, Himalayan blackberry (*Rubus armeniacus*) is dominant and dense. The understory is generally sparse to absent and dominated by Himalayan blackberry. Herbs are typically absent. This community is considered sensitive and is potentially subject to CDFW and RWQCB jurisdiction.



PHOTO 1. RIPARIAN AREA WITHIN THE STUDY AREA

Toyon Chaparral (*Prunus ilicifolia* – *Heteromeles arbutifolia* – *Ceanothus spinosus*) Shrubland Alliance). CDFW Rank: S4/G5. Toyon chaparral was mapped in the central/southern portion of the Study Area on the steep slope above and adjacent to the freshwater marsh. It is characterized by open to dense shrub canopy dominated by toyon (*Heteromeles arbutifolia*) with occasional coyote brush (*Baccharis pilularis*) and poison oak (*Toxicodendron diversilobum*). This land cover type meets the membership rules for holly leaf cherry – toyon – greenbark ceonothus chaparral (*Prunus ilicifolia* – *Heteromeles arbutifolia* – *Ceanothus spinosus* Shrubland Alliance) (CNPS 2024b).



**PHOTO 2. TOYON CHAPARRAL WITHIN THE STUDY AREA**

Interstitial areas are dominated by non-native annual grasses such as wild oat (*Avena* sp.) and purple false brome (*Brachypodium distachyon*). Occasional small coast live oak trees are present at low cover. Although the general holly leaf cherry – toyon – greenbark ceonothus chaparral Alliance is not considered sensitive by the CDFW, the toyon – holly leaf cherry species association within that alliance is considered sensitive.



**PHOTO 3. COYOTE BRUSH SCRUB WITHIN THE STUDY AREA**

Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance). CDFW Rank: S5/G5. A small patch of coyote brush scrub was mapped in the northern portion of the Study Area. It is an open stand of shrubs dominated by coyote brush and meets the membership rules for the coyote brush scrub (*Baccharis pilularis* Shrubland Alliance) (CNPS 2024b). The interstitial areas are dominated by wild oat. Trees are absent. Coyote brush scrub is not considered sensitive.

Poison Oak Scrub (*Toxicodendron diversilobum* Shrubland Alliance). CDFW Rank: S4/G4. Poison oak scrub was mapped near the top of the steep ridge in the southern portion of the Study Area. It is characterized by an open shrub canopy dominated by poison oak, with occasional toyon and coyote brush present. It meets the membership rules for the poison oak scrub (*Toxicodendron diversilobum* Shrubland Alliance) (CNPS 2024b). The interstitial areas are dominated by non-native herbs such as fennel (*Foeniculum vulgare*), wild oat, and purple false brome. Poison oak scrub is not considered sensitive.



**PHOTO 4. POISON OAK SCRUB WITHIN THE STUDY AREA**

Artichoke Thistle Field (*Brassica nigra* – *Centaurea [solstitialis, melitensis]* Herbaceous Semi-natural Alliance). CDFW Rank: None. The artichoke thistle field was mapped on the steep slope in the southernmost portion of the Study Area. The vegetation is herbaceous and dominated by artichoke thistle (*Cynara cardunculus* ssp. *flavescens*), with other non-native herbs between artichoke thistle plants, including wild oat, purple false brome, black mustard (*Brassica nigra*), Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), and fennel. Trees and shrubs were typically absent. This land cover type meets the membership rules for the upland mustards or star-thistle fields (*Brassica nigra* – *Centaurea [solstitialis, melitensis]* Herbaceous Semi-natural Alliance) (CNPS 2024b). Artichoke thistle fields is not considered sensitive.



**PHOTO 5. ARTICHOKE THISTLE FIELD WITHIN THE STUDY AREA**



**PHOTO 6. NON-NATIVE GRASSLAND WITHIN THE STUDY AREA**

*Bromus* spp. Herbaceous Semi-natural Alliance) (CNPS 2024b). Non-native grassland is not considered sensitive.

Non-native Grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance). CDFW Rank: None.

Non-native grassland is the most common land cover type within the Study Area, occurring on all slopes and aspects. Portions of this land cover type are periodically mowed, and in the far northern portion of the Study Area, a two-track dirt vehicle path is present. Vegetation is herbaceous and is typically characterized by dense wild oat (*Avena* spp.), with occasional shrubs, trees, and other herbs present at low cover. It intergrades with the coyote brush scrub, poison oak scrub, and artichoke thistle fields land cover types. This land cover type meets the member rules for the wild

### 5.1.2 Aquatic Land Cover

Intermittent Stream (No Alliance). CDFW Rank: Sensitive. Intermittent streams are linear features that exhibit indicators of an OHWM and due to groundwater influence, flow for a duration longer than a precipitation event but are dry for a portion of the year. The intermittent stream within the Study Area is defined by a clear bed and bank and exhibits OHWM indicators such as scour and wrack. Trickles of water were observed in portions of the channel during the February 28, 2022, site visit. However, the channel was dry at the time of the July 14, 2022, site visit. The stream receives drainage from a concrete channel from the residential community upstream (to the west). It occurs on a steep slope, and the channel peters out when the topography flattens out and transitions into the seasonal wetland. Intermittent stream is considered sensitive and is potentially subject to CDFW, Corps, and RWQCB jurisdiction.



**PHOTO 7. THE INTERMITTENT STREAM WITHIN THE STUDY AREA**



**PHOTO 8. THE SEASONAL WETLAND WITHIN THE STUDY AREA**

Seasonal Wetland (No Alliance). CDFW Rank: Sensitive. Seasonal wetlands include areas which hold water for part of the year, typically during the rainy season (between October and March) and are dominated by hydrophytic vegetative cover. The seasonal wetland within the Study Area occurs in the northern portion of the Study Area, where the topography flattens out downslope of the intermittent stream. Surface water and saturation were observed in the seasonal wetland during the February 28, 2022, site visit. At the time of the July 14, 2022, site visit no surface water or saturation was observed. The wetland is dominated by bristly ox-tongue (*Helminthotheca echioides*), harding grass (*Phalaris aquatica*), iris leaved rush (*Juncus xiphioides*), and bulrush (*Schoenoplectus americanus*). Himalayan blackberry and a small number of arroyo and red willows (*Salix lasiolepis*) occur at northern edge of the seasonal wetland. The wetland narrows substantially to an incised channel just outside of the eastern edge of the Study Area. The seasonal wetland is considered sensitive and is potentially subject to Corps and RWQCB jurisdiction.

Freshwater Marsh (No Alliance) CDFW Rank: Sensitive. Freshwater marshes are wetlands which hold water for long periods of time and are dominated by graminoids and other herbaceous plants. The marsh on-site is a linear wetland drainage confined by steep slopes located centrally within the Study Area. Inundation was observed during the February 28 and July 14, 2022, site visits, but the full duration of inundation is unknown. It is dominated by dense bulrush with occasional small patches of cattails (*Typha* sp.) and is bordered by non-native annual grassland and toyon chaparral. Surface water is shallow with a very slow flow throughout the bottom of the drainage. Although this feature receives some seasonal runoff from concrete drainage channels upslope, the primary hydrological source is a culvert that drains an unknown source and was flowing at the time of the February and July site visits. The source of this water could not be confirmed, but it does include stormwater and urban residential runoff from the residential development upslope. Freshwater marsh is considered sensitive and is potentially subject to Corps and RWQCB jurisdiction.



**PHOTO 9. THE FRESHWATER MARSH WITHIN THE STUDY AREA**

## **5.2 Special-status Species**

### **5.2.1 Special-status Plants**

Based upon a review of the resource databases listed in Section 3.0, 65 special-status plant species have been documented in the vicinity of the Study Area (Appendix C). None of these species have a moderate or high potential to occur in the Study Area. The species documented from the greater vicinity have unlikely or no potential to occur for one or more of the following reasons:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Study Area;
- Edaphic (soil) conditions (e.g., serpentine) necessary to support the special-status plant species are not present in the Study Area;
- Unique pH conditions (e.g., alkaline soils) necessary to support the special-status plant species are not present in the Study Area;
- Associated natural communities (e.g., coastal habitats, tidal marsh, vernal pools) necessary to support the special-status plant species are not present in the Study Area;
- The Study Area is geographically isolated (e.g. below elevation) from the documented range of the special-status plant species;
- Land use history and contemporary management (e.g., nearby development and the spread of invasive species) has degraded the localized habitat necessary to support the special-status plant species.

No special-status plant species were observed by WRA biologists during the February 28 and July 14, 2022, biological surveys. The biological surveys did not constitute protocol-level surveys for plant species. No further actions or surveys are recommended for special-status plants.

## 5.2.2 Special-status Wildlife

Based upon a review of the resources and databases listed in Section 3.0, 52 special-status wildlife species have been documented in the vicinity of the Study Area. Appendix C summarizes the potential for each of these species to occur in the Study Area. Of the 52 special-status species known from the region, five species were determined to have a moderate or high potential to occur within the Study Area. The remaining species are unlikely or have no potential to occur due to one or more of the following factors.

The Study Area:

- lacks suitable hostplants (e.g., California golden violet, blue elderberry, etc.);
- lacks suitable perennial aquatic habitat (e.g., rivers, streams, or ponds);
- lacks suitable wetland habitat (e.g., vernal pools and tidal marshes);
- is outside of the currently documented or historical range of the species; or
- is outside of the distribution range for known occurrences.

Observations of special-status wildlife by WRA biologists during the February 28 and July 14, 2022, biological surveys are documented in this section. The biological surveys did not constitute protocol-level surveys for wildlife. The species presented in Table 3. were determined to have a moderate or high potential to occur.

**Table 3. Potential Special-status Wildlife**

| SCIENTIFIC NAME                                    | COMMON NAME       | CONSERVATION STATUS | POTENTIAL HABITAT IN THE STUDY AREA                                                                                                                                                                       |
|----------------------------------------------------|-------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Other Special-status Wildlife (CEQA, other)</i> |                   |                     |                                                                                                                                                                                                           |
| <i>Elanus leucurus</i>                             | White-tailed kite | CFP                 | <b>Present.</b> This species was observed foraging within the Study Area during the February 28, 2022 site visit. There is suitable nesting habitat in the form of large oak trees within the Study Area. |
| <i>Circus hudsonius</i>                            | Northern harrier  | SSC                 | <b>Moderate Potential.</b> Grasslands and scrublands within the Study Area may provide suitable nesting habitat for this species. This species has been observed in the local area.                       |
| <i>Asio flammeus</i>                               | Short-eared owl   | SSC                 | <b>Moderate Potential.</b> Grasslands and scrublands within the Study Area may provide suitable nesting habitat for this species. This species has been observed in the local area.                       |
| <i>Lasionycteris noctivagans</i>                   | Silver-haired bat | WBWG Med            | <b>Moderate Potential.</b> Large oak trees within the Study Area provide suitable roosting habitat.                                                                                                       |
| <i>Lasiurus cinereus</i>                           | Hoary bat         | WBWG Med            | <b>Moderate Potential.</b> Large oak trees within the Study Area provide suitable roosting habitat.                                                                                                       |

### Special-status Wildlife Species that are Present in the Study Area

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

The Study Area contains large oak trees suitable for nesting for this species. The Study Area also includes potential foraging habitat for white-tailed kite in the form of nonnative grasslands and scrub communities. White-tailed kites are documented to occur in the region and have been observed routinely foraging near the Benicia State Recreation Area, located east of the Study Area (CDFW 2024b, Cornell 2024). Additionally, this species was observed foraging during the February 28, 2022 site visit. Therefore, white-tailed kites have a moderate potential to nest within the Study Area.

### Special-status Wildlife Species with Moderate Potential to Occur in the Study Area

**Northern harrier (*Circus hudsonius [cyaneus]*). CDFW Species of Special Concern. Moderate Potential.** The northern harrier occurs as a resident and winter visitor in open habitats throughout most of California, including freshwater and brackish marshes, grasslands and fields, agricultural areas, and deserts. Harriers typically nest in treeless areas within patches of dense, relatively tall, vegetation, the composition of which is highly variable; nests are placed on the ground and often located near water or within wetlands (Shuford and Gardali 2008). Harriers are birds of prey and subsist on a variety of small mammals and other vertebrates.

Large portions of the Study Area provide suitable foraging and nesting habitat for northern harriers, including areas with non-native annual grassland and scrub communities. Additionally, the Benicia State Recreation Area, less than 1,000 feet southeast of the Study Area, has a confirmed breeding occurrence in 2005 (CDFW 2024b) and several sightings documented more recently (Cornell 2024). The presence of suitable foraging and nesting habitat in and adjacent to the Study Area suggests that northern harrier has a moderate potential to nest within the Study Area.

**Short-eared owl (*Asio flammeus*). CDFW Species of Special Concern. Moderate Potential.** The short-eared owl occurs primarily as a winter visitor in California; regular breeding is restricted to the Great Basin, portions of the Central Valley, and scattered other lowland locations (e.g., the northern Sacramento-San Joaquin Delta (Shuford and Gardali 2008). Suitable year-round habitat for this species consists of open areas with herbaceous cover, and includes grasslands, prairies, marshes and wetlands, and some agricultural areas. Nests are placed on the ground within vegetative cover. Short-eared owl breeding varies widely in geographic extent across years and is usually closely tied to the population cycle of voles (*Microtus* spp.), their primary prey (Shuford and Gardali 2008).

There are several documented occurrences of this species in the vicinity of the Study Area within the last five years (Cornell 2024). The Study Area contains suitable nesting habitat in the form of non-native annual grasslands and scrub communities. Additionally, the Benicia State Recreation Area, less than 1,000 feet southeast of the Study Area, has a sighting in 2019 (Cornell 2024). The nearest confirmed population is at

Suisun Marsh approximately 7 miles east (Shuford and Gardali 2008; CDFW 2024b). The presence of suitable foraging and nesting habitat in and around the area suggests that short-eared owl has a moderate potential to nest within the Study Area.

**Silver-haired bat (*Lasionycteris noctivagans*). WBWG Medium Priority. Moderate Potential.** Silver-haired bats occur in temperate forests (coniferous, deciduous, and mixed) from southern Alaska to northeastern Mexico. Females form maternity roosts almost exclusively inside hollows or under loose bark of large trees and may switch roosts several times (WBWG 2024). Hibernation occurs in trees, rock crevices, leaf litter, in and under buildings, and in caves and mines. Foraging for insects occurs above the tree canopy. Silver-haired bats are known to migrate south in the winter, although overwintering at northern latitudes has also been documented (WBWG 2024).

The Study Area contains suitable foraging and roosting habitat for this migratory species. During the February 28, 2022 site visit, large oak trees were observed within the Study Area that could provide maternity or day-roost habitat. The presence of suitable roosting and foraging habitat in the Study Area suggests that silver-haired bats have a moderate potential to roost in the Study Area.

**Hoary bat (*Lasiurus cinereus*). WBWG Medium Priority. Moderate Potential.** Hoary bats are highly associated with forested habitats in the western United States, particularly in the Pacific Northwest. They are a solitary species and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, usually at the edge of a clearing. Roosts are typically 10 to 30 feet above the ground. They have also been documented roosting in caves, beneath rock ledges, in woodpecker holes, in grey squirrel nests, under driftwood, and clinging to the side of buildings, though this behavior is not typical. Hoary bats are thought to be highly migratory; however, wintering sites and migratory routes have not been well documented. This species tolerates a wide range of temperatures and has been captured at air temperatures between 0 and 22 degrees Celsius. Hoary bats probably mate in the fall, with delayed implantation leading to birth in May through July. They usually emerge late in the evening to forage, typically from just over one hour after sunset to after midnight. This species reportedly has a strong preference for moths, but is also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps (WBWG 2024).

The Study Area contains suitable foraging and roosting habitat for this migratory species. During the February 28, 2022, site visit, large oak trees were observed within the Study Area that could provide maternity or day-roost habitat. The presence of suitable roosting and foraging habitat in the Study Area suggests that hoary bats have a moderate potential to occur within the Study Area.

#### Special-Status Wildlife Species Documented Nearby but Unlikely to Occur within the Study Area

The following special-status wildlife species are unlikely to occur but are discussed here because there are documented occurrences near the Study Area or typical land cover types associated with these species present in the Study Area. However, habitat elements within the Study Area do not support these species. Discussion of additional species that were determined to have no or limited potential to occur in the Study Area is provided in Appendix C.

**Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Unlikely.** The pallid bat is broadly distributed throughout much of western North America and typically occurs in association with open, rocky areas. Occupied habitats are highly variable and range from deserts to forests in lowland areas and include higher-elevation forests. Roosting may occur singly or in groups of up to

hundreds of individuals. Roosts must offer protection from high temperatures and are typically in rock crevices, mines, caves, or tree hollows; manmade structures are also used, including buildings (both vacant and occupied) and bridges. Pallid bats are primarily insectivorous, feeding on large prey that is usually taken on the ground but sometimes in flight (WBWG 2024).

The nearest documented occurrence of this species was approximately 13 mi north in 2007, in addition to several historic occurrences (pre-1940) south of the Study Area (CDFW 2024b). The Study Area contains suitable foraging habitat for this species. However, there is no suitable roosting habitat as this species is very sensitive to disturbance. The few large trees within the Study Area are directly adjacent (approximately 330 ft) to interstate 780 and exposed to predators, wind, and temperature fluctuations. Additionally, this species typically roosts in crevices of rocks, caves, and mines which are absent from the Study Area. This species could be found in the Study Area foraging but not roosting.

**Burrowing owl (*Athene cunicularia*).** CDFW Species of Special Concern; USFWS Bird of Conservation Concern. **Unlikely.** The burrowing owl occurs as a year-round resident and winter visitor in much of California's lowlands, inhabiting open areas with sparse or non-existent trees or shrub canopies. Typical habitat is annual or perennial grassland, although human-modified areas such as agricultural lands and airports are also used (Poulin et al. 2011). 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 (*Otospermophilus beecheyi*). Manmade substrates such as pipes or debris piles may also be occupied in place of burrows. Prey consists of insects and small vertebrates. Breeding typically takes place from March to July.

There have been numerous documented occurrences of this species within 5 miles of the Study Area during wintering and migration periods (CDFW 2024b, Cornell 2024), and two winter occurrences approximately 4 miles from the Study Area (CDFW 2024b). The Study Area contains suitable foraging habitat in the form of grasslands and shrublands and therefore may be observed foraging during winter or migration periods. During the site visit on February 28, 2022, no ground squirrel burrows were observed. Therefore, the Study Area lacks the mammal burrows necessary for nesting and refuge by this species and it is unlikely to nest within occupy the Study Area.

**Crotch bumble bee (*Bombus crotchii*), State candidate. Unlikely.** Crotch bumble bee occurs primarily in central and southern California, from coastal areas inland to the foothills (Williams et al. 2014). This species is now largely absent from the Central Valley, although it was historically common in this region (Hatfield et al. 2015). Crotch bumble bee occurs in grassland and scrub habitats and has also been documented in agricultural areas. Like other bumble bee species, Crotch bumble bee is a social species with an annual life cycle. Queens emerge from hibernation in the late winter/early spring to establish a new colony. The colony produces workers throughout the spring and summer, and reproductive (i.e. drones and queens) in the early fall. Nests are built in pre-existing cavities. They are commonly found underground, in abandoned rodent burrows, or aboveground in grass tufts, rock piles, abandoned bird nests, or tree cavities. Crotch bumble bee feeds on pollen and nectar during all life stages; preferred host species include (but are not limited to) milkweeds (*Asclepias* spp.), chaenactis (*Chaenactis* spp.), clarkias (*Clarkia* spp.), larkspurs (*Delphinium* spp.), buckwheats (*Eriogonum* spp.), lupines (*Lupinus* spp.), medicks (*Medicago* spp.), bladderpod (*Peritoma arborea*), phacelias (*Phacelia* spp.), poppies (*Eschscholzia* spp.), and sages (*Salvia* spp.). Queens overwinter in hibernacula; little is known about habitat requirements for hibernacula; bare ground, leaf litter and/or duff, and pre-existing cavities may provide overwintering habitat. Major threats to Crotch bumble bee include agricultural intensification and rapid urbanization (Hatfield et al. 2015). Additionally, Crotch bumble bees have a narrow climatic range compared to most

bumble bee species and may be threatened by increasing aridity and global climate change (NatureServe 2022). In general, bumble bees are threatened by a combination of factors including pesticide use, resource competition with non-native bees, and pathogen spillover from managed pollinators (Goulson 2010, Cameron et al. 2011).

The single documented occurrence of this species within 60 miles was over 13 miles away across the Carquinez Strait in 2015 (CDFW 2024b). The Study Area contains foraging and nesting habitat for this species. However, limited food resources (as nectar producing flowers) were observed within the Study Area during the February and July site visits. In addition, no ground squirrel burrows were observed and nesting habitat may be severely limited. Additionally, populations of this species have drastically contracted in recent years by 97.7 percent (CDFW 2019). The Study Area is significantly isolated and surrounded by development including large residential complexes and Interstate 780 to the north, and Carquinez Strait to the south. The nearest undeveloped lands are three miles to northeast near Lake Herman where more suitable foraging and nesting habitat occurs.

### **5.3 Wildlife Corridors and Native Wildlife Nursery Sites**

#### Wildlife Corridors

No native wildlife nursery sites are present in the Study Area. Wildlife movement between suitable habitat areas can occur via open space areas lacking substantial barriers. The terms “landscape linkage” and “wildlife corridor” are often used when referring to these areas. The key to a functioning corridor or linkage is that it connects two larger habitat blocks, also referred to as core habitat areas (Beier and Loe 1992; Soulé and Terbough 1999). It is useful to think of a “landscape linkage” as being valuable in a regional planning context, a broad scale mapping of natural habitat that functions to join two larger habitat blocks. The term “wildlife corridor” is useful in the context of smaller, local area planning, where wildlife movement may be facilitated by specific local biological habitats or passages and/or may be restricted by barriers to movement. Above all, wildlife corridors must link two areas of core habitat and should not direct wildlife to developed areas or areas that are otherwise void of core habitat (Hilty et al. 2019).

The Study Area is not within a designated wildlife corridor (CalTrans 2010). The site is located within a much larger tract of housing developments intersected with several highways and nonnative grasslands in Solano County. The Benicia State Recreation Area is approximately 1,000 feet southeast of the Study Area; however, the Study Area does not provide connection to other tidal marsh habitats nor does it contain such habitat.. While common wildlife species presumably utilize the site to some degree for movement at a local scale, the Study Area itself does not provide corridor functions beyond connecting similar ruderal grassland parcels to surrounding areas.

#### Essential Fish Habitat

The Study Area does not function as a fisheries movement corridor. The National Oceanic and Atmospheric Administration’s (NOAA) Essential Fish Habitat geospatial dataset uses habitat modelling to identify water features with value as fishery habitat (NMFS 2024). The entirety of the Study Area is within the Chinook salmon Essential Fish Habitat. However, this database is depicting a coarse resolution of the entire watershed that influences this fishery. There is no stream or river within the Study Area capable of supporting the Chinook salmon fishery or its habitat in any form.

### Critical Habitat

The Study Area does not contain designated critical habitat.

## **6.0 ANALYTICAL METHODOLOGY AND 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:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
4. 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These thresholds were utilized in completing the analysis of potential project impacts for CEQA purposes. For the purposes of this analysis, a “substantial adverse effect” is generally interpreted to mean that a potential impact could directly or indirectly affect the resiliency or presence of a local biological community or species population. Potential impacts to natural processes that support biological communities and special-status species populations that can produce similar effects are also considered potentially significant. Impacts to individuals of a species or small areas of existing biological communities may be considered less than significant if those impacts are speculative, beneficial, de minimis, and/or would not affect the resiliency of a local population.

## **7.0 IMPACTS AND MITIGATION EVALUATION**

Using the CEQA analysis methodology outlined in Section 6.2 above, the following section describes potential significant impacts to sensitive resources within the Project Area as well as suggested mitigation measures which are expected to reduce impacts to less than significant.

## 7.1 Special-status Species

This section analyzes the Project's potential impacts and mitigation for special-status species in reference to the significance threshold outlined in CEQA Appendix G, Part IV (a):

- a) *Does the project have the potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Potential impacts and mitigation for potentially significant impacts are discussed below.

### 7.1.1 Special-status Plant Species

As detailed in Section 5.2.1, above, none of the 65 special-status plant species documented within the vicinity of the Proposed Project have potential to occur within the Project Area; therefore, there is **no impact**, and no avoidance, minimization, or mitigation measures are necessary to avoid impacts to special-status plant species in the Project Area.

### 7.1.2 Special-status Wildlife Species

As detailed in Section 5.2.2, above, five of the 52 special-status wildlife species documented within the vicinity of the Study Area have potential to occur within the Project Area: therefore, mitigation measures are necessary to avoid impacts to special-status wildlife species in the Project Area. With implementation of MM BIO-1a, 1b, 2a, and 2b below, the Proposed Project would reduce impacts to a less-than-significant level.

*White-tailed Kite, Northern harrier, Short-Eared Owl, and Nesting Bird Species*

The Proposed Project has the potential to impact white-tailed kite, northern harrier, short-eared owl, and other native nesting birds. Potential impacts to these species are regulated under CEQA and Sections 3503, 3503.5, and 3513 of Fish and Game Code. Future activities within the Project Area may impact these species during their nesting season (typically between March 1 – August 31).

The following section presents recommendations to avoid, minimize, or mitigate impacts to white-tailed kite, northern harrier, and short-eared owl.

**Potential Impact BIO-1:** The Proposed Project's housing development within the Project Area could result in direct mortality of white-tailed kite, northern harrier, short-eared owl, and other native bird species nests, which would be considered a significant impact. Impacts to active nests of this species and their eggs, chicks and young could occur during the removal of trees, vegetation, or other ground-disturbing activities. These activities could result in the direct removal or destruction of active nests, as well as generate audible, vibratory and/or visual disturbances that might indirectly result in nest abandonment.

To reduce potential impacts to white-tailed kite, northern harrier, short-eared owl, and native nesting birds to a less-than-significant level, the following measures:

**Mitigation Measure BIO-1a:** To avoid adverse effects to the active nests of special-status and other native bird species, tree removal, vegetation removal, and initial ground disturbance should be prioritized to occur during the non-nesting season, between September 1 through January 31.

**Mitigation Measure BIO-1b:** A pre-construction nest survey for white-tailed kite, northern harrier, short-eared owl, and other native bird species shall be conducted prior to initial ground disturbance, including tree removal or vegetation removal if it begins during the nesting bird season (defined as February 1 through August 31). If active nests (containing eggs, chicks or young) are discovered during these surveys, a qualified biologist shall establish a species-specific no-work buffer around the active nest. Work may resume in the buffer after the nesting season ends or a qualified biologist confirms the nest is inactive.

Implementation of these mitigation measures will reduce potential impacts to white-tailed kite, northern harrier, and short-eared owl to a level that is less than significant.

#### *Silver-Haired Bat, Hoary Bat, and Other Roosting Bat Species*

The Proposed Project has the potential to impact silver-haired bats and hoary bats, both are Western Bat Working Group (WBWG) Medium Priority species. For bat species, the WBWG designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA. Future activities within the Project Area including tree removal may affect these species during their maternity roosting season (typically between March 1 – August 31). No potential hibernation roosts are present within the Project or Study Area.

The following section presents recommendations to avoid, minimize, or mitigate impacts to the silver-haired bat and hoary bat.

**Potential Impact BIO-2:** The removal of trees within the Project Area could result in direct mortality of silver-haired bat and hoary bat adults and maternity roosts, which would be considered a significant impact. Impacts to active maternity roosts of this species and their pups could occur during the removal of trees, vegetation, or other ground-disturbing activities in proximity to roost sites. These activities could result in the direct removal or destruction of active roosts, as well as generate audible, vibratory and/or visual disturbances that might indirectly result in roost abandonment.

To reduce potential impacts to the silver-haired bat and hoary bat to a less-than-significant level, the following measures shall be implemented:

**Mitigation Measure BIO-2a:** To avoid adverse effects to maternity roosts of special-status and other bat species, tree removal, vegetation removal, and initial ground disturbance should be prioritized to occur outside the maternity roosting season, between September 1 through April 30. Large trees ((DBH > 24 inches) removed during this season (September 1 – April 30) shall be cut using a two-phased system where branches and limbs are cut and left on the ground overnight prior to chipping or removal from the site.

**Mitigation Measure BIO-2b:** During the maternity roost season (May 1 – August 31), at least 30 days prior to the removal of any large tree (DBH > 24 inches) a bat roost assessment shall be conducted by a qualified biologist to determine if potential roost habitat is present.

If no maternity roost habitat is present, trees shall be removed using a two-phased cut. Cut branches and limbs shall be left on the ground overnight prior to chipping or removal from the site.

If potential maternity roosting habitat is present, the qualified biologist shall conduct an emergence survey to determine if the roost is occupied or assume the roost is occupied and establish a no-work buffer. If an emergence survey is conducted and does not detect bats, the tree may be removed with no further measures required to protect roosting bats. If roosting bats are detected, or the tree is assumed to be an active roost, the tree shall be given a 100-foot no work buffer and shall be avoided until after the maternity roosting season is complete. Once the maternal roosting season is complete, tree removal shall follow the two-phase approach for tree removal.

Implementation of these mitigation measures will reduce potential impacts to the silver-haired bat and hoary bat to a level that is less than significant.

## 7.2 Sensitive Natural Communities and Land Cover Types

This section addresses the question:

*b) Does the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*

Sensitive natural communities within the Project Area include seasonal wetland.

The Proposed Project is designed to avoid and minimize impacts to sensitive natural communities. The design plans account for total avoidance of the toyon chaparral land cover type, keeping the area south of the freshwater marsh as open space. Additionally, the Project plans to avoid the intermittent stream, freshwater marsh, and riparian vegetation. However, the Proposed Project would convert the seasonal wetland into a stormwater basin within the Project Area. Although the stormwater basin would be vegetated and seasonally inundated, it is a loss of the seasonal wetland and considered a permanent impact. A Section 404 CWA permit from the Corps and Section 401 CWA certification from the RWQCB may be required for conversion of the seasonal wetland. Additionally, because of the proximity of the riparian and freshwater marsh land cover types to the construction footprint, the Vista Cove Project could result in increased sedimentation to the freshwater marsh or damage to roots of riparian trees. Potential impacts and mitigation measures to avoid impacts to these sensitive natural communities are described below.

**Potential Impact BIO-3:** The proposed conversion of 0.49 acre of seasonal wetland to a stormwater basin for the development will result in fill and permanent loss of the seasonal wetland within the Project Area.

**Potential Impact BIO-4:** Temporary impacts associated with construction activities adjacent to the riparian and freshwater marsh land cover types may result increased sedimentation into freshwater marsh, trimming of riparian vegetation, or exposure of riparian tree roots.

To reduce potential impacts to the seasonal wetland, riparian, and freshwater marsh to a less-than-significant level, the following measures shall be implemented:

**Mitigation Measure BIO-3:** Compensatory mitigation for permanent loss of the seasonal wetland shall be required. Mitigation may be satisfied through purchase of mitigation bank credits from an approved mitigation bank, payment of in-lieu fees to an approved public agency or conservation organization (e.g. local land trust), for implementation of compensatory mitigation projects, or via a permittee responsible mitigation involving creation, restoring, or enhancing analogous habitat. The ratio for acres of mitigation to acres impacted shall be 1:1.

**Mitigation Measure BIO-4a:** Prior to ground disturbing activities, construction fencing or flagging shall be installed to delineate the riparian and freshwater marsh boundaries. The fencing will be checked regularly during construction activities to ensure that the fencing remains intact and functional, and that encroachment has not occurred into the sensitive habitat or boundary; any repairs to the fence or encroachment correction will be conducted immediately. At the end of the Project all temporary flagging, fencing, or other materials would be removed from the work areas and vicinity of the channel.

**Mitigation Measure BIO-4b:** Erosion control measures would be utilized throughout all phases of the Project where sediment runoff from construction may potentially enter nearby waters. Appropriate sediment and erosion control BMPs (e.g., use of silt fencing and/or straw waddles around the perimeter of the construction zone) will be implemented during and following construction to minimize surface runoff originating from the Project and thereby protect water quality of the freshwater marsh. Erosion control structures would be monitored for effectiveness and would be repaired or replaced as needed.

- i. Prior to construction, a Stormwater Pollution Prevention Plan (SWPPP) would be developed. The plan would include the implementation and maintenance of erosion control measures.
- ii. Prior to construction, an Accidental Spill Prevention and Cleanup Plan would be prepared. This plan would include required spill control absorbent material, for use beneath stationary equipment, to be present on-site and available at all times.
- iii. No fueling, cleaning, or maintenance of vehicles or equipment would take place within any areas where an accidental discharge may cause hazardous materials to enter waterways.
- iv. Any equipment or vehicles used for the Project would be checked and maintained daily to prevent leaks of fluids that could be deleterious to aquatic habitats.

- v. All equipment would be cleaned before arriving on the site and before removal from the site to prevent spread of invasive plants.
- vi. To avoid establishment of invasive, non-native plant species on or adjacent to the Project Area, the following measures will be implemented:
  - 1. Vegetation disturbances will be limited to those areas identified on construction plans and maps as slated for development or construction staging.
  - 2. Erosion and sediment control materials will be certified as weed-free.
- vii. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, would be located outside of the stream channel banks and outside of nearby waters.
- viii. Stationary equipment such as motors, pumps, and generators, located adjacent to aquatic features would be positioned over secondary containment sufficient to arrest a catastrophic failure.
- ix. Stockpiles of excavated soil or other would be covered when not in active use (i.e. would not be used or moved for 72 hours). All trucks hauling soil, sand, and other loose materials would be covered.

**Mitigation Measure BIO-4c:** In order to protect trees adjacent to the Project Area:

- i. Trees not proposed for removal but adjacent to Project activities shall have orange construction fencing installed at the dripline. This shall be known as the tree protection zone (TPZ).
- ii. Work within the TPZ shall be minimized to the maximum extent feasible.
- iii. If work must occur within the TPZ, the fence can be removed temporarily, the tree trunk shall be wrapped in a waddle, and the fence shall be placed back as soon as work is completed.
- iv. All equipment and stockpiles must be in designated staging areas away from all TPZ.
- v. All trees to be removed shall be felled away from any trees to be avoided.
- vi. If trees not proposed for removal require pruning, pruning shall follow ANSI A300 standards or be performed by a certified arborist.
- vii. If any roots are exposed from trees to be avoided, roots can be pruned up to the diameter of 2 inches and pruned at 90-degree angles. The roots shall be covered by a damp burlap sack or damp towel while exposed.

Implementation of these mitigation measures will reduce this potential impact to seasonal wetland, freshwater marsh, and riparian land covers to a level that is ***less than significant***.

### 7.3 Aquatic Resources

This section analyzes the Project's potential impacts and mitigation for wetlands and other areas presumed or determined to be within the jurisdiction of the Corps or BCDC in reference to the significance threshold outlined in CEQA Appendix G, Part IV (c):

*c) Does the Project have the potential to have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

The Proposed Project is designed to avoid the freshwater marsh in the southern half of the Study Area and the intermittent stream within the Project Area. Both of which are potential Waters of the U.S. and State and the intermittent stream is potentially jurisdictional under CFGC 1602. Potential temporary impacts and mitigation measures for the freshwater marsh are described above (**Potential Impact and Mitigation Measure BIO-4**). No impacts are anticipated to the intermittent stream. Approximately 0.42 acre of seasonal wetland will be permanently impacted by Project construction as a result of conversion to a stormwater basin. Potential impacts and mitigation measures are discussed above in **Potential Impact and Mitigation Measures BIO-3 and BIO-4**. No additional impacts beyond those previously described are anticipated.

The implementation of Mitigation Measure BIO-3, BIO-4a, and BIO-4b will reduce impacts to a ***less than significant*** level.

## 7.4 Wildlife Corridors

This section analyzes the Project's potential impacts and mitigation for habitat corridors and linkages in reference to the significance threshold outlined in CEQA Appendix G, Part IV (d):

*d) Does the Project have the potential to 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;*

As noted in Section 5.3, no portions of the Study Area provide connectivity between areas of suitable habitat (Caltrans 2010), and the Study Area does not contain nursery sites. No impact will occur to migratory corridors for terrestrial and aquatic species.

## 7.5 Local Policies and Ordinances

This section analyzes the Project's potential impacts and mitigation based on conflicts with local policies and ordinances in reference to the significance threshold outlined in CEQA Appendix G, Part IV (e):

*e) Does the Project have the potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;*

Local plans and policies related to biological resources examined in this analysis are:

- City of Vallejo General Plan, and
- City of Vallejo Tree Ordinance

The Proposed Project is consistent with the City of Vallejo General Plan regarding protecting sensitive natural resources, when possible, and ***no conflict*** will occur related to these local policies. However, the removal of trees as a part of the Proposed Project will require compliance with the City of Vallejo Tree

Ordinance. The Proposed Project will provide an Arborist Report prior to construction and will plant replacement trees according to the City of Vallejo Tree Ordinance, therefore **no conflict** with the tree ordinance will occur.

Tree removal may be required for the Proposed Project, as needed for construction and access. Some of the trees removed may be classified as "significant trees" or otherwise protected by local ordinances. The City of Vallejo Tree Ordinance requires tree removal permits for any significant tree. An arborist report (WRA 2023) in compliance with the City's Tree Ordinance has been prepared and up to 47 significant trees are anticipated to be removed for the Proposed Project. The proposed Project will follow the Tree Ordinance and replanting requirements. There is no potential conflict with the local tree ordinance.

## 7.6 Habitat Conservation Plans

This section analyzes the Project's potential impacts and mitigation based on conflicts with any adopted local, regional, and state habitat conservation plans in reference to the significance threshold outlined in CEQA Appendix G, Part IV (f):

*f) Does the Project have the potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The Project Area is not within an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan, therefore, there is **no conflict** with adopted conservation plans.

## 8.0 REFERENCES

- Bechard, M. J., C. S. Houston, J. H. Sarasola and A. S. England. 2010. Swainson's Hawk (*Buteo swainsoni*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/265>
- Beier, P., and S. Loe. 1992. A checklist for evaluating impacts to wildlife movement corridors. Wildlife Society Bulletin 20(4):434–440.
- Black, S. H., and D. M. Vaughan. 2005. Species Profile: *Speyeria callippe callippe*. In Shepherd, M. D., D. M. Vaughan, and S. H. Black (Eds). Red List of Pollinator Insects of North America. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.
- Buehler, D. 2000. Bald Eagle (*Haliaeetus leucocephalus*), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: <https://birdsna.org/Species-Account/bna/species/baleag>.
- Bulger, J.B., S.J. Norman, and R.B. Seymour. 2003. Terrestrial Activity and Conservation of Adult California Red-legged Frogs (*Rana aurora draytonii*) in Coastal Forests and Grasslands. Biological Conservation 110 (2003) 85–95.
- Bumble Bee Watch. 2023. Bumble Bee Sightings Map. Online at: [bumblebeewatch.org](http://bumblebeewatch.org) Accessed on January 2023.
- Cameron, S.A., H. C. Lim, J. D. Lozier, and R. Thorp. 2016. Test of the invasive pathogen hypothesis of bumble bee decline in North America. Proceedings of the National Academy of Sciences, 113(16), 4386-4391.
- Cameron, S. A., Lozier, J. D., Strange, J. P., Koch, J. B., Cordes, N., Solter, L. F., & Griswold, T. L. 2011. Patterns of widespread decline in North American bumble bees. Proceedings of the National Academy of Sciences, 108(2), 662-667.
- [CDFG] California Department of Fish and Game. 2019. Evaluation of the petition from the xerces society, defenders of Wildlife, and the center for food safety To list four species of bumble bees as endangered under the California Endangered species act. Environmental Services Division, California Department of Fish and Wildlife, Sacramento, California.
- [CDFG] California Department of Fish and Game. 2019. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607. Environmental Services Division, California Department of Fish and Wildlife, Sacramento, California.
- [CDFW] California Department of Fish and Wildlife. 2024a. California Natural Community List. Biogeographic Data Branch. Vegetation Classification and Mapping Program, Sacramento, California. Most recently accessed February 2024.
- [CDFW] California Department of Fish and Wildlife. 2024b. California Natural Diversity Database. Biogeographic Data Branch, Vegetation Classification and Mapping Program, Sacramento,

- California. Available online at: <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>; most recently accessed: February 2024.
- [CDFW and Caltrans] California Department of Fish and Wildlife and California Department of Transportation. 2024. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. California Department of Fish and Wildlife, Sacramento, CA.
- [Caltrans] California Department of Transportation. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity/CEHC>. Most recently accessed: August 2022.
- [CNPS] California Native Plant Society. 2024a. Inventory of Rare and Endangered Plants (online edition, v9-01 1.5). Sacramento, California. Online at: <http://rareplants.cnps.org/>; most recently accessed: February 2024.
- [CNPS] California Native Plant Society (CNPS). 2024b. A Manual of California Vegetation, Online Edition. Available online at: <http://vegetation.cnps.org>. Most recently accessed: February 2024.
- [CCH1] Consortium of California Herbaria 1. 2024. CCH1: Featuring California Vascular Plant Data from the Consortium of California Herbaria and Other Sources. Data provided by the Consortium of California Herbaria. Available online at: <http://ucjeps.berkeley.edu/consortium/>; most recently accessed: February 2024.
- [CCH2] Consortium of California Herbaria 2. 2024. CCH2 Portal. Online at: <http://cch2.org/portal/index.php>; most recently accessed: February 2024.
- [Cornell] Cornell Lab of Ornithology. 2024. eBird: An online database of bird distribution and abundance. Available online at: Ithaca, NY. <http://www.ebird.org>. Most recently accessed: February 2024.
- Dunk, JR. 1995. White-tailed Kite (*Elanus leucurus*), The Birds of North America Online (A Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/178>.
- Environmental Laboratory. 1987. Corp of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Technical Report Y-87-1, Vicksburg, Mississippi.
- Google Earth. 2024. Aerial Imagery 1985-2022. Most recently accessed: February 2024.
- Goulson, D. 2010. Bumblebees: behaviour, ecology, and conservation. Oxford University Press on Demand.
- Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2015. *Bombus crotchii*. The IUCN Red List of Threatened Species 2015: e.T44937582A46440211. <https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937582A46440211.en>. Accessed on 09 January 2023.
- Hilty, J. A., W. Z. Lidicker Jr, and A. M. Merenlender. 2019. Corridor Ecology: Linking Landscapes for Biodiversity Conservation. Second Edition. Island Press.

- Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California, The Resources Agency, Department of Fish and Game, Sacramento, CA.
- Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Report prepared for the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.
- Jepsen, S., D.F. Schweitzer, B. Young, N. Sears, M. Omes, and S. Hoffman Black. 2015. Conservation Status and Ecology of the Monarch Butterfly in the United States. Prepared for the U.S. Forest Service. Xerces Society for Invertebrate Conservation, Portland, OR.
- Kochert, M., K. Steenhof, C. McIntyre, E. Craig. 2002. Golden Eagle (*Aquila chrysaetos*). Pp.1-44 in A. Poole, F. Gill, eds. The Birds of North America, Vol. 684. Philadelphia: The Birds of North America.
- Leong, K.L.H., W.H. Sakai, W. Bremer, D. Feuerstein, and G. Yoshimura. 2004. Analysis of the pattern of distribution and abundance of monarch overwintering sites along the California coastline. Pages 177-185 in The Monarch Butterfly: Biology and Conservation, K. Oberhauser and M. Solensky (eds). Cornell University Press, Ithaca, NY.
- Lichvar, R. W., and S. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. A Delineation Manual. ERDC/CRREL TR-08-12. Cold Regions Research and Engineering Laboratory. U.S. Army Engineer Research and Development Center. Page 84. Cold Regions Research and Engineering Laboratory U.S. Army Engineer Research and Development Center, ERDC/CRREL TR-08-12, Hanover, New Hampshire.
- Meese, R.J., E.C. Beedy and W.J. Hamilton, III. 2014. Tricolored Blackbird (*Agelaius tricolor*), The Birds of the World Online (A Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of the World Online: <https://birdsoftheworld.org/bow/species/tribla/cur/introduction> ; Accessed February 2024.
- [NMFS] National Marine Fisheries Service. 2024. Essential Fish Habitat Mapper. Available online at: <https://www.habitat.noaa.gov/protection/efh/efhmapper>. Most recently accessed: August 2022.
- [NETR] Nationwide Environmental Title Research. 2024. Historic Aerials. Available online at: <http://www.historicaerials.com/>; most recently accessed: February 2024.
- NatureServe. 2024. NatureServe Conservation Status. Available online at: <http://explorer.natureserve.org/ranking.htm>. Most recently accessed: January 2024.
- Pierson, ED and WE Rainey. 1998. Distribution, Status and Management of Townsend's Big-eared Bat (*Corynorhinus townsendii*) in California. Department of Fish and Game. BMCP Technical Report Number 96-7.
- Poulin, Ray, L. D. Todd, E. A. Haug, B. A. Millsap and M. S. Martell. 2011. Burrowing Owl (*Athene cunicularia*), The Birds of the World Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of the World Online: <https://birdsoftheworld.org/bow/species/buowl/cur/introduction> ; Accessed February 2024.

- [SFEI] San Francisco Estuary Institute. 2024. California Aquatic Resource Inventory (CARI) version 0.3. Available online at: <https://www.sfei.org/data/california-aquatic-resource-inventory-cari-version-03-gis-data#sthash.9SjW0wBH.dpbs>. Most recently accessed: February 2024.
- Shuford, W. D., and T. Gardali, eds. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- Soulé, M. E., and J. Terbough. 1999. Conserving nature at regional and continental scales - a scientific program for North America. *BioScience* 49(10):809–817.
- [SWRCB] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State, May 14, 2019.
- Stebbins, R. C. 2003. A Field Guide to Western Reptiles and Amphibians, Third edition. Houghton Mifflin Company, Boston, MA and New York, NY.
- The City of Vallejo. 2020. The City of Vallejo General Plan 2040. August 19, 2020.
- Thomson, R. C., A. N. Wright, and H. B. Shaffer. 2016. California amphibian and reptile species of special concern. Co-published by the California Department of Fish and Wildlife and University of California Press, Oakland, California.
- [Corps] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Page 135. U.S. Army Engineer Research and Development Center, ERDC/EL TR-08-28, Vicksburg, Mississippi.
- [USDA] U.S. Department of Agriculture. 2024a. National List of Hydric Soils. Natural Resources Conservation Service. Online at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>; most recently accessed: February 2024.
- U.S. Department of Agriculture. 2024b. Web Soil Survey. Soil Survey Staff, Natural Resources Conservation Service. Available online at: <https://websoilsurvey.nrcs.usda.gov/app/>; most recently accessed: February 2024.
- [USGS] U.S. Geological Survey. 2021. Benicia Quadrangle, California. 7.5-minute topographic map.
- [USFWS] U.S. Fish and Wildlife Service. 2024. National Wetlands Inventory. Available online at: <http://www.fws.gov/nwi>. Most recently accessed: February 2024.
- [USFWS] U.S. Fish and Wildlife Service. 2010. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the California Red-Legged Frog; Final Rule. *Federal Register* 75(51): 12816-12959. March 17.
- [WRA] WRA, Inc. 2023. Sancerra Vista Cove Development Project – Arborist Tree Survey and Report. Prepared for Sancerra. March 2.

- White, C., N. Clum, T. Cade and W. Hunt. 2002. Peregrine Falcon (*Falco peregrinus*). In: The Birds of North America, No. 660, A. Poole and F. Gill, eds. The Birds of North America, Inc. Philadelphia, Pennsylvania. Accessed online on July 21, 2022 at <http://bna.birds.cornell.edu/BNA/>
- Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. 2014. Bumble bees of North America: an Identification Guide. Princeton University Press. 208 pp.
- [WBWG] Western Bat Working Group. 2024. Western Species Accounts. Available online at: <http://wbwg.org/western-bat-species/>. Most recently accessed: February 2024.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

## APPENDIX A – FIGURES

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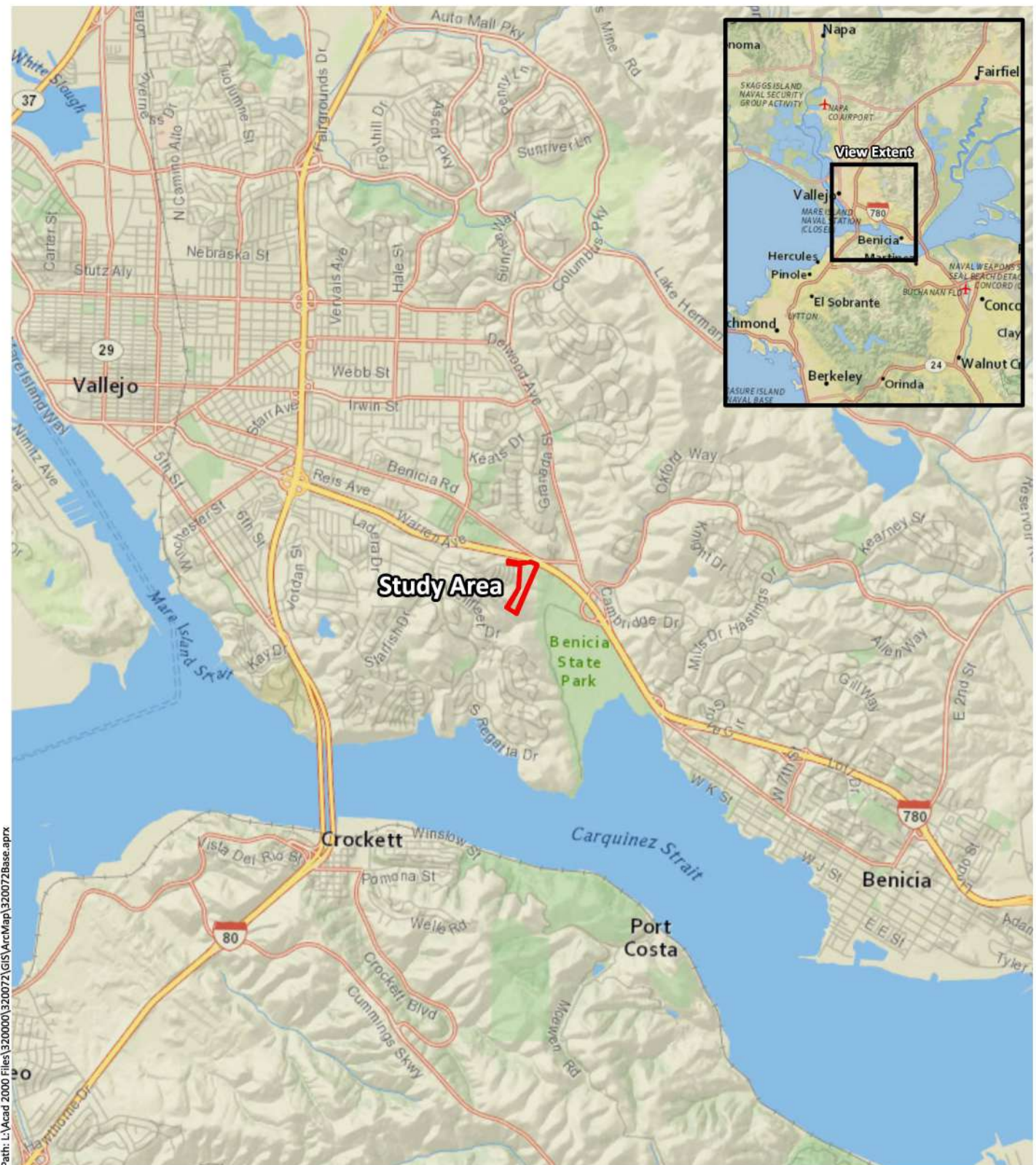


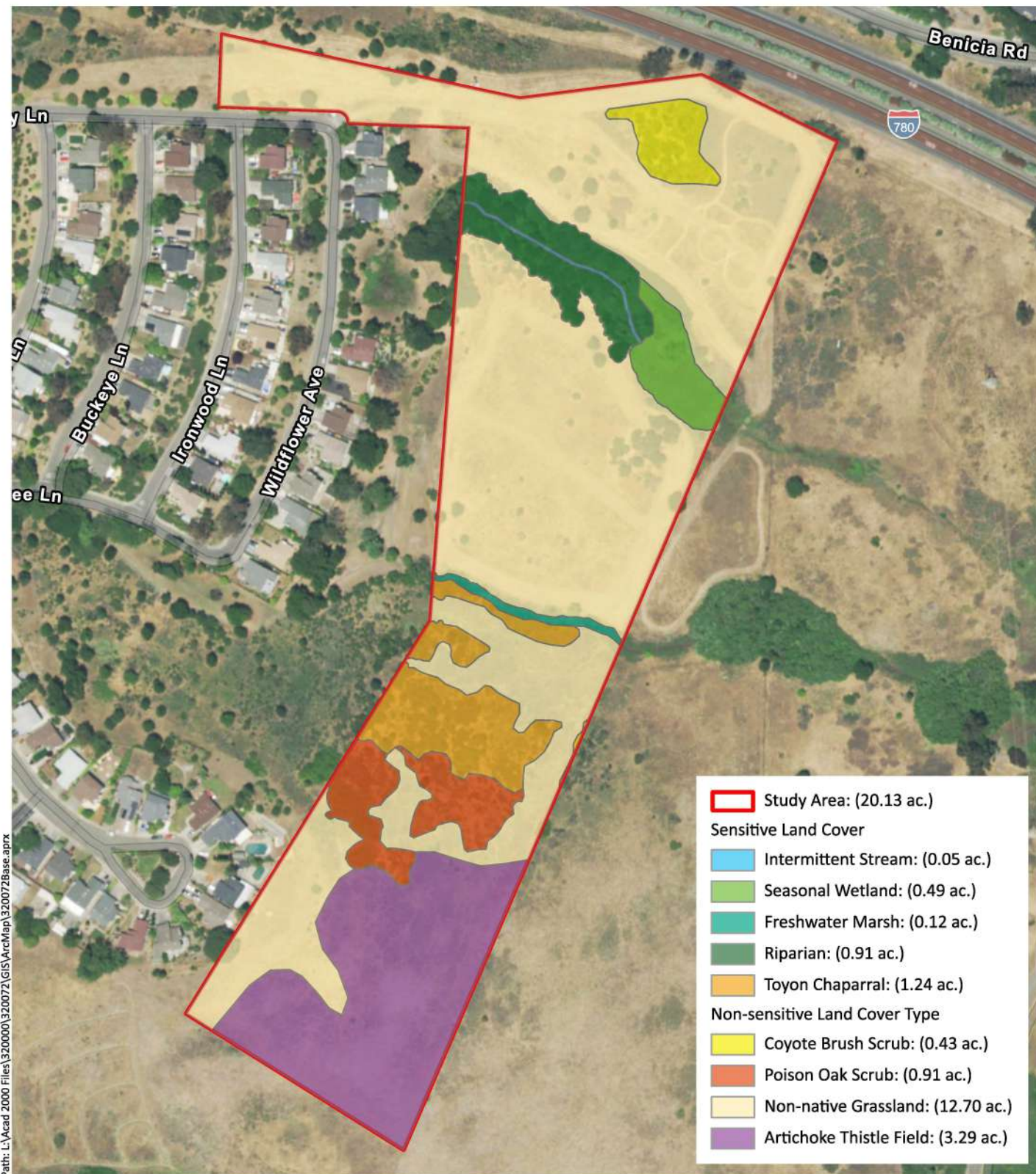
**Figure 1. Study Area Regional Location Map**

Sancerra Vista Cove  
Vallejo, California

0 0.5 1  
Miles



**wra**  
Environmental  
Consultants



Sources: USDA NAIP Imagery 2020, USDA, WRA | Prepared By: gillespie, 2/26/2024

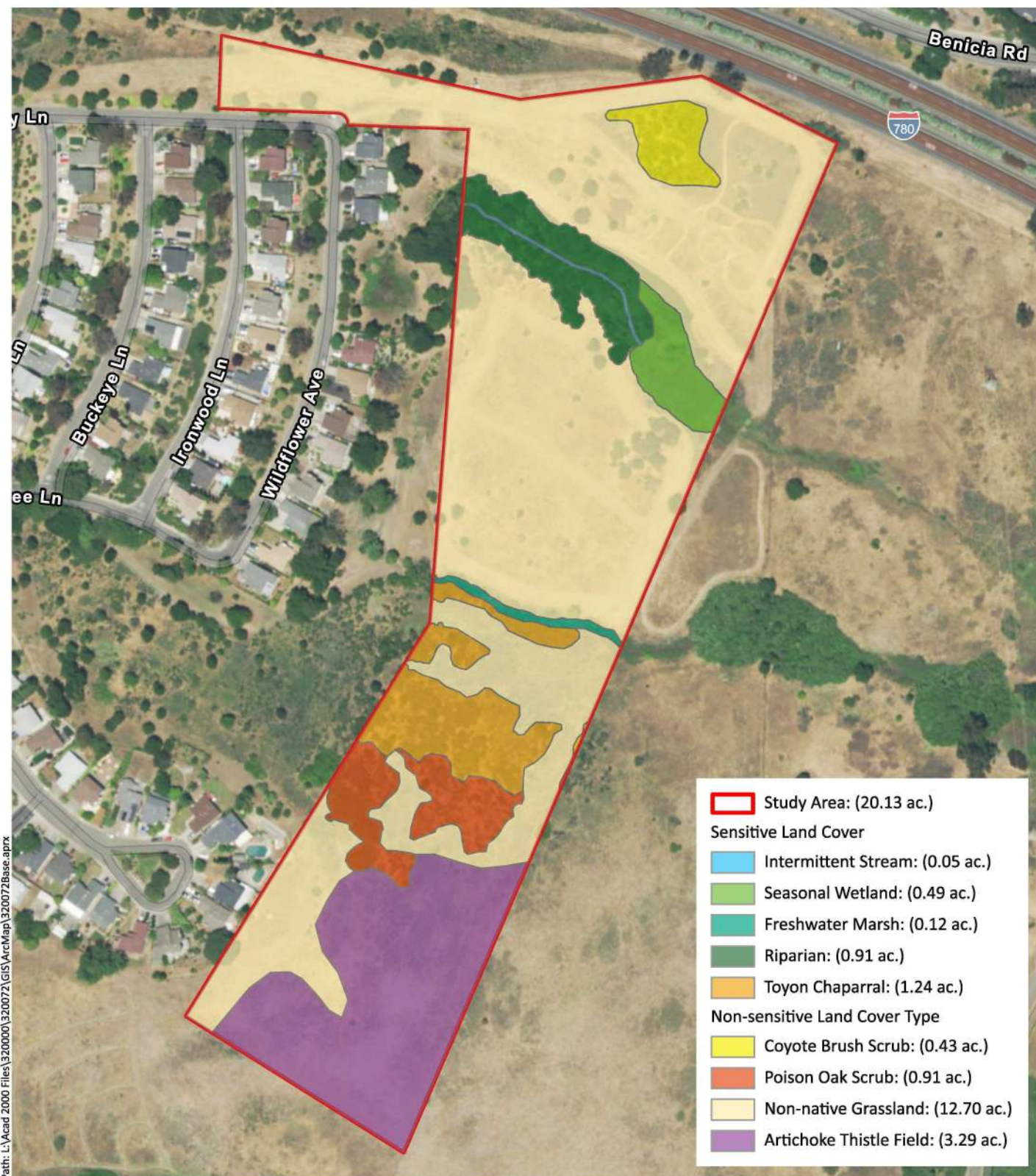
**Figure 2. Land Cover Types within the Study Area**

Sancerra Vista Cove  
Vallejo, California

0 100 200  
Feet



**wra**  
Environmental  
Consultants



Sources: USDA NAIP Imagery 2020, USDA, WRA | Prepared By: gillespie, 2/26/2024

**Figure 2. Land Cover Types within the Study Area**

Sancerra Vista Cove  
Vallejo, California

0 100 200  
Feet



**wra**  
Environmental  
Consultants

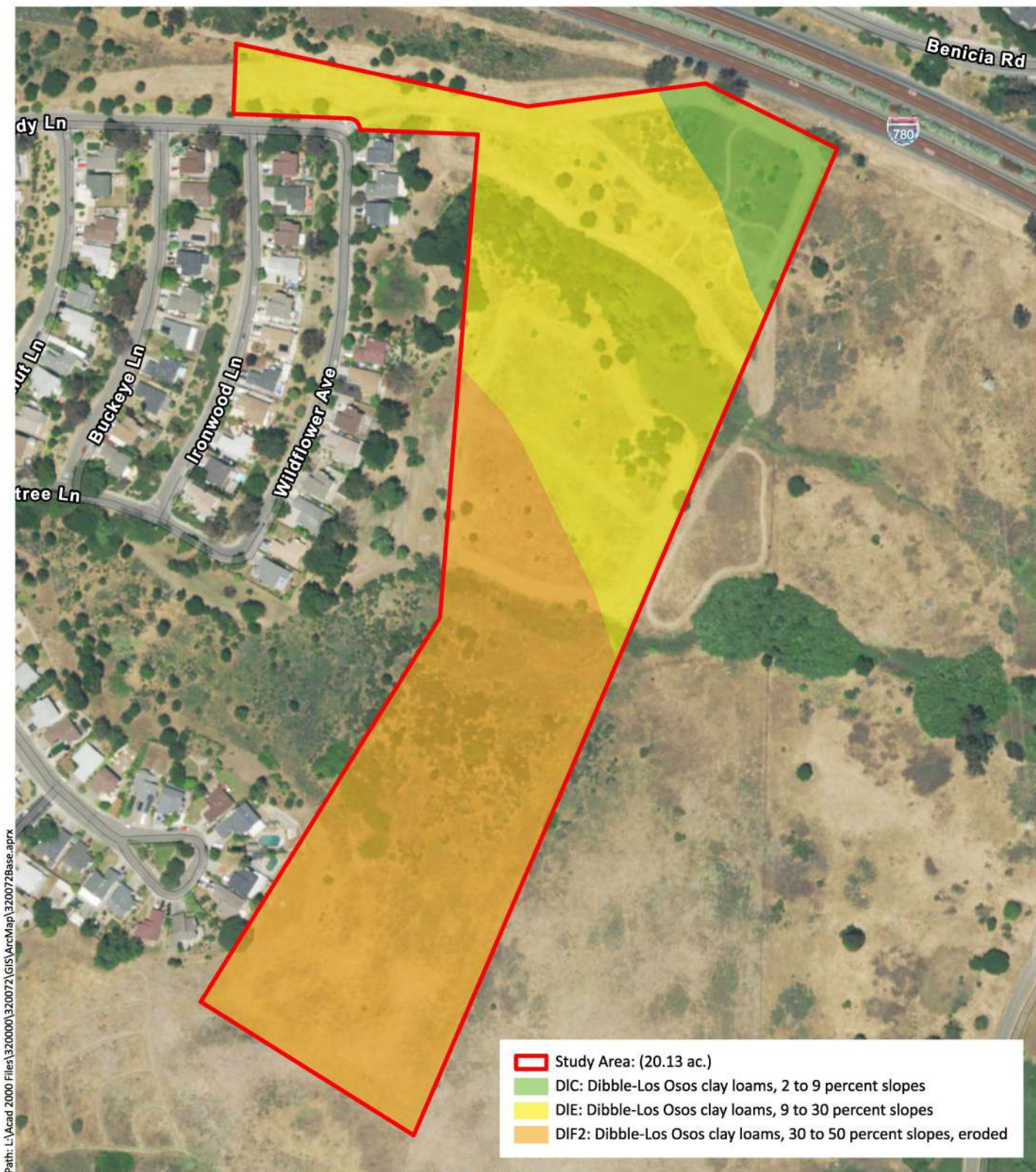


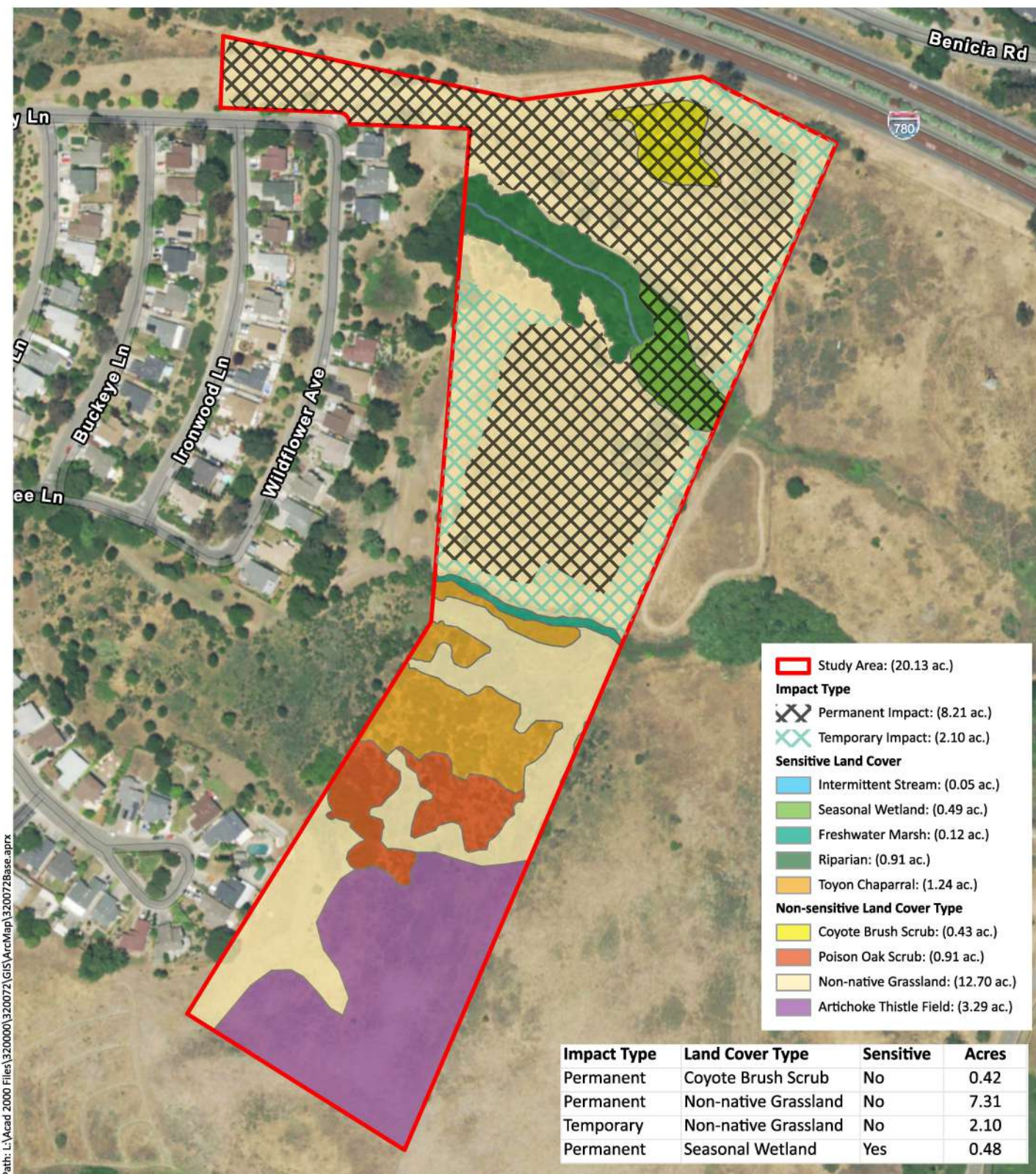
**Figure 3. Soils Map**

Sancerra Vista Cove  
Vallejo, California

0 100 200  
Feet



**wra**  
Environmental  
Consultants



Sources: USDA NAIP Imagery 2020, USDA, WRA | Prepared By: gillespie, 2/26/2024

**Figure 4. Proposed Impacts within the Study Area**

Sancerra Vista Cove  
Vallejo, California

0 100 200  
Feet



**wra**  
Environmental  
Consultants

## **APPENDIX B – SPECIES OBSERVED WITHIN THE STUDY AREA**

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**Appendix B-1.** Plant species observed within the Study Area on February 28 and July 14, 2022

| Scientific name                                        | Common name              | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|--------------------------------------------------------|--------------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Amsinckia intermedia</i>                            | Common fiddleneck        | annual herb              | native                | -                        | -                            | -                                        |
| <i>Amsinckia lycopoides</i>                            | Tarweed fiddleneck       | annual herb              | native                | -                        | -                            | -                                        |
| <i>Avena barbata</i>                                   | Slim oat                 | annual, perennial grass  | native                | -                        | Moderate                     | -                                        |
| <i>Avena fatua</i>                                     | Wildoats                 | annual grass             | native                | -                        | Moderate                     | -                                        |
| <i>Baccharis pilularis</i>                             | Coyote brush             | shrub                    | native                | -                        | -                            | -                                        |
| <i>Bellardia trixago</i>                               | Mediterranean linseed    | annual herb              | native                | -                        | Limited                      | -                                        |
| <i>Bolboschoenus maritimus</i> ssp. <i>paludosus</i>   | Saltmarsh bulrush        | perennial grasslike herb | native                | -                        | -                            | OBL                                      |
| <i>Brassica nigra</i>                                  | Black mustard            | annual herb              | non-native (invasive) | -                        | Moderate                     | -                                        |
| <i>Briza minor</i>                                     | Little rattlesnake grass | annual grass             | non-native (invasive) | -                        | -                            | FAC                                      |
| <i>Bromus diandrus</i>                                 | Ripgut brome             | annual grass             | non-native            | -                        | Moderate                     | -                                        |
| <i>Bromus hordeaceus</i>                               | Soft chess               | annual grass             | native                | -                        | Limited                      | FACU                                     |
| <i>Calandrinia menziesii</i>                           | Red maids                | annual herb              | native                | -                        | -                            | FACU                                     |
| <i>Calendula arvensis</i>                              | Field marigold           | annual herb              | native                | -                        | -                            | -                                        |
| <i>Capsella bursa-pastoris</i>                         | Shepherd's purse         | annual herb              | native                | -                        | -                            | FACU                                     |
| <i>Cardamine cf. hirsuta</i>                           | Hairy bitter cress       | non-native               | annual herb           | -                        | -                            | FACU                                     |
| <i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i> | Italian thistle          | annual herb              | native                | -                        | Moderate                     | -                                        |
| <i>Chlorogalum pomeridianum</i>                        | Amole                    | perennial herb           | native                | -                        | -                            | -                                        |
| <i>Cirsium vulgare</i>                                 | Bullthistle              | perennial herb           | native                | -                        | Moderate                     | FACU                                     |
| <i>Cortaderia selloana</i>                             | Pampas grass             | perennial grass          | -                     | -                        | High                         | FACU                                     |
| <i>Crassula connata</i>                                | Sand pygmy weed          | annual herb              | non-native (invasive) | -                        | -                            | FAC                                      |

| Scientific name                             | Common name            | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|---------------------------------------------|------------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Cynara cardunculus ssp. flavescentis</i> | Artichoke thistle      | perennial herb           | non-native (invasive) | -                        | Moderate                     | -                                        |
| <i>Cyperus eragrostis</i>                   | Tall cyperus           | perennial grasslike herb | -                     | -                        | -                            | FACW                                     |
| <i>Dittrichia graveolens</i>                | Stinkwort              | annual herb              | native                | -                        | Moderate                     | -                                        |
| <i>Elymus caput-medusae</i>                 | Medusa head            | annual grass             | native                | -                        | High                         | -                                        |
| <i>Elymus triticoides</i>                   | Beardless wild rye     | perennial grass          | non-native (invasive) | -                        | -                            | FAC                                      |
| <i>Erigeron canadensis</i>                  | Canada horseweed       | native                   | annual herb           | -                        | -                            | FACU                                     |
| <i>Erodium botrys</i>                       | Big heron bill         | annual herb              | native                | -                        | -                            | FACU                                     |
| <i>Erodium cicutarium</i>                   | Red stemmed filaree    | annual herb              | non-native (invasive) | -                        | Limited                      | -                                        |
| <i>Erodium moschatum</i>                    | Whitestem filaree      | annual herb              | native                | -                        | -                            | -                                        |
| <i>Euphorbia peplus</i>                     | Petty spurge           | annual herb              | non-native (invasive) | -                        | -                            | -                                        |
| <i>Festuca bromoides</i>                    | Brome fescue           | annual grass             | non-native            | -                        | -                            | FACU                                     |
| <i>Festuca myuros</i>                       | Rattail sixweeks grass | annual grass             | non-native (invasive) | -                        | Moderate                     | FACU                                     |
| <i>Festuca perennis</i>                     | Italian rye grass      | annual, perennial grass  | non-native (invasive) | -                        | Moderate                     | FAC                                      |
| <i>Ficus carica</i>                         | Common fig             | tree                     | native                | -                        | Moderate                     | FACU                                     |
| <i>Foeniculum vulgare</i>                   | Fennel                 | perennial herb           | non-native            | -                        | High                         | -                                        |
| <i>Galium aparine</i>                       | Cleavers               | annual herb              | non-native            | -                        | -                            | FACU                                     |
| <i>Geranium dissectum</i>                   | Wild geranium          | annual herb              | non-native (invasive) | -                        | Limited                      | -                                        |
| <i>Geranium molle</i>                       | Crane's bill geranium  | annual, perennial herb   | native                | -                        | -                            | -                                        |
| <i>Helenium puberulum</i>                   | Sneezeweed             | perennial herb           | non-native (invasive) | -                        | -                            | FACW                                     |
| <i>Helminthotheca echioides</i>             | Bristly ox-tongue      | annual, perennial herb   | non-native (invasive) | -                        | Limited                      | FAC                                      |

| Scientific name                                   | Common name         | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|---------------------------------------------------|---------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Hemizonia congesta</i> ssp. <i>luzulifolia</i> | Woodrush tarweed    | annual herb              | native                | -                        | -                            | -                                        |
| <i>Heteromeles arbutifolia</i>                    | Toyon               | shrub                    | non-native (invasive) | -                        | -                            | -                                        |
| <i>Holcus lanatus</i>                             | Common velvetgrass  | perennial grass          | native                | -                        | Moderate                     | FAC                                      |
| <i>Juncus effusus</i>                             | Common bog rush     | perennial grasslike herb | non-native (invasive) | -                        | -                            | FACW                                     |
| <i>Juncus mexicanus</i>                           | Mexican rush        | perennial grasslike herb | non-native (invasive) | -                        | -                            | FACW                                     |
| <i>Juncus xiphioides</i>                          | Iris leaved rush    | perennial grasslike herb | native                | -                        | -                            | OBL                                      |
| <i>Ligustrum lucidum</i>                          | Glossy privet       | tree, shrub              | native                | -                        | Limited                      | -                                        |
| <i>Lupinus succulentus</i>                        | Arroyo lupine       | annual herb              | native                | -                        | -                            | -                                        |
| <i>Lysimachia arvensis</i>                        | Scarlet pimpernel   | annual herb              | non-native (invasive) | -                        | -                            | FAC                                      |
| <i>Malva</i> sp.                                  | Mallow              | annual herb              | non-native            | -                        | -                            | -                                        |
| <i>Marah fabacea</i>                              | California man-root | perennial herb, vine     | non-native            | -                        | -                            | -                                        |
| <i>Maytenus boaria</i>                            | Mayten              | tree, shrub              | non-native            | -                        | Watch                        | -                                        |
| <i>Medicago polymorpha</i>                        | Bur clover          | non-native (invasive)    | annual herb           | -                        | Limited                      | FACU                                     |
| <i>Nasturtium officinale</i>                      | Watercress          | perennial herb (aquatic) | non-native            | -                        | -                            | OBL                                      |
| <i>Oxalis pes-caprae</i>                          | Bermuda buttercup   | perennial herb           | non-native (invasive) | -                        | Moderate                     | -                                        |
| <i>Phalaris aquatica</i>                          | Harding grass       | perennial grass          | non-native (invasive) | -                        | Moderate                     | FACU                                     |
| <i>Phoradendron leucarpum</i>                     | American mistletoe  | shrub (parasitic)        | non-native (invasive) | -                        | -                            | -                                        |
| <i>Prunus cerasifera</i>                          | Cherry plum         | tree                     | non-native (invasive) | -                        | Limited                      | -                                        |
| <i>Prunus dulcis</i>                              | Almond              | tree                     | native                | -                        | -                            | -                                        |
| <i>Pseudognaphalium luteoalbum</i>                | Jersey cudweed      | annual herb              | non-native (invasive) | -                        | -                            | FAC                                      |

| Scientific name                   | Common name          | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|-----------------------------------|----------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Quercus agrifolia</i>          | Coast live oak       | tree                     | non-native            | -                        | -                            | -                                        |
| <i>Raphanus sativus</i>           | Wild radish          | annual, biennial herb    | native                | -                        | Limited                      | -                                        |
| <i>Rubus armeniacus</i>           | Himalayan blackberry | shrub                    | non-native (invasive) | -                        | High                         | FAC                                      |
| <i>Rumex crispus</i>              | Curly dock           | non-native (invasive)    | perennial herb        | -                        | Limited                      | FAC                                      |
| <i>Rumex pulcher</i>              | Fiddleleaf dock      | perennial herb           | native                | -                        | -                            | FAC                                      |
| <i>Salix laevigata</i>            | red willow           | tree, shrub              | native                | -                        | -                            | FACW                                     |
| <i>Salix lasiolepis</i>           | Arroyo willow        | tree, shrub              | native                | -                        | -                            | FACW                                     |
| <i>Sanicula bipinnatifida</i>     | Purple sanicle       | native                   | perennial herb        | -                        | -                            | -                                        |
| <i>Schoenoplectus americanus</i>  | Chairmaker's bulrush | perennial grasslike herb | native                | -                        | -                            | OBL                                      |
| <i>Sisyrinchium bellum</i>        | Blue eyed grass      | perennial herb           | native                | -                        | -                            | FACW                                     |
| <i>Sonchus oleraceus</i>          | Common sow thistle   | annual herb              | non-native (invasive) | -                        | -                            | UPL                                      |
| <i>Stipa pulchra</i>              | Purple needle grass  | perennial grass          | native                | -                        | -                            | -                                        |
| <i>Toxicodendron diversilobum</i> | Poison oak           | vine, shrub              | non-native            | -                        | -                            | FACU                                     |
| <i>Typha</i> sp.                  | -                    | -                        | native                | -                        | -                            | -                                        |
| <i>Vicia sativa</i>               | Spring vetch         | annual herb, vine        | non-native            | -                        | -                            | FACU                                     |

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

<sup>1</sup> 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: March 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

<sup>2</sup> **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: March 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

<sup>3</sup> **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: March 2022**

OBL: Almost always found in wetlands

FACW: Usually found in wetlands

FAC: Equally found in wetlands and uplands

FACU: Usually not found in wetlands

UPL: Almost never found in wetlands

NL: Not listed, assumed almost never found in wetlands

NI: No information; not factored during wetland delineation

**Appendix B-2.** Wildlife Species Observed within the Study Area on February 28 and July 14, 2022

| Scientific Name                         | Common Name            | Conservation Status <sup>1</sup> |
|-----------------------------------------|------------------------|----------------------------------|
| <b>Mammals</b>                          |                        |                                  |
| <i>Canis latrans</i>                    | Coyote                 | -                                |
| <i>Odocoileus hemionus californicus</i> | California mule deer   | -                                |
| <i>Sus scrofa</i>                       | Feral hog              | -                                |
| <i>Thomomys bottae</i>                  | Botta's pocket Gopher  | -                                |
| <b>Birds</b>                            |                        |                                  |
| <i>Aphelocoma californica</i>           | California scrub-jay   | -                                |
| <i>Buteo jamaicensis</i>                | Red-tailed hawk        | -                                |
| <i>Buteo lineatus</i>                   | Red-shouldered hawk    | -                                |
| <i>Calypte anna</i>                     | Anna's hummingbird     | -                                |
| <i>Cathartes aura</i>                   | Turkey vulture         | -                                |
| <i>Colaptes auratus</i>                 | Northern flicker       | -                                |
| <i>Corvus brachyrhynchos</i>            | American crow          | -                                |
| <i>Elanus leucurus</i>                  | White-tailed kite      | FP                               |
| <i>Haemorhous mexicanus</i>             | House finch            | -                                |
| <i>Melospiza crissalis</i>              | California towhee      | -                                |
| <i>Mimus polyglottos</i>                | Northern mockingbird   | -                                |
| <i>Sayornis saya</i>                    | Say's phoebe           | -                                |
| <i>Setophaga coronata</i>               | Yellow-rumped warbler  | -                                |
| <i>Zenaidura macroura</i>               | Mourning dove          | -                                |
| <i>Zonotrichia atricapilla</i>          | Golden-crowned sparrow | -                                |

| Scientific Name       | Common Name       | Conservation Status <sup>1</sup> |
|-----------------------|-------------------|----------------------------------|
| <b>Invertebrates</b>  |                   |                                  |
| <i>Bombus spp.</i>    | Bumblebee         | -                                |
| <i>Apis mellifera</i> | European honeybee | -                                |

<sup>1</sup>**Key to Conservation Status:**

FP CDFW Fully Protected Species

## **APPENDIX C – POTENTIAL FOR SPECIAL-STATUS SPECIES TO OCCUR IN THE STUDY AREA**

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**Appendix C. Potential for Special-status Species to Occur in the Study Area.** Special-status plant and wildlife species table with the potential to occur within the vicinity of the Study Area (Cuttings Wharf, Cordelia, Fairfield South, Mare Island, Benicia, Vine Hill, Richmond, Briones Valley, and Walnut Creek USGS 7.5' topographic quadrangles). Results include database searches of California Native Plant Society Rare and Endangered Plant Inventory, California Natural Diversity Database, Information Planning and Conservation, as well as U.S. Fish and Wildlife Service Threatened and Endangered Species Lists.

| SPECIES                                                                | STATUS               | HABITAT                                                                                                                                                                                                    | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                     | RECOMMENDATIONS                                      |
|------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <b>Plants</b>                                                          |                      |                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                      |
| bent-flowered<br>fiddleneck<br><i>Amsinckia lunaris</i>                | Rank 1B.2            | Cismontane woodland, coastal bluff scrub, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.                                                          | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat, and is therefore unlikely to support this species. | No further actions are recommended for this species. |
| California androsace<br><i>Androsace elongata</i><br><i>ssp. acuta</i> | 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. | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. Few native species are present, indicating that the grassland is poor quality habitat, and is therefore unlikely to support this species.                                                                                      | No further actions are recommended for this species. |
| slender silver moss<br><i>Anomobryum</i><br><i>julaceum</i>            | Rank 4.2             | Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 330 to 3280 feet (100 to 1000 meters).                                                    | <b>Unlikely.</b> This species is known from mesic to perennially wet sandstone (K. Kellman, pers. com.), and such habitat is absent from the Study Area.                                                                                                                                                                                                                                                                                                               | No further actions are recommended for this species. |
| pallid manzanita<br><i>Arctostaphylos pallida</i>                      | FT, SE,<br>Rank 1B.1 | Broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, coastal scrub. Elevation ranges from 605 to 1525 feet (185 to 465 meters). Blooms Dec-Mar.                       | <b>No Potential.</b> This species occurs on uplifted marine terraces on siliceous shale or thin chert (CDFW 2024b), and such substrate is absent from the Study Area.                                                                                                                                                                                                                                                                                                  | No further actions are recommended for this species. |

| SPECIES                                                           | STATUS    | HABITAT                                                                                                                                    | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | RECOMMENDATIONS                                      |
|-------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| alkali milk-vetch<br><i>Astragalus tener</i> var.<br><i>tener</i> | Rank 1B.2 | Playas, valley and foothill grassland, vernal pools. Elevation ranges from 5 to 195 feet (1 to 60 meters). Blooms Mar-Jun.                 | <b>No Potential.</b> The Study Area does not contain vernal pools or alkaline soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No further actions are recommended for this species. |
| crownscale<br><i>Atriplex coronata</i> var.<br><i>coronata</i>    | Rank 4.2  | Chenopod scrub, valley and foothill grassland, vernal pools. Elevation ranges from 5 to 1935 feet (1 to 590 meters). Blooms Mar-Oct.       | <b>No Potential.</b> The Study Area does not contain vernal pools or alkaline soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No further actions are recommended for this species. |
| vernal pool smallscale<br><i>Atriplex persistens</i>              | Rank 1B.2 | Vernal pools. Elevation ranges from 35 to 375 feet (10 to 115 meters). Blooms Jun-Oct.                                                     | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No further actions are recommended for this species. |
| big-scale balsamroot<br><i>Balsamorhiza</i><br><i>macrolepis</i>  | Rank 1B.2 | Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 150 to 5100 feet (45 to 1555 meters). Blooms Mar-Jun. | <b>Unlikely.</b> Although the Study Area contains grassland and chaparral habitat, the site has been historically disturbed, and in some areas it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. Based on historic aerial imagery (NETR 2024), chaparral did not start establishing in the Study Area until the 1980s. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it. | No further actions are recommended for this species. |
| big tarplant<br><i>Blepharizonia plumosa</i>                      | Rank 1B.1 | Valley and foothill grassland. Elevation ranges from 100 to 1655 feet (30 to 505 meters). Blooms Jul-Oct.                                  | <b>No Potential.</b> The Study Area does not contain alkaline soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No further actions are recommended for this species. |

| SPECIES                                                                         | STATUS    | HABITAT                                                                                                                                                                                                | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | RECOMMENDATIONS                                      |
|---------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Mt. Diablo fairy-lantern<br><i>Calochortus pulchellus</i>                       | Rank 1B.2 | Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation ranges from 100 to 2755 feet (30 to 840 meters). Blooms Apr-Jun.                                           | <b>Unlikely.</b> Although the Study Area contains grassland and chaparral habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. Based on historic aerial imagery (NETR 2024), chaparral did not start establishing in the Study Area until the 1980s. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it.                                                                | No further actions are recommended for this species. |
| Oakland star-tulip<br><i>Calochortus umbellatus</i>                             | Rank 4.2  | Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 2295 feet (100 to 700 meters). Blooms Mar-May. | <b>Unlikely.</b> Although the Study Area contains grassland, forest, and chaparral habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. Based on historic aerial imagery (NETR 2024), chaparral did not start establishing in the Study Area until the 1980s. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it. Forested areas are too shady to support this species. | No further actions are recommended for this species. |
| coastal bluff morning-glory<br><i>Calystegia purpurata</i> ssp. <i>saxicola</i> | Rank 1B.2 | Coastal bluff scrub, coastal dunes, coastal scrub, north coast coniferous forest. Elevation ranges from 0 to 345 feet (0 to 105 meters). Blooms (Mar)Apr-Sep.                                          | <b>No Potential.</b> The Study Area does not contain coastal habitats necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | No further actions are recommended for this species. |

| SPECIES                                                                               | STATUS               | HABITAT                                                                                                                                                                                       | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RECOMMENDATIONS                                      |
|---------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Lyngbye's sedge<br><i>Carex lyngbyei</i>                                              | Rank 2B.2            | Marshes and swamps. Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Apr-Aug.                                                                                                      | <b>Unlikely.</b> Although the Study Area contains a marsh, this species is known from brackish habitats, which are absent from the Study Area.                                                                                                                                                                                                                                                                                                                        | No further actions are recommended for this species. |
| Tiburon paintbrush<br><i>Castilleja affinis</i> var.<br><i>neglecta</i>               | FE, ST,<br>Rank 1B.2 | Valley and foothill grassland. Elevation ranges from 195 to 1310 feet (60 to 400 meters). Blooms Apr-Jun.                                                                                     | <b>No Potential.</b> The Study Area does not contain serpentine soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                              | No further actions are recommended for this species. |
| johnny-nip<br><i>Castilleja ambigua</i> var.<br><i>ambigua</i>                        | Rank 4.2             | Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1425 feet (0 to 435 meters). Blooms Mar-Aug. | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. | No further actions are recommended for this species. |
| Congdon's tarplant<br><i>Centromadia parryi</i><br>ssp. <i>congdonii</i>              | Rank 1B.1            | Valley and foothill grassland. Elevation ranges from 0 to 755 feet (0 to 230 meters). Blooms May-Oct(Nov).                                                                                    | <b>Unlikely.</b> Although the Study Area contains grassland habitat, it does not contain alkaline soils typical of this species. The nearest modern occurrence of this species is 7 miles southeast of the Study Area. No species of <i>Centromadia</i> were observed during site visits.                                                                                                                                                                             | No further actions are recommended for this species. |
| pappose tarplant<br><i>Centromadia parryi</i><br>ssp. <i>parryi</i>                   | Rank 1B.2            | Chaparral, coastal prairie, marshes and swamps, meadows and seeps, valley and foothill grassland. Elevation ranges from 0 to 1380 feet (0 to 420 meters). Blooms May-Nov.                     | <b>Unlikely.</b> Although the Study Area contains marsh habitat, it is too consistently inundated to support this species. Additionally, the Study Area does not contain alkaline soils, on which this species often occurs (CDFW 2024b). The nearest occurrence of this species is approximately 6 miles northeast of the Study Area. No species of <i>Centromadia</i> were observed during site visits.                                                             | No further actions are recommended for this species. |
| Point Reyes salty bird's-beak<br><i>Chloropyron maritimum</i> ssp.<br><i>palustre</i> | Rank 1B.2            | Marshes and swamps. Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Jun-Oct.                                                                                                      | <b>No Potential.</b> Although the Study Area contains a marsh, it does not contain a tidal marsh, which is necessary to support this species.                                                                                                                                                                                                                                                                                                                         | No further actions are recommended for this species. |

| SPECIES                                                                  | STATUS               | HABITAT                                                                                                                                                                                                                                      | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                        | RECOMMENDATIONS                                      |
|--------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| soft salty bird's-beak<br><i>Chloropyron molle</i> ssp. <i>molle</i>     | FE, SR,<br>Rank 1B.2 | Marshes and swamps. Elevation ranges from 0 to 10 feet (0 to 3 meters). Blooms Jun-Nov.                                                                                                                                                      | <b>No Potential.</b> Although the Study Area contains a marsh, it does not contain a tidal marsh, which is necessary to support this species.                                                                                                                                                                                                             | No further actions are recommended for this species. |
| Bolander's water-hemlock<br><i>Cicuta maculata</i> var. <i>bolanderi</i> | Rank 2B.1            | Marshes and swamps. Elevation ranges from 0 to 655 feet (0 to 200 meters). Blooms Jul-Sep.                                                                                                                                                   | <b>Unlikely.</b> Although the Study Area contains a marsh, based on historic aerial imagery (NETR 2024), it is recently developed and appears to persist as a result of residential runoff. As such, it is low quality habitat. In addition, all occurrences in the vicinity of the Study Area occur in tidal marsh, which is absent from the Study Area. | No further actions are recommended for this species. |
| Franciscan thistle<br><i>Cirsium andrewsii</i>                           | Rank 1B.2            | Broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Jul.                                                                                       | <b>Unlikely.</b> Although the Study Area contains forest habitat, it is too shady to support this species.                                                                                                                                                                                                                                                | No further actions are recommended for this species. |
| Suisun thistle<br><i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>     | FE, Rank 1B.1        | Marshes and swamps. Elevation ranges from 0 to 5 feet (0 to 1 meters). Blooms Jun-Sep.                                                                                                                                                       | <b>No Potential.</b> Although the Study Area contains a marsh, it does not contain a tidal marsh, which is necessary to support this species.                                                                                                                                                                                                             | No further actions are recommended for this species. |
| western leatherwood<br><i>Dirca occidentalis</i>                         | Rank 1B.2            | Broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland. Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar (Apr). | <b>Unlikely.</b> Although the Study Area contains forest habitat, based on historic aerial imagery (NETR 2024), the forest is recently established. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it.   | No further actions are recommended for this species. |
| dwarf downingia<br><i>Downingia pusilla</i>                              | Rank 2B.2            | Valley and foothill grassland, vernal pools. Elevation ranges from 5 to 1460 feet (1 to 445 meters). Blooms Mar-May.                                                                                                                         | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                      | No further actions are recommended for this species. |
| small spikerush<br><i>Eleocharis parvula</i>                             | Rank 4.3             | Marshes and swamps. Elevation ranges from 5 to 9910 feet (1 to 3020 meters). Blooms (Apr)Jun-Aug (Sep).                                                                                                                                      | <b>Unlikely.</b> Although the Study Area contains a marsh, based on historic aerial imagery (NETR 2024), it is recently developed and appears to persist as a result of residential runoff. As such, it is low quality habitat.                                                                                                                           | No further actions are recommended for this species. |

| SPECIES                                                 | STATUS    | HABITAT                                                                                                                                                      | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                      | RECOMMENDATIONS                                      |
|---------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| streamside daisy<br><i>Erigeron biolettii</i>           | Rank 3    | Broadleafed upland forest, cismontane woodland, north coast coniferous forest. Elevation ranges from 100 to 3610 feet (30 to 1100 meters). Blooms Jun-Oct.   | <b>Unlikely.</b> Although the Study Area contains forest habitat, based on historic aerial imagery (NETR 2024), the forest is recently established. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it. | No further actions are recommended for this species. |
| Mt. Diablo buckwheat<br><i>Eriogonum truncatum</i>      | Rank 1B.1 | Chaparral, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 1150 feet (3 to 350 meters). Blooms Apr-Sep (Nov-Dec).                  | <b>No Potential.</b> This species has a restricted range to Mount Diablo, approximately 15 miles southeast of the Study Area. Additionally, the Study Area does not contain alkaline soil necessary to support this species.                                                                                                                            | No further actions are recommended for this species. |
| Jepson's coyote-thistle<br><i>Eryngium jepsonii</i>     | Rank 1B.2 | Valley and foothill grassland, vernal pools. Elevation ranges from 10 to 985 feet (3 to 300 meters). Blooms Apr-Aug.                                         | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                    | No further actions are recommended for this species. |
| cut-leaved monkeyflower<br><i>Erythranthe laciniata</i> | Rank 4.3  | Chaparral, lower montane coniferous forest, upper montane coniferous forest. Elevation ranges from 1610 to 8695 feet (490 to 2650 meters). Blooms Apr-Jul.   | <b>No Potential.</b> The nearest recorded occurrence is a cultivated specimen from 1901 in Berkeley, California. Wild populations of this species are known from the western Sierra Nevada and adjacent foothills, far from the Study Area.                                                                                                             | No further actions are recommended for this species. |
| San Joaquin spearscale<br><i>Extriplex joaquinana</i>   | Rank 1B.2 | Chenopod scrub, meadows and seeps, playas, valley and foothill grassland. Elevation ranges from 5 to 2740 feet (1 to 835 meters). Blooms Apr-Oct.            | <b>No Potential.</b> The Study Area does not contain alkaline soils necessary to support this species.                                                                                                                                                                                                                                                  | No further actions are recommended for this species. |
| minute pocket moss<br><i>Fissidens pauperculus</i>      | Rank 1B.2 | North coast coniferous forest. Elevation ranges from 35 to 3360 feet (10 to 1024 meters).                                                                    | <b>No Potential.</b> The Study Area does not contain north coast coniferous forest necessary to support this species.                                                                                                                                                                                                                                   | No further actions are recommended for this species. |
| fragrant fritillary<br><i>Fritillaria liliacea</i>      | Rank 1B.2 | Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 1345 feet (3 to 410 meters). Blooms Feb-Apr. | <b>Unlikely.</b> Although the Study Area contains grassland and marsh habitat, it is too consistently inundated to support this species.                                                                                                                                                                                                                | No further actions are recommended for this species. |

| SPECIES                                                                              | STATUS    | HABITAT                                                                                                                                                                                                 | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | RECOMMENDATIONS                                      |
|--------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Diablo helianthella<br><i>Helianthella castanea</i>                                  | 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. | <b>Unlikely.</b> Although the Study Area contains grassland, forest, and chaparral habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. Based on historic aerial imagery (NETR 2024), chaparral did not start establishing in the Study Area until the 1980s. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it. Forested areas are too shady to support this species. | No further actions are recommended for this species. |
| hogwallow starfish<br><i>Hesperovax caulescens</i>                                   | Rank 4.2  | Valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1655 feet (0 to 505 meters). Blooms Mar-Jun.                                                                                    | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No further actions are recommended for this species. |
| <b>woolly rose-mallow</b><br><i>Hibiscus lasiocarpus</i><br><b>var. occidentalis</b> | Rank 1B.2 | Marshes and swamps (freshwater) Elevation ranges from 0 to 395 feet (0 to 120 meters). Blooms June-Sep.                                                                                                 | <b>Unlikely.</b> Although the Study Area contains a marsh, based on historic aerial imagery (NETR 2024), it is recently developed and appears to persist as a result of residential runoff. As such, it is low quality habitat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No further actions are recommended for this species. |
| Loma Prieta hoita<br><i>Hoita strobilina</i>                                         | Rank 1B.1 | Chaparral, cismontane woodland, riparian woodland. Elevation ranges from 100 to 2820 feet (30 to 860 meters). Blooms May-Jul(Aug-Oct).                                                                  | <b>No Potential.</b> The Study Area does not contain serpentine soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | No further actions are recommended for this species. |

| SPECIES                                                        | STATUS               | HABITAT                                                                                                                                           | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RECOMMENDATIONS                                      |
|----------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Santa Cruz tarplant<br><i>Holocarpha macradenia</i>            | FT, SE,<br>Rank 1B.1 | Coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 720 feet (10 to 220 meters). Blooms Jun-Oct.           | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. | No further actions are recommended for this species. |
| coast iris<br><i>Iris longipetala</i>                          | Rank 4.2             | Coastal prairie, lower montane coniferous forest, meadows and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May(Jun). | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. | No further actions are recommended for this species. |
| Carquinez goldenbush<br><i>Isocoma arguta</i>                  | Rank 1B.1            | Valley and foothill grassland. Elevation ranges from 5 to 65 feet (1 to 20 meters). Blooms Aug-Dec.                                               | <b>No Potential.</b> The Study Area does not contain alkaline soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                | No further actions are recommended for this species. |
| Southern California black walnut<br><i>Juglans californica</i> | Rank 4.2             | Chaparral, cismontane woodland, coastal scrub, riparian woodland. Elevation ranges from 165 to 2955 feet (50 to 900 meters). Blooms Mar-Aug.      | <b>No Potential.</b> The Study Area is well outside of the known range of this species, which is restricted to Southern California.                                                                                                                                                                                                                                                                                                                                   | No further actions are recommended for this species. |
| Contra Costa goldfields<br><i>Lasthenia conjugens</i>          | FE, Rank 1B.1        | Cismontane woodland, playas, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1540 feet (0 to 470 meters). Blooms Mar-Jun. | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                  | No further actions are recommended for this species. |
| Ferris' goldfields<br><i>Lasthenia ferrisiae</i>               | Rank 4.2             | Vernal pools. Elevation ranges from 65 to 2295 feet (20 to 700 meters). Blooms Feb-May.                                                           | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                  | No further actions are recommended for this species. |

| SPECIES                                                            | STATUS    | HABITAT                                                                                                                                                                                                                          | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | RECOMMENDATIONS                                      |
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| Delta tule pea<br><i>Lathyrus jepsonii</i> var.<br><i>jepsonii</i> | Rank 1B.2 | Marshes and swamps. Elevation ranges from 0 to 15 feet (0 to 5 meters). Blooms May-Jul(Aug-Sep).                                                                                                                                 | <b>No Potential.</b> The Study Area does not contain tidally influenced marshes necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No further actions are recommended for this species. |
| legenere<br><i>Legenere limosa</i>                                 | Rank 1B.1 | Vernal pools. Elevation ranges from 5 to 2885 feet (1 to 880 meters). Blooms Apr-Jun.                                                                                                                                            | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No further actions are recommended for this species. |
| bristly leptosiphon<br><i>Leptosiphon acicularis</i>               | 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.                                                                      | <b>Unlikely.</b> Although the Study Area contains grassland and chaparral habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. Based on historic aerial imagery (NETR 2024), chaparral did not start establishing in the Study Area until the 1980s. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it. | No further actions are recommended for this species. |
| large-flowered leptosiphon<br><i>Leptosiphon grandiflorus</i>      | Rank 4.2  | Cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 15 to 4005 feet (5 to 1220 meters). Blooms Apr-Aug. | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species.                                                                                                                                                                                                                                                                                                                                         | No further actions are recommended for this species. |

| SPECIES                                               | STATUS        | HABITAT                                                                                                                                                                             | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RECOMMENDATIONS                                      |
|-------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Jepson's leptosiphon<br><i>Leptosiphon jepsonii</i>   | Rank 1B.2     | Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 330 to 1640 feet (100 to 500 meters). Blooms Mar-May.                                          | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species.                                             | No further actions are recommended for this species. |
| woolly-headed lessingia<br><i>Lessingia hololeuca</i> | Rank 3        | Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct. | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species.                                             | No further actions are recommended for this species. |
| Mason's lilaeopsis<br><i>Lilaeopsis masonii</i>       | SR, Rank 1B.1 | Marshes and swamps, riparian scrub. Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Apr-Nov.                                                                            | <b>No Potential.</b> Tidal marsh is absent from the Study Area.                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No further actions are recommended for this species. |
| Delta mudwort<br><i>Limosella australis</i>           | Rank 2B.1     | Marshes and swamps, riparian scrub. Elevation ranges from 0 to 10 feet (0 to 3 meters). Blooms May-Aug.                                                                             | <b>No Potential.</b> Tidal marsh is absent from the Study Area.                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No further actions are recommended for this species. |
| Hall's bush-mallow<br><i>Malacothamnus hallii</i>     | Rank 1B.2     | Chaparral, coastal scrub. Elevation ranges from 35 to 2495 feet (10 to 760 meters). Blooms (Apr)May- Sep(Oct).                                                                      | Unlikely. The Study Area was historically grassland, which is not suitable habitat for this species. Based on historic aerial imagery, shrub stands did not begin establishing in the Study Area until the 1980s. The nearest occurrence of this species is located approximately 15 miles southeast, across the Carquinez Strait/Suisun Bay. It is unlikely that this species could have colonized the Study Area from that distance and across the geographic and urban development barriers that are present. | No further actions are recommended for this species. |

| SPECIES                                                                               | STATUS               | HABITAT                                                                                                                                                                    | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                             | RECOMMENDATIONS                                      |
|---------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Oregon meconella<br><i>Meconella oregana</i>                                          | Rank 1B.1            | Coastal prairie, coastal scrub. Elevation ranges from 820 to 2035 feet (250 to 620 meters). Blooms Mar-Apr.                                                                | <b>No Potential.</b> The Study Area does not contain coastal habitats necessary to support this species.                                                                                                                                                                                                                                                                                       | No further actions are recommended for this species. |
| San Antonio Hills monardella<br><i>Monardella antonina</i><br><i>ssp. antonina</i>    | Rank 3               | Chaparral, cismontane woodland. Elevation ranges from 1050 to 3280 feet (320 to 1000 meters). Blooms Jun-Aug.                                                              | <b>Unlikely.</b> Although the Study Area contains chaparral habitat, based on historic aerial imagery (NETR 2024), chaparral did not start establishing in the Study Area until the 1980s. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it. | No further actions are recommended for this species. |
| Antioch Dunes evening-primrose<br><i>Oenothera deltooides</i><br><i>ssp. howellii</i> | FE, SE,<br>Rank 1B.1 | Inland dunes. Elevation ranges from 0 to 100 feet (0 to 30 meters). Blooms Mar-Sep.                                                                                        | <b>No Potential.</b> The Study Area does not contain inland dunes necessary to support this species.                                                                                                                                                                                                                                                                                           | No further actions are recommended for this species. |
| Marin knotweed<br><i>Polygonum marinense</i>                                          | Rank 3.1             | Marshes and swamps. Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms (Apr)May-Aug(Oct).                                                                         | <b>No Potential.</b> Although the Study Area contains a marsh, it is not tidal or brackish.                                                                                                                                                                                                                                                                                                    | No further actions are recommended for this species. |
| California alkali grass<br><i>Puccinellia simplex</i>                                 | 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.                    | <b>No Potential.</b> The Study Area does not contain vernal pools necessary to support this species.                                                                                                                                                                                                                                                                                           | No further actions are recommended for this species. |
| Lobb's aquatic buttercup<br><i>Ranunculus lobbii</i>                                  | Rank 4.2             | Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May. | <b>No Potential.</b> The Study Area does not contain seasonally ponded areas necessary to support this species.                                                                                                                                                                                                                                                                                | No further actions are recommended for this species. |
| chaparral ragwort<br><i>Senecio aphanactis</i>                                        | Rank 2B.2            | Chaparral, cismontane woodland, coastal scrub. Elevation ranges from 50 to 2625 feet (15 to 800 meters). Blooms Jan-Apr (May).                                             | <b>No Potential.</b> The Study Area does not contain alkaline soils necessary to support this species.                                                                                                                                                                                                                                                                                         | No further actions are recommended for this species. |

| SPECIES                                                                          | STATUS        | HABITAT                                                                                                                                       | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RECOMMENDATIONS                                      |
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| long-styled sand-spurrey<br><i>Spergularia macrotheca</i> var. <i>longistyla</i> | Rank 1B.2     | Marshes and swamps, meadows and seeps. Elevation ranges from 0 to 835 feet (0 to 255 meters). Blooms Feb-May.                                 | <b>No Potential.</b> The Study Area does not contain alkaline soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                                | No further actions are recommended for this species. |
| northern slender pondweed<br><i>Stuckenia filiformis</i> ssp. <i>alpina</i>      | Rank 2B.2     | Marshes and swamps. Elevation ranges from 985 to 7055 feet (300 to 2150 meters). Blooms May-Jul.                                              | <b>No Potential.</b> This species occurs in clear, shallow water (CDFW 2024b), which is absent from the Study Area.                                                                                                                                                                                                                                                                                                                                                   | No further actions are recommended for this species. |
| California seablite<br><i>Suaeda californica</i>                                 | FE, Rank 1B.1 | Marshes and swamps. Elevation ranges from 0 to 50 feet (0 to 15 meters). Blooms Jul-Oct.                                                      | <b>No Potential.</b> Tidal marsh is absent from the Study Area.                                                                                                                                                                                                                                                                                                                                                                                                       | No further actions are recommended for this species. |
| Suisun Marsh aster<br><i>Symphyotrichum lentum</i>                               | Rank 1B.2     | Marshes and swamps. Elevation ranges from 0 to 10 feet (0 to 3 meters). Blooms (Apr)May-Nov.                                                  | <b>No Potential.</b> Tidal marsh is absent from the Study Area.                                                                                                                                                                                                                                                                                                                                                                                                       | No further actions are recommended for this species. |
| two-fork clover<br><i>Trifolium amoenum</i>                                      | FE, Rank 1B.1 | Coastal bluff scrub, valley and foothill grassland. Elevation ranges from 15 to 1360 feet (5 to 415 meters). Blooms Apr-Jun.                  | <b>Unlikely.</b> Although the Study Area contains grassland habitat, the site has been historically disturbed, and in some areas, it receives modern anthropogenic disturbance, including mowing, discing, and off-highway vehicle use. The grassland is dominated by a very dense cover of non-native and invasive species. Few native species are present, indicating that the grassland is poor quality habitat and is therefore unlikely to support this species. | No further actions are recommended for this species. |
| saline clover<br><i>Trifolium hydrophilum</i>                                    | Rank 1B.2     | Marshes and swamps, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms Apr-Jun.       | <b>No Potential.</b> The Study Area does not contain vernal pools or alkaline soils necessary to support this species.                                                                                                                                                                                                                                                                                                                                                | No further actions are recommended for this species. |
| oval-leaved viburnum<br><i>Viburnum ellipticum</i>                               | Rank 2B.3     | Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 705 to 4595 feet (215 to 1400 meters). Blooms May-Jun. | <b>Unlikely.</b> Although the Study Area contains chaparral habitat, based on historic aerial imagery (NETR 2024), chaparral did not start establishing in the Study Area until the 1980s. As there are no occurrences of this species in the immediate vicinity, the Study Area is unlikely to have a historic seedbank containing this species and is unlikely to have been colonized by it.                                                                        | No further actions are recommended for this species. |

| SPECIES                                       | STATUS        | HABITAT                                                                                                                                                                                                                                                                                | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | RECOMMENDATIONS                                                                                  |
|-----------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Birds</b>                                  |               |                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                  |
| Golden eagle<br><i>Aquila chrysaetos</i>      | FP, BGEPA     | 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.                                                          | <b>Unlikely.</b> The nearest documented breeding occurrence of this species was 1.8 mi north of the Study Area in 1987 (CDFW 2024b). There are dozens of historic and recent occurrences in the vicinity of the Study Area (CDFW 2024b, Cornell 2024). There is potential foraging habitat within the Study Area in the form of nonnative annual grasslands and scrub communities, however during the site visit on February 28, 2022, no ground squirrel burrows were observed. There is no suitable nesting habitat within the Study Area. Although golden eagles may fly over the Study Area, they are unlikely to forage or nest within the Study Area. | No further actions are recommended for this species.                                             |
| Bald eagle<br><i>Haliaeetus leucocephalus</i> | SE, FP, BGEPA | 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. | <b>Unlikely.</b> The nearest documented breeding occurrence of this species was over 10 mi south of the Study Area in 2006 (CDFW 2024b). There are no other occurrences within 60 miles of the Study Area (CDFW 2024b). The Study Area lacks suitable foraging and nesting habitat for this species. There are no large bodies of freshwater in the Study Area.                                                                                                                                                                                                                                                                                             | No further actions are recommended for this species.                                             |
| Northern harrier<br><i>Circus hudsonius</i>   | 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.                                     | <b>Moderate Potential.</b> The nearest documented breeding occurrence of this species was less than 1 mile southeast of the Study Area in 2004 in the Benicia State Recreation Area (CDFW 2024b). The Benicia State Recreation Area is a 200-acre tidal wetland that could act as source population to the Study Area. Additionally, the Study Area contains suitable foraging and nesting habitat for this species. There is moderate potential this species will use the Study Area for foraging and nesting.                                                                                                                                             | Work windows or pre-construction surveys. See Section 7 for a discussion of mitigation measures. |

| SPECIES                                                     | STATUS | HABITAT                                                                                                                                                                                                                                                                                                                                                                                               | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RECOMMENDATIONS                                                                                  |
|-------------------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Swainson's hawk<br><i>Buteo swainsoni</i>                   | ST     | Summer resident in California's Central Valley and limited portions of the southern California interior. 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. | <b>Unlikely.</b> The nearest documented breeding occurrence of this species was over 9 mi north of the Study Area in 2004 (CDFW 2024b). Swainson's hawk is documented to occur in the region on occasion during migration (Cornell 2024). The Study Area contains suitable foraging in the form of grasslands, but this species is not known to nest in the vicinity and may only occasionally pass through during migration.                                                                                                    | No further actions are recommended for this species.                                             |
| American peregrine falcon<br><i>Falco peregrinus anatum</i> | FP     | 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.                                                                                                                                                | <b>Unlikely.</b> This species has been documented foraging within 2 miles of the Study Area (Cornell 2024). The Study Area contains foraging habitat, but no nesting habitat such as cliffs, bridges, or other tall structures. Foraging habitat within the Study Area is not primary as this species is most likely to forage in the marshland to the east and south. It is unlikely this species could be found in the Study Area other than occasional foraging.                                                              | No further actions are recommended for this species.                                             |
| White-tailed kite<br><i>Elanus leucurus</i>                 | 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.                                                                                                                                      | <b>Moderate Potential.</b> There have been numerous historic and recent documented occurrences of this species (Cornell 2024), and one potential nest within 2 miles of the Study Area (CDFW 2024b). The Study Area contains suitable foraging in the form of grasslands and shrublands. Additionally, there are large oak trees that are suitable nesting habitat. This species was observed foraging within the Study Area on February 28, 2022. There is a moderate potential for this species to nest within the Study Area. | Work windows or pre-construction surveys. See Section 7 for a discussion of mitigation measures. |

| SPECIES                                                        | STATUS     | HABITAT                                                                                                                                                                                                                                                                                                               | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | RECOMMENDATIONS                                                                                  |
|----------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Short-eared owl<br><i>Asio flammeus</i>                        | SSC        | Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles. | <b>Moderate Potential.</b> There are several documented occurrences of this species within 5 miles of the Study Area (Cornell 2024), although no CNDDDB occurrences within 5 miles (CDFW 2024b). The Study Area contains suitable nesting habitat in the form of grasslands and shrublands. The adjacent Benicia State Recreation Area provides foraging habitat for this species. The nearest confirmed population is at Suisun Marsh approximately 7 miles east of the Study Area (Shuford and Gardali 2008; CDFW 2024b).                                                                                                                                               | Work windows or pre-construction surveys. See Section 7 for a discussion of mitigation measures. |
| Burrowing owl<br><i>Athene cunicularia</i>                     | SSC        | 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.                                | <b>Unlikely.</b> There have been numerous documented occurrences of this species within 5 miles of the Study Area during wintering and migration periods (Cornell 2024), and 2 wintering occurrences about 4 miles from the Study Area in CNDDDB (CDFW 2024b). The Study Area contains suitable foraging habitat in the form of grasslands and shrublands and may be observed foraging during winter or migration periods. During the site visit on February 28, 2022, no ground squirrel burrows were observed. Therefore, the Study Area lacks the mammal burrows necessary for occupation or nesting by this species and it is unlikely to nest within the Study Area. | No further actions are recommended for this species.                                             |
| California Ridgway's rail<br><i>Rallus obsoletus obsoletus</i> | FE, SE, FP | Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on mollusks and crustaceans.             | <b>No Potential.</b> The Study Area does not contain any tidal marshes, sloughs, or intertidal mud flats that can support foraging or nesting for this species and is greater than 700 feet from tidal marsh habitats.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No further actions are recommended for this species.                                             |

| SPECIES                                                             | STATUS  | HABITAT                                                                                                                                                                                                                                                                                                | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                          | RECOMMENDATIONS                                      |
|---------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| California black rail<br><i>Laterallus jamaicensis coturniculus</i> | ST, FP  | 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.                                            | <b>No Potential.</b> The Study Area does not contain any marshes, sloughs, or intertidal mud flats that can support foraging or nesting for this species and is greater than 700 feet from marsh habitats.                                                                                                                                                                                  | No further actions are recommended for this species. |
| Yellow rail<br><i>Coturnicops noveboracensis</i>                    | SSC     | Summer resident in eastern Sierra Nevada in Mono County, breeding in shallow freshwater marshes and wet meadows with dense vegetation. Also a rare winter visitor along the coast and other portions of the state. Extremely cryptic.                                                                  | <b>No Potential.</b> The Study Area does not contain any marshes or sloughs that can support foraging or nesting for this species.                                                                                                                                                                                                                                                          | No further actions are recommended for this species. |
| Tricolored blackbird<br><i>Agelaius tricolor</i>                    | ST, SSC | 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. | <b>Unlikely.</b> The Study Area has 0.42 acres of seasonal wetland that will be impacted and 0.94 acres of riparian habitat that will not be impacted. The seasonal wetland lacks riparian thickets or tall, dense emergent vegetation suitable to support nesting for this species. The riparian habitat present in the Study Area is dense tree canopy and not suitable for this species. | No further actions are recommended for this species. |
| Yellow-headed blackbird<br><i>Xanthocephalus xanthocephalus</i>     | SSC     | Summer resident. Breeds colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. Requires abundant large insects such as dragonflies; nesting is timed for maximum emergence of insect prey.                                            | <b>No Potential.</b> The seasonal wetland in the Study Area lacks riparian thickets or tall, dense emergent vegetation suitable to support nesting for this species. The Study Area does not have deep water features suitable for this species.                                                                                                                                            | No further actions are recommended for this species. |

| SPECIES                                                            | STATUS | HABITAT                                                                                                                                                                                                                                                   | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                       | RECOMMENDATIONS                                      |
|--------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| San Pablo song sparrow<br><i>Melospiza melodia samuelis</i>        | SSC    | Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes. | <b>No Potential.</b> The Study Area does not contain any tidal marshes, sloughs, or intertidal mud flats that can support nesting for this species. The nearest occurrence for this species is over 3.5 miles west of the Study Area (CDFW 2024b; Cornell 2024). The Study Area is outside the known range of this species.                                                                                                                              | No further actions are recommended for this species. |
| Suisun song sparrow<br><i>Melospiza melodia maxillaris</i>         | SSC    | Year-round resident of brackish-water marshes along Suisun Bay. Inhabits cattails, tules, bulrushes and other emergent vegetation, including pickleweed. Nests typically placed in shrubs.                                                                | <b>Unlikely.</b> The Study Area does not contain any tidal marshes, sloughs, or intertidal mud flats that can support nesting for this species. However, the Study Area is near tidal marsh habitat and this species could forage in the Study Area. This species has been documented in the Benicia State Recreation Area (CDFW 2024b, Cornell 2024). The Study Area is within the known range of this species, but over 700 feet from typical habitat. | No further actions are recommended for this species. |
| Alameda song sparrow<br><i>Melospiza melodia pusillula</i>         | 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.                                                             | <b>No Potential.</b> The Study Area does not contain any tidal marshes, sloughs, or intertidal mud flats that can support nesting for this species. Additionally, the Study Area is outside the current range of this species.                                                                                                                                                                                                                           | No further actions are recommended for this species. |
| Saltmarsh common yellowthroat<br><i>Geothlypis trichas sinuosa</i> | SSC    | Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.                                                           | <b>Unlikely.</b> The Study Area does not contain any tidal marshes, sloughs, or intertidal mud flats that can support nesting for this species. However, the Study Area is near marsh habitat and this species could forage in the Study Area. This species has been documented in the Benicia State Recreation Area (CDFW 2024b, Cornell 2024).                                                                                                         | No further actions are recommended for this species. |

| SPECIES                                                   | STATUS     | HABITAT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | POTENTIAL TO OCCUR                                                                                                                                                                                                                                       | RECOMMENDATIONS                                      |
|-----------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Bank swallow<br><i>Riparia riparia</i>                    | ST         | Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co. | <b>No Potential.</b> There have been no documented occurrences of this species within 10 miles of the Study Area (CDFW 2024b; Cornell 2024). The Study Area does not contain suitable nesting habitat near rivers, lakes, or the ocean for this species. | No further actions are recommended for this species. |
| Western snowy plover<br><i>Charadrius nivosus nivosus</i> | FT, SSC    | Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.                                                                                                                                                                                                                                                 | <b>No Potential.</b> The Study Area does not contain any tidal sandy beaches, salt ponds, or alkali lakes that can support foraging or nesting for this species.                                                                                         | No further actions are recommended for this species. |
| California least tern<br><i>Sterna antillarum browni</i>  | FE, SE, FP | Summer resident along the coast from San Francisco Bay south to northern Baja California; inland breeding also very rarely occurs. Nests colonially on barren or sparsely vegetated areas with sandy or gravelly substrates near water, including beaches, islands, and gravel bars. In San Francisco Bay, has also nested on salt pond margins.                                                                                                                                                          | <b>No Potential.</b> The Study Area does not contain any tidal sandy or gravelly beaches or salt ponds that can support foraging or nesting for this species.                                                                                            | No further actions are recommended for this species. |

| SPECIES                                                        | STATUS  | HABITAT                                                                                                                                                                                                                                                                                                                                                                  | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | RECOMMENDATIONS                                      |
|----------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <b>Amphibians and Reptiles</b>                                 |         |                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                      |
| <p>Foothill yellow-legged frog</p> <p><i>Rana boylei</i></p>   | SE, 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.                                                           | <b>No Potential.</b> The Study Area does not contain any rocky streams that can support foraging, basking, or breeding for this species.                                                                                                                                                                                                                                                                                                                                                                              | No further actions are recommended for this species. |
| <p>California red-legged frog</p> <p><i>Rana draytonii</i></p> | FT, SSC | 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. | <b>Unlikely.</b> The riparian and seasonal wetland habitat within the Study Area are not historical. They were created as a result of stormwater runoff from the housing development to the west of the Study Area. Additionally, the Study Area is significantly isolated from nearby populations to the northeast by large residential developments and Interstate 780, and from populations to the south by Carquinez Strait. The nearest recent occurrence was in 2007 approximately 3.7 miles away (CDFW 2024b). | No further actions are recommended for this species. |

| SPECIES                                                                                           | STATUS | HABITAT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | RECOMMENDATIONS                                      |
|---------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| California tiger salamander - central California DPS<br><br><i>Ambystoma californiense pop. 1</i> | FT, ST | Restricted to grasslands and low-elevation foothill regions in California (generally under 1500 feet) where it uses seasonal aquatic habitats for breeding. The salamanders breed in natural ephemeral pools, or ponds that mimic ephemeral pools, and occupy substantial areas surrounding the breeding pool as adults. They survive hot, dry summers by living underground in burrows (e.g., ground squirrels). During wet periods, the salamanders may emerge from refugia and feed in the surrounding grasslands. | <b>No Potential.</b> The seasonal wetland habitat within the Study Area is not historical. It was created as a result of stormwater runoff from the housing development to the west of the Study Area. The Study Area has significant dispersal barriers including large residential developments and Interstate 780 to the north, and Carquinez Strait to the south. Lastly, the Study Area is over 9 miles from the nearest breeding occurrence (CDFW 2024b), much farther than the known dispersal distance of 1.3 miles. | No further actions are recommended for this species. |
| Alameda whipsnake<br><br><i>Masticophis lateralis euryxanthus</i>                                 | 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.                                                                                                                                                                                                                                                       | <b>No Potential.</b> The Study Area does not contain any rock outcroppings that can support foraging, basking, or breeding for this species. This species is not known to occur in Solano County.                                                                                                                                                                                                                                                                                                                            | No further actions are recommended for this species. |
| Giant garter snake<br><br><i>Thamnophis gigas</i>                                                 | FT, ST | Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.                                                                                                                                                                                                                                                                                                                                                | <b>No Potential.</b> The Study Area does not contain aquatic habitats for this species, and no freshwater is present in the summer. The Study Area is outside of the known range for this species.                                                                                                                                                                                                                                                                                                                           | No further actions are recommended for this species. |

| SPECIES                                                          | STATUS              | HABITAT                                                                                                                                                                                                                                                                                    | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                   | RECOMMENDATIONS                                      |
|------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Northern California<br>legless lizard<br><i>Anniella pulchra</i> | SSC                 | Found in loose soils or leaf litter with plant cover such as beach dune, sandy washes, stream terraces, chaparral, and pine-oak woodlands. Requires some soil moisture. Occasionally found in suburban gardens. Preys upon invertebrates.                                                  | <b>No Potential.</b> The Study Area does not contain any friable soils that can support foraging, breeding, or protection for this species. Additionally, the Study Area is outside the current range of this species.                                                                                                                                                                                                                                               | No further actions are recommended for this species. |
| Western pond turtle<br><i>Emys marmorata</i>                     | FPT, SSC            | A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying. | <b>Unlikely.</b> The Study Area does not contain aquatic habitat for this species as freshwater is only seasonal. Additionally, the seasonal wetland is not historical as it was created because of the housing development to the west of the Study Area. The Study Area has significant dispersal barriers to nearby populations 4 miles to the north including large residential developments and Interstate 780 to the north, and Carquinez Strait to the south. | No further actions are recommended for this species. |
| <b>Mammals</b>                                                   |                     |                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                      |
| American badger<br><i>Taxidea taxus</i>                          | 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.                                                                                                   | <b>No Potential.</b> The Study Area is isolated from large contiguous grasslands by housing developments and Interstate 780. The nearest occurrence is almost 14 miles away both of which date back to 1911 and 1925 (CDFW 2024b). Furthermore, during the site visit on February 28, 2022, no badger burrows were found and only a couple of gopher burrows were observed indicating a limited food resource.                                                       | No further actions are recommended for this species. |
| Big free-tailed bat<br><i>Nyctinomops macrotis</i>               | SSC,<br>WBWG<br>Med | Occurs rarely in low-lying arid areas. Requires high cliffs or rocky outcrops for roosting sites.                                                                                                                                                                                          | <b>No Potential.</b> The Study Area does not contain any cliff or rock outcrops that can support this species. The Study Area is outside the home range of this species which is known to occur in the state of Colorado (USFWS 2024b). However, vagrants have been documented in Alameda and San Diego Counties in rare cases (CDFW 2021).                                                                                                                          | No further actions are recommended for this species. |

| SPECIES                                                    | STATUS               | HABITAT                                                                                                                                                                                                                                                                                                                                                                                                           | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | RECOMMENDATIONS                                                                                  |
|------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Pallid bat<br><i>Antrozous pallidus</i>                    | SSC,<br>WBWG<br>High | Found in a variety of habitats ranging from grasslands to mixed forests, favoring open and dry, rocky areas. Roost sites include crevices in rock outcrops and cliffs, caves, mines, and also hollow trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. | <b>Unlikely.</b> The nearest documented occurrence of this species was ~13 mi north in 2007, in addition to several historic occurrences (pre-1940) south of the Study Area (CDFW 2024b). The Study Area contains suitable foraging habitat for this species. However, there is no suitable roosting habitat as this species is very sensitive to disturbance. The few large trees within the Study Area are directly adjacent (~330 ft) to Interstate 780 and exposed to predators, wind, and temperature fluctuations. Additionally, this species typically roosts in crevices of rocks, caves, and mines which are absent from the Study Area. This species could be found in the Study Area foraging but not roosting. | No further actions are recommended for this species.                                             |
| Townsend's big-eared bat<br><i>Corynorhinus townsendii</i> | SSC,<br>WBWG<br>High | Associated with a wide variety of habitats from deserts to higher-elevation mixed and coniferous forests. Females form maternity colonies in buildings, caves and mines, and males roost singly or in small groups. Foraging typically occurs at edge habitats near wooded areas, e.g. along streams.                                                                                                             | <b>Unlikely.</b> The Study Area does contain suitable foraging habitat for this species. However, there is no suitable roosting habitat as this species typically roosts in caves, mines, and buildings. It is unlikely this species could be found in the Study Area other than occasional foraging.                                                                                                                                                                                                                                                                                                                                                                                                                      | No further actions are recommended for this species.                                             |
| Silver-haired bat<br><i>Lasionycteris noctivagans</i>      | WBWG<br>Med          | Primarily a forest dweller, feeding over streams, ponds, and open brushy areas. Summer habitats include a variety of forest and woodland types, both coastal and montane. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.                                                                                                                                                         | <b>Moderate Potential.</b> The Study Area does contain suitable foraging and roosting habitat for this migratory species. Large oak trees are present within the Study Area that could provide maternity or day-roost habitat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Work windows or pre-construction surveys. See Section 7 for a discussion of mitigation measures. |

| SPECIES                                                                 | STATUS      | HABITAT                                                                                                                                                                                                                      | POTENTIAL TO OCCUR                                                                                                                                                             | RECOMMENDATIONS                                                                                  |
|-------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Hoary bat<br><i>Lasiurus cinereus</i>                                   | WBWG<br>Med | 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.                   | <b>Moderate Potential.</b> The Study Area does contain suitable foraging and roosting habitat for this species. Large oak trees are present within the Study Area.             | Work windows or pre-construction surveys. See Section 7 for a discussion of mitigation measures. |
| San Francisco dusky-footed woodrat<br><i>Neotoma fuscipes annectens</i> | SSC         | Forest habitats of moderate canopy and moderate to dense understory. Also, in chaparral habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials. | <b>No Potential.</b> The Study Area is outside of this subspecies range. This subspecies does not occur north of San Pablo or Suisun Bays.                                     | No further actions are recommended for this species.                                             |
| Suisun shrew<br><i>Sorex ornatus sinuosus</i>                           | SSC         | Tidal marshes of the northern shores of San Pablo and Suisun Bays. Require dense low-lying cover and driftwood and other litter above the mean hightide line for nesting and foraging.                                       | <b>No Potential.</b> The Study Area does not contain any salt or brackish wetlands that can support this species.                                                              | No further actions are recommended for this species.                                             |
| Salt-marsh wandering shrew<br><i>Sorex vagrans halicoetes</i>           | SSC         | Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6 to 8 feet above sea level where abundant driftwood is scattered among Salicornia.                                                                    | <b>No Potential.</b> The Study Area does not contain any salt or brackish wetlands that can support this species. The Study Area is outside the current range of this species. | No further actions are recommended for this species.                                             |
| San Pablo vole<br><i>Microtus californicus sanpabloensis</i>            | SSC         | Saltmarshes of San Pablo Creek, on the south shore of San Pablo Bay. Constructs burrow in soft soil. Feeds on grasses, sedges and herbs. Forms a network of runways leading from the burrow.                                 | <b>No Potential.</b> The Study Area does not contain any salt or brackish wetlands that can support this species. The Study Area is outside the current range of this species. | No further actions are recommended for this species.                                             |

| SPECIES                                                        | STATUS     | HABITAT                                                                                                                                                                                                                                                                                                                                                      | POTENTIAL TO OCCUR                                                                                                                         | RECOMMENDATIONS                                      |
|----------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Salt-marsh harvest mouse<br><i>Reithrodontomys raviventris</i> | FE, SE, FP | Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.                                                                    | <b>No Potential.</b> The Study Area does not contain any salt or brackish wetlands that can support this species.                          | No further actions are recommended for this species. |
| Fish                                                           |            |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                            |                                                      |
| Sacramento splittail<br><i>Pogonichthys macrolepidotus</i>     | SSC        | Formerly endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay and associated marshes. Occurs in slow-moving river sections and dead-end sloughs. Requires flooded vegetation for spawning and foraging for young. A freshwater species, but tolerant of moderate salinity (10-18 parts per thousand). | <b>No Potential.</b> The Study Area does not contain any stream or rivers. Only one intermittent stream and ephemeral drainage is present. | No further actions are recommended for this species. |
| Delta smelt<br><i>Hypomesus transpacificus</i>                 | FT, SE     | Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.                                                                                                                     | <b>No Potential.</b> The Study Area does not contain any estuarine habitat.                                                                | No further actions are recommended for this species. |

| SPECIES                                                                               | STATUS  | HABITAT                                                                                                                                                                                                                                                                               | POTENTIAL TO OCCUR                                                                                                                         | RECOMMENDATIONS                                      |
|---------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Sacramento perch<br><i>Archoplites interruptus</i>                                    | SSC     | (Only within native range)<br>Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefer warm water. Aquatic vegetation is essential for young. Tolerate wide range of physio-chemical water conditions.                                          | <b>No Potential.</b> The Study Area does not contain any stream or rivers. Only one intermittent stream and ephemeral drainage is present. | No further actions are recommended for this species. |
| Longfin smelt<br><i>Spirinchus thaleichthys</i>                                       | FPE, ST | Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt but can be found in completely freshwater to almost pure seawater.                                                              | <b>No Potential.</b> The Study Area does not contain any estuarine habitat                                                                 | No further actions are recommended for this species. |
| Green sturgeon – Southern DPS<br><i>Acipenser medirostris pop. 1</i>                  | FT      | Spawn in the Sacramento River and the Feather River. Spawn at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.                                                                                            | <b>No Potential.</b> The Study Area does not contain any stream or rivers. Only one intermittent stream and ephemeral drainage is present. | No further actions are recommended for this species. |
| Steelhead - central California coast DPS<br><i>Oncorhynchus mykiss irideus pop. 8</i> | FT      | They are born in freshwater streams, where they spend their first 1-3 years of life. They then emigrate to the ocean where most of their growth occurs. After spending between one to four growing seasons in the ocean, steelhead return to their native freshwater stream to spawn. | <b>No Potential.</b> The Study Area does not contain any stream or rivers. Only one intermittent stream and ephemeral drainage is present. | No further actions are recommended for this species. |

| SPECIES                                                                             | STATUS | HABITAT                                                                                                                                                                                                                                              | POTENTIAL TO OCCUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | RECOMMENDATIONS                                      |
|-------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <b>Invertebrates</b>                                                                |        |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                      |
| Callippe silverspot butterfly<br><br><i>Speyeria callippe callippe</i>              | FE     | Two populations in San Bruno Mountain and the Cordelia Hills are recognized. Hostplant is <i>Viola pedunculata</i> , which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females. | <b>Unlikely.</b> The nearest population is in Cordelia Hills approximately 3 miles north (CDFW 2024b). The hostplant for this species ( <i>Viola pedunculata</i> ) was not observed within the Study Area during the February and July site visits. The majority of the Study Area is dominated by non-native grassland, artichoke thistle, and ruderal weeds (fennel, mustards) limiting the potential of the hostplant occurring within the site. Additionally, minimal nectar producing flowering plants occur within the Study Area as a food source. | No further actions are recommended for this species. |
| Monarch - California overwintering population<br><br><i>Danaus plexippus pop. 1</i> | FC     | Roosts are located in wind-protected tree groves, with nectar and water sources nearby, and are often on south, southwest, or west facing slopes which may provide more favorable temperature regimes and wind protection.                           | <b>Unlikely.</b> There are no tree groves suitable for supporting monarch winter roosting in the Study Area. Minimal nectar producing flowering plants occur within the Study Area as a food source. This species may forage for nectar or migrate through the Study Area.                                                                                                                                                                                                                                                                                | No further actions are recommended for this species. |
| Valley elderberry longhorn beetle<br><br><i>Desmocerus californicus dimorphus</i>   | FT     | Occurs only in the central valley of California, in association with blue elderberry ( <i>Sambucus</i> spp.). Prefers to lay eggs in elderberry 2 to 8 inches in diameter; some preference shown for ""stressed"" elderberry.                        | <b>No Potential.</b> There are no documented occurrences of this species within 9 miles (CDFW 2024b). Additionally, no elderberry shrubs were observed within the Study Area during the February 28, 2022 site visit.                                                                                                                                                                                                                                                                                                                                     | No further actions are recommended for this species. |
| Crotch bumble bee<br><br><i>Bombus crotchii</i>                                     | SC     | Range largely restricted to California, favoring grassland and scrub habitats. Typical of bumble bees, nests are usually constructed underground.                                                                                                    | <b>Unlikely.</b> The single documented occurrence of this species within 60 miles was over 13 miles away across the Carquinez Strait in 2015 (CDFW 2024b). The Study Area contains foraging and nesting habitat for this species. However, limited food resources (nectar producing flowers) and no ground squirrel burrows were observed within the Study Area during the February and July site visits.                                                                                                                                                 | No further actions are recommended for this species. |

| SPECIES                                                     | STATUS | HABITAT                                                                                                                                                                                                                                                                                                                                                            | POTENTIAL TO OCCUR                                                                                                                                                                                                             | RECOMMENDATIONS                                      |
|-------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Western bumble bee<br><i>Bombus occidentalis</i>            | SC     | Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2015). 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. | <b>No Potential.</b> All documented occurrences of this species within 60 miles have been historic with the most recent being in the 1950s (CDFW 2024b), and the Study Area is outside of the current known range (CDFW 2023). | No further actions are recommended for this species. |
| Vernal pool fairy shrimp<br><i>Branchinecta lynchi</i>      | FT     | 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.                                                                                                          | <b>No Potential.</b> There are no vernal pool or vernal swale habitat is present within the Study Area.                                                                                                                        | No further actions are recommended for this species. |
| Conservancy fairy shrimp<br><i>Branchinecta conservatio</i> | FE     | Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.                                                                                                                                 | <b>No Potential.</b> There is no vernal pool or vernal swale habitat present within the Study Area.                                                                                                                            | No further actions are recommended for this species. |

| SPECIES                                                  | STATUS | HABITAT                                                                                                                                                                                                                                                         | POTENTIAL TO OCCUR                                                                                                                                                                                                                 | RECOMMENDATIONS                                      |
|----------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| California freshwater shrimp<br><i>Syncaris pacifica</i> | FE, SE | Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from mainstream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water. | <b>No Potential.</b> The Study Area does not contain any stream or rivers that are capable of supporting this species and is out of the known range of this species. Only one intermittent and one ephemeral drainage are present. | No further actions are recommended for this species. |

**\* Key to status codes:**

|           |                                                                              |
|-----------|------------------------------------------------------------------------------|
| BGEPA     | Bald and Golden Eagle Protection Act                                         |
| CFP       | California Department of Fish and Wildlife (CDFW) Fully Protected Species    |
| FC        | Federal Candidate                                                            |
| FE        | Federal Endangered                                                           |
| FPE       | Federal Proposed Endangered                                                  |
| FPT       | Federal Proposed Threatened                                                  |
| FT        | Federal Threatened                                                           |
| SE        | State Endangered                                                             |
| SC        | State Candidate                                                              |
| SSC       | California Department of Fish and Wildlife (CDFW) Species of Special Concern |
| ST        | State Threatened                                                             |
| WBWG High | Western Bat Working Group – High Priority                                    |
| WBWG Med  | Western Bat Working Group – Medium Priority                                  |

California Rare Plant Rank (CRPR)

|         |                                                                                          |
|---------|------------------------------------------------------------------------------------------|
| Rank 1A | CRPR 1A: Plants presumed extinct in California                                           |
| Rank 1B | CRPR 1B: Plants rare, threatened or endangered in California and elsewhere               |
| Rank 2A | CRPR 2A: Plants presumed extirpated in California, but more common elsewhere             |
| Rank 2B | CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere |
| Rank 3  | CRPR 3: Plants about which CNPS needs more information (a review list)                   |
| Rank 4  | CRPR 4: Plants of limited distribution (a watch list)                                    |

Threat Ranks

|     |                                     |
|-----|-------------------------------------|
| 0.1 | Seriously threatened in California  |
| 0.2 | Moderately threatened in California |
| 0.3 | Not very threatened in California   |

**\*\*Potential species occurrence definitions:**

Present. Species was observed on the site during site visits or has been recorded (i.e. CNDDDB, 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 D. PROJECT PLANS

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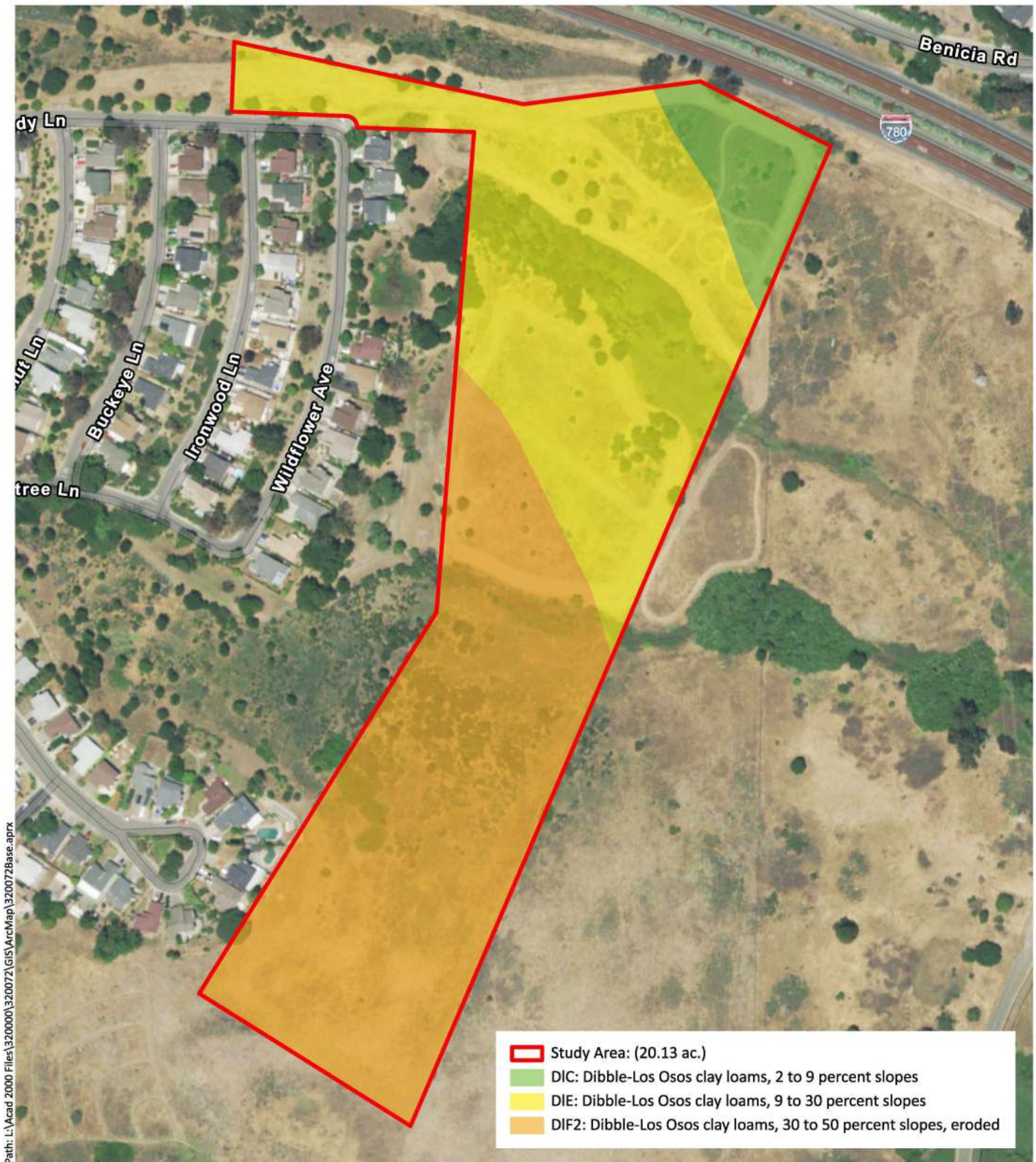


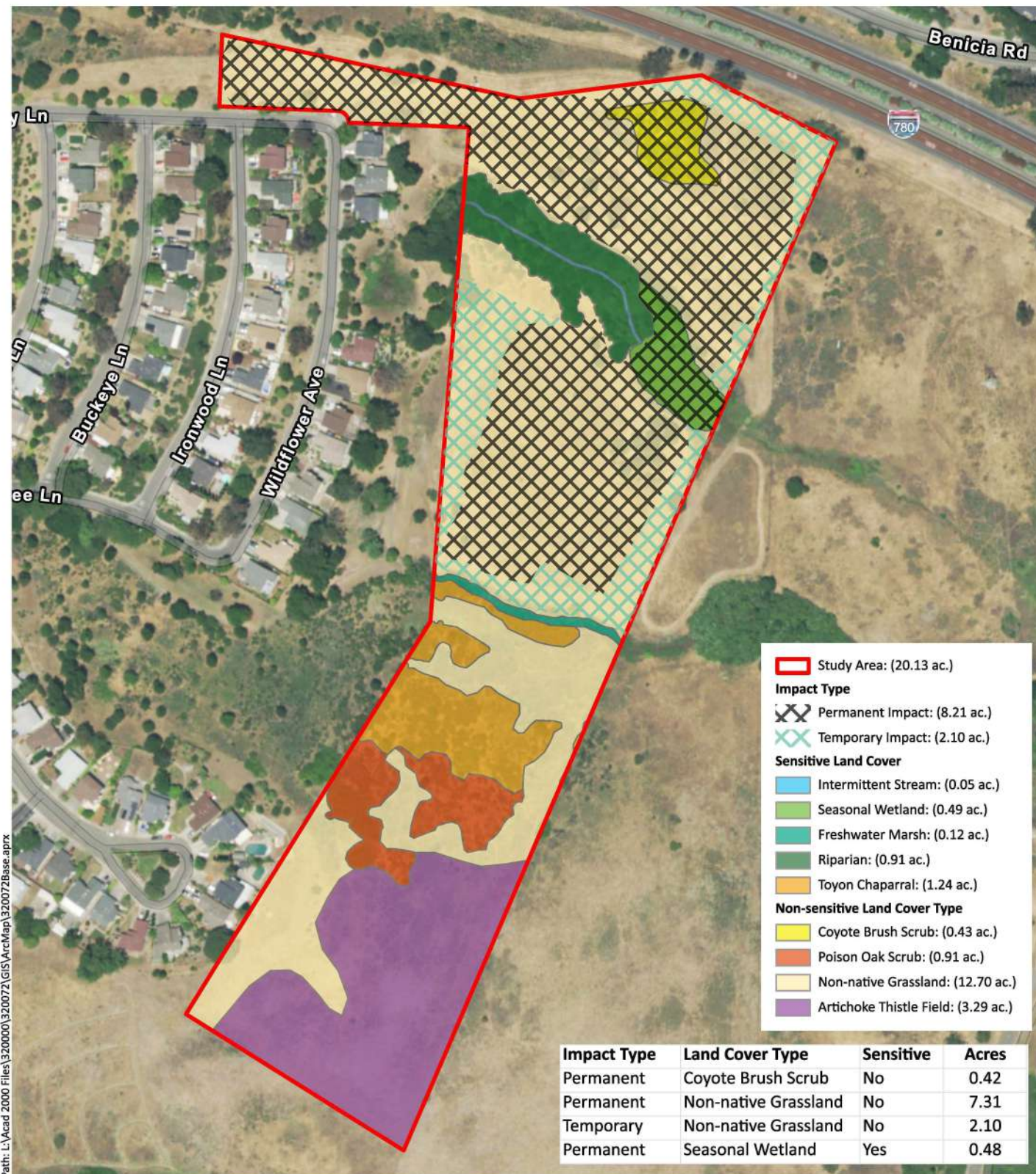
**Figure 3. Soils Map**

Sancerra Vista Cove  
Vallejo, California

0 100 200  
Feet



**wra**  
Environmental  
Consultants



Sources: USDA NAIP Imagery 2020, USDA, WRA | Prepared By: gillespie, 2/26/2024

**Figure 4. Proposed Impacts within the Study Area**

Sancerra Vista Cove  
Vallejo, California

0 100 200  
Feet



**wra**  
Environmental  
Consultants

**Appendix B-1.** Plant species observed within the Study Area on February 28 and July 14, 2022

| Scientific name                                        | Common name              | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|--------------------------------------------------------|--------------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Amsinckia intermedia</i>                            | Common fiddleneck        | annual herb              | native                | -                        | -                            | -                                        |
| <i>Amsinckia lycopoides</i>                            | Tarweed fiddleneck       | annual herb              | native                | -                        | -                            | -                                        |
| <i>Avena barbata</i>                                   | Slim oat                 | annual, perennial grass  | native                | -                        | Moderate                     | -                                        |
| <i>Avena fatua</i>                                     | Wildoats                 | annual grass             | native                | -                        | Moderate                     | -                                        |
| <i>Baccharis pilularis</i>                             | Coyote brush             | shrub                    | native                | -                        | -                            | -                                        |
| <i>Bellardia trixago</i>                               | Mediterranean linseed    | annual herb              | native                | -                        | Limited                      | -                                        |
| <i>Bolboschoenus maritimus</i> ssp. <i>paludosus</i>   | Saltmarsh bulrush        | perennial grasslike herb | native                | -                        | -                            | OBL                                      |
| <i>Brassica nigra</i>                                  | Black mustard            | annual herb              | non-native (invasive) | -                        | Moderate                     | -                                        |
| <i>Briza minor</i>                                     | Little rattlesnake grass | annual grass             | non-native (invasive) | -                        | -                            | FAC                                      |
| <i>Bromus diandrus</i>                                 | Ripgut brome             | annual grass             | non-native            | -                        | Moderate                     | -                                        |
| <i>Bromus hordeaceus</i>                               | Soft chess               | annual grass             | native                | -                        | Limited                      | FACU                                     |
| <i>Calandrinia menziesii</i>                           | Red maids                | annual herb              | native                | -                        | -                            | FACU                                     |
| <i>Calendula arvensis</i>                              | Field marigold           | annual herb              | native                | -                        | -                            | -                                        |
| <i>Capsella bursa-pastoris</i>                         | Shepherd's purse         | annual herb              | native                | -                        | -                            | FACU                                     |
| <i>Cardamine cf. hirsuta</i>                           | Hairy bitter cress       | non-native               | annual herb           | -                        | -                            | FACU                                     |
| <i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i> | Italian thistle          | annual herb              | native                | -                        | Moderate                     | -                                        |
| <i>Chlorogalum pomeridianum</i>                        | Amole                    | perennial herb           | native                | -                        | -                            | -                                        |
| <i>Cirsium vulgare</i>                                 | Bullthistle              | perennial herb           | native                | -                        | Moderate                     | FACU                                     |
| <i>Cortaderia selloana</i>                             | Pampas grass             | perennial grass          | -                     | -                        | High                         | FACU                                     |
| <i>Crassula connata</i>                                | Sand pygmy weed          | annual herb              | non-native (invasive) | -                        | -                            | FAC                                      |

| Scientific name                             | Common name            | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|---------------------------------------------|------------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Cynara cardunculus ssp. flavescentis</i> | Artichoke thistle      | perennial herb           | non-native (invasive) | -                        | Moderate                     | -                                        |
| <i>Cyperus eragrostis</i>                   | Tall cyperus           | perennial grasslike herb | -                     | -                        | -                            | FACW                                     |
| <i>Dittrichia graveolens</i>                | Stinkwort              | annual herb              | native                | -                        | Moderate                     | -                                        |
| <i>Elymus caput-medusae</i>                 | Medusa head            | annual grass             | native                | -                        | High                         | -                                        |
| <i>Elymus triticoides</i>                   | Beardless wild rye     | perennial grass          | non-native (invasive) | -                        | -                            | FAC                                      |
| <i>Erigeron canadensis</i>                  | Canada horseweed       | native                   | annual herb           | -                        | -                            | FACU                                     |
| <i>Erodium botrys</i>                       | Big heron bill         | annual herb              | native                | -                        | -                            | FACU                                     |
| <i>Erodium cicutarium</i>                   | Red stemmed filaree    | annual herb              | non-native (invasive) | -                        | Limited                      | -                                        |
| <i>Erodium moschatum</i>                    | Whitestem filaree      | annual herb              | native                | -                        | -                            | -                                        |
| <i>Euphorbia peplus</i>                     | Petty spurge           | annual herb              | non-native (invasive) | -                        | -                            | -                                        |
| <i>Festuca bromoides</i>                    | Brome fescue           | annual grass             | non-native            | -                        | -                            | FACU                                     |
| <i>Festuca myuros</i>                       | Rattail sixweeks grass | annual grass             | non-native (invasive) | -                        | Moderate                     | FACU                                     |
| <i>Festuca perennis</i>                     | Italian rye grass      | annual, perennial grass  | non-native (invasive) | -                        | Moderate                     | FAC                                      |
| <i>Ficus carica</i>                         | Common fig             | tree                     | native                | -                        | Moderate                     | FACU                                     |
| <i>Foeniculum vulgare</i>                   | Fennel                 | perennial herb           | non-native            | -                        | High                         | -                                        |
| <i>Galium aparine</i>                       | Cleavers               | annual herb              | non-native            | -                        | -                            | FACU                                     |
| <i>Geranium dissectum</i>                   | Wild geranium          | annual herb              | non-native (invasive) | -                        | Limited                      | -                                        |
| <i>Geranium molle</i>                       | Crane's bill geranium  | annual, perennial herb   | native                | -                        | -                            | -                                        |
| <i>Helenium puberulum</i>                   | Sneezeweed             | perennial herb           | non-native (invasive) | -                        | -                            | FACW                                     |
| <i>Helminthotheca echioides</i>             | Bristly ox-tongue      | annual, perennial herb   | non-native (invasive) | -                        | Limited                      | FAC                                      |

| Scientific name                                   | Common name         | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|---------------------------------------------------|---------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Hemizonia congesta</i> ssp. <i>luzulifolia</i> | Woodrush tarweed    | annual herb              | native                | -                        | -                            | -                                        |
| <i>Heteromeles arbutifolia</i>                    | Toyon               | shrub                    | non-native (invasive) | -                        | -                            | -                                        |
| <i>Holcus lanatus</i>                             | Common velvetgrass  | perennial grass          | native                | -                        | Moderate                     | FAC                                      |
| <i>Juncus effusus</i>                             | Common bog rush     | perennial grasslike herb | non-native (invasive) | -                        | -                            | FACW                                     |
| <i>Juncus mexicanus</i>                           | Mexican rush        | perennial grasslike herb | non-native (invasive) | -                        | -                            | FACW                                     |
| <i>Juncus xiphioides</i>                          | Iris leaved rush    | perennial grasslike herb | native                | -                        | -                            | OBL                                      |
| <i>Ligustrum lucidum</i>                          | Glossy privet       | tree, shrub              | native                | -                        | Limited                      | -                                        |
| <i>Lupinus succulentus</i>                        | Arroyo lupine       | annual herb              | native                | -                        | -                            | -                                        |
| <i>Lysimachia arvensis</i>                        | Scarlet pimpernel   | annual herb              | non-native (invasive) | -                        | -                            | FAC                                      |
| <i>Malva</i> sp.                                  | Mallow              | annual herb              | non-native            | -                        | -                            | -                                        |
| <i>Marah fabacea</i>                              | California man-root | perennial herb, vine     | non-native            | -                        | -                            | -                                        |
| <i>Maytenus boaria</i>                            | Mayten              | tree, shrub              | non-native            | -                        | Watch                        | -                                        |
| <i>Medicago polymorpha</i>                        | Bur clover          | non-native (invasive)    | annual herb           | -                        | Limited                      | FACU                                     |
| <i>Nasturtium officinale</i>                      | Watercress          | perennial herb (aquatic) | non-native            | -                        | -                            | OBL                                      |
| <i>Oxalis pes-caprae</i>                          | Bermuda buttercup   | perennial herb           | non-native (invasive) | -                        | Moderate                     | -                                        |
| <i>Phalaris aquatica</i>                          | Harding grass       | perennial grass          | non-native (invasive) | -                        | Moderate                     | FACU                                     |
| <i>Phoradendron leucarpum</i>                     | American mistletoe  | shrub (parasitic)        | non-native (invasive) | -                        | -                            | -                                        |
| <i>Prunus cerasifera</i>                          | Cherry plum         | tree                     | non-native (invasive) | -                        | Limited                      | -                                        |
| <i>Prunus dulcis</i>                              | Almond              | tree                     | native                | -                        | -                            | -                                        |
| <i>Pseudognaphalium luteoalbum</i>                | Jersey cudweed      | annual herb              | non-native (invasive) | -                        | -                            | FAC                                      |

| Scientific name                   | Common name          | Life form                | Origin                | Rare Status <sup>1</sup> | Invasive Status <sup>2</sup> | Wetland indicator (AW 2020) <sup>3</sup> |
|-----------------------------------|----------------------|--------------------------|-----------------------|--------------------------|------------------------------|------------------------------------------|
| <i>Quercus agrifolia</i>          | Coast live oak       | tree                     | non-native            | -                        | -                            | -                                        |
| <i>Raphanus sativus</i>           | Wild radish          | annual, biennial herb    | native                | -                        | Limited                      | -                                        |
| <i>Rubus armeniacus</i>           | Himalayan blackberry | shrub                    | non-native (invasive) | -                        | High                         | FAC                                      |
| <i>Rumex crispus</i>              | Curly dock           | non-native (invasive)    | perennial herb        | -                        | Limited                      | FAC                                      |
| <i>Rumex pulcher</i>              | Fiddleleaf dock      | perennial herb           | native                | -                        | -                            | FAC                                      |
| <i>Salix laevigata</i>            | red willow           | tree, shrub              | native                | -                        | -                            | FACW                                     |
| <i>Salix lasiolepis</i>           | Arroyo willow        | tree, shrub              | native                | -                        | -                            | FACW                                     |
| <i>Sanicula bipinnatifida</i>     | Purple sanicle       | native                   | perennial herb        | -                        | -                            | -                                        |
| <i>Schoenoplectus americanus</i>  | Chairmaker's bulrush | perennial grasslike herb | native                | -                        | -                            | OBL                                      |
| <i>Sisyrinchium bellum</i>        | Blue eyed grass      | perennial herb           | native                | -                        | -                            | FACW                                     |
| <i>Sonchus oleraceus</i>          | Common sow thistle   | annual herb              | non-native (invasive) | -                        | -                            | UPL                                      |
| <i>Stipa pulchra</i>              | Purple needle grass  | perennial grass          | native                | -                        | -                            | -                                        |
| <i>Toxicodendron diversilobum</i> | Poison oak           | vine, shrub              | non-native            | -                        | -                            | FACU                                     |
| <i>Typha</i> sp.                  | -                    | -                        | native                | -                        | -                            | -                                        |
| <i>Vicia sativa</i>               | Spring vetch         | annual herb, vine        | non-native            | -                        | -                            | FACU                                     |

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

<sup>1</sup> 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: March 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

| Scientific Name       | Common Name       | Conservation Status <sup>1</sup> |
|-----------------------|-------------------|----------------------------------|
| <b>Invertebrates</b>  |                   |                                  |
| <i>Bombus spp.</i>    | Bumblebee         | -                                |
| <i>Apis mellifera</i> | European honeybee | -                                |

<sup>1</sup>**Key to Conservation Status:**

FP CDFW Fully Protected Species



February 22, 2023

**Attn:** Scott Covington  
Sancerra  
2618 San Miguel Drive, Suite 1223  
Newport Beach, CA 92660

Re: Sancerra Vista Cove Development Project – Arborist Tree Survey and Report

Dear Scott Covington:

The purpose of this letter is to inform you of the results of an arborist survey performed on October 12, 2022, near the east end of Shady Lane in the City of Vallejo, Solano County, California, including Assessor Parcel Numbers (APN) 007-912-010, 007-917-117, and 007-917-118 (Study Area, see Figure 1 in the attachments). The survey was conducted by WRA's ISA-Certified Arborist (#WE-9541A) and Tree Risk Assessment Qualified (TRAQ) arborist Kevin Schwartz (Arborist) for the purpose of documenting all trees with a diameter at breast height (DBH) greater than 6 inches within the Study Area and outside of the riparian area (see Figure 2 in the attachments). The tree inventory and arborist report are provided as part of the planning process for the Vista Cove Development Project (Project) consistent with the City of Vallejo's Zoning Code Chapters 16.504.07 and 16.701.02 of Title 16. The proposed Project will require tree protection, removal, and replacement. Anticipated tree impacts presented in this report may be subject to change with further design development.

### **Regulatory Background**

Title 16 of the City of Vallejo Zoning Code (Zoning Code) details protections, restrictions, permits, and violations surrounding the removal or disturbance of Significant Trees from any parcel of property in the City. Details of the Zoning Code can be found below:

#### **16.701.02 LAND USE TERMS AND DEFINITIONS**

**Significant Tree.** Any tree or stand of trees on private property having either a height of twenty-five feet measured above ground level, or a diameter of ten or more inches.

#### **16.504.07 TREE PROTECTION**

**A. Preserving Trees During Construction.** The following measures are required to protect trees during construction in addition to any that may be recommended by an arborist hired by the applicant and imposed as a condition of approval:



1. Tree Inventory. Identify trees to be preserved on a tree inventory plan with type of tree and condition prior to construction, or permit submittal or as part of entitlements, whichever is first.

2. Existing Trees. Existing mature trees shall be preserved in non-residential zoning districts if they are over 24 inches in diameter measured 4 feet 6 inches above natural grade.

However, trees meeting the above criteria may be removed on a limited basis with the permission of the Director upon submittal of an Arborist's report which determines that the tree is in poor health and not likely to survive; if the trees constitute a high fire hazard or a threat to persons, structures, or property; or, if they impede public works projects. Trees to be removed shall be shown on the Landscaping and Irrigation Plan and detailed on a tree inventory chart. The Arborist's Report shall provide guidance on the following requirements:

- a. Construct fencing around the drip line of each tree or group of trees to be retained;
- b. No fill, grading, or construction shall be permitted within the drip line of any tree (or within 6 feet of the trunk, whichever is greater) designated for preservation except as may be recommended by an arborist or forester.
- c. Trenching shall be prohibited within the tree drip line, and any required utility line within the tree drip line shall be installed by boring or drilling through the soil. Where necessary for access in the vicinity of trees designated for preservation, paving within the drip line shall use porous materials such as gravel, loose boulders, cobbles, wood chips, or bark mulch.
- d. As an option, establish an incentive program in the construction contract to encourage workers, particularly bulldozer drivers, to maximize caution when working near trees (such as a fine for each damaged tree or subtract the fine from a bonus to be divided among all construction workers at the end of the project).
- e. Alternate methods to the standards above that are recommended by the Arborist may be implemented.

B. Removal of Trees. The Director may approve the removal of trees based on a determination that there is no feasible alternative design for developing the site and based on report and recommendation by a qualified arborist submitted by the applicant including information as to whether:

1. The tree is in poor health and cannot be saved;
2. The tree is a public nuisance, causing damage to public utilities or streets and sidewalks that cannot be mitigated by some other means (such as root barriers etc.);
3. The tree is in danger of falling and cannot be saved by some other means (such as pruning);
4. The tree is damaging existing private improvements on the lot (e.g., building foundation, wall, patio, deck, roof, retaining wall, etc.);
5. The tree species has been identified as fire prone including Blue gum eucalyptus (*Eucalyptus globulus*), Monterey pines (*Pinus radiata*), Juniper (Cupressaceous) Tree of



Heaven (*Ailanthus altissima*), Black acacia (*Acacia melanoxylon*), and bamboo and is located within 100 feet of structures; or

6. The tree species is known to develop weaknesses that affect its health or the safety of people and property (e.g., short-lived, weak-wooded and subject to limb breakage, shallow-rooted and subject to toppling).

C. Replacement of Significant Trees Required. Trees shall be replaced at a ratio of at least 3 new trees for every tree removed except for the fire-prone species identified above. The minimum size of a replacement tree shall be 15 gallons. Exception to this requirement may be approved by the Director when site conditions warrant. Replacement trees shall be planted in the following order of priority:

1. On the Study Area;
2. On any adjacent property subject to approval of the owner; or
3. In the public right-of-way adjacent to the property subject to approval of the Director of Public Works.

## Methods

On October 12, 2022, the Study Area was traversed on foot by the Arborist to inventory all trees with a DBH of 6 inches or greater within the Study Area, not including the riparian protection zone (Figure 2). Relevant information was recorded for each surveyed tree, including:

- Tree Number – corresponds to a round aluminum tag affixed to each protected tree.
- Species – common and scientific name of the tree.
- Trunk DBH – was calculated for surveyed trees by measuring the trunk diameter at 4.5 feet (54 inches) above the ground on the high side of the trunk. For multi-trunk trees, DBH was calculated by measuring each individual trunk and calculating the sum of trunk diameters.
- Max Drip –Dripline radii were recorded to the nearest foot measuring from the center of the trunk to the edge of dripline mapped, approximating the maximum distance in feet from the trunk to the edge of the branches.
- Condition Rating – rated poor, fair, or good considering both the health and structure of the tree. A rating of fair-good or good indicates no significant condition concerns.
- Health Rating – rated poor, fair, or good considering the overall health of the tree. A rating of fair-good or good indicates no significant health concerns.
- Structure Rating – rated poor, fair, or good considering the structure of the tree. A rating of fair-good or good indicates no significant structure concerns.
- Health – specific comments contributing to the condition, health, and structure ratings were noted (e.g. major decay/dieback, dead, multiple dead trunks, poor growth form, lean, unknown abiotic disorder, lean, cankers).
- Comments – comments regarding the tree assessment, access, and whether the tree should be removed or not.

Surveyed tree locations within the Study Area were recorded using sub-meter accuracy GPS. Trees were tagged with aluminum tree tags with a unique identifying number. Two trees (#560 and



#563) were inaccessible to tag because the shrubs or Himalayan blackberry (*Rubus armeniacus*) were too dense to access the trunk. Anticipated tree impacts were determined based on a limit of work provided by DK Engineering on December 14, 2022. Final tree impacts may differ from the anticipated impacts presented in this report with further project design development.

This Arborist Tree Survey and Report includes the following figures and table as attachments:

- Figure 1, entitled “Study Area Regional Location Map” shows the project location.
- Figure 2, entitled “Tree Survey Study Area” contains the locations of the trees on an aerial image of the Study Area.
- Table A, entitled “Tree Evaluation”, summarizes the results of the tree evaluation for all surveyed trees.

Additional summary tables are provided in the following sections.

### **Summary of Tree Evaluation**

#### *Location, Species Makeup, Number of Trees, and Age:*

The Study Area is located south of Interstate 780 off Shady Lane and Wildflower Avenue in the City of Vallejo, Solano County, California. The subject trees found were native and horticultural species. The horticultural species had been planted as part of the landscaping along Shady Lane and a few scattered fruit trees were found in the southern part of the Study Area. The native species were found scattered around the property.

A total of 83 trees were surveyed within the Study Area, of which 57 trees meet the Significant Tree definition under the local ordinance. Four non-native tree species were identified during the survey, including: two strawberry trees (*Arbutus* ‘Marina’), one apple tree (*Malus* sp.), three Monterey pines (*Pinus radiata*), and two cherry trees (*Prunus* sp.). Three native tree species were identified during the survey, including: one toyon (*Heteromeles arbutifolia*), 73 coast live oaks (*Quercus agrifolia*), and one valley oak (*Quercus lobata*). The diameters of surveyed trees ranged from 6 to 43.2 inches.

All tree numbers and their associated attributes are recorded in the Tree Evaluation Table (Table A in the attachments). The surveyed trees varied in age from young to mature.

#### *Tree Condition, Health, and Structure:*

The health of the trees was rated from poor to good. Most of the trees were in good condition, good health, and had good structure. Only one apple tree was in poor health having major decay and dieback. This apple tree was a small tree outside of the development footprint and poses no risk.



### Root Protection Zones and Potential Impacts:

Using the max drip line, the Arborist estimated the area of root protection zone (RPZ) that would be impacted by the Project for each tree.

Of the 83 trees surveyed, a total of 69 trees are anticipated to require removal (0.76 acre of RPZ would be impacted for these 69 trees), three trees would not be removed but would have RPZ impacts (0.01 acre), and 11 trees would be entirely avoided (Table 1, below). The three trees with only RPZ impacts would have 24% to 38% of the RPZ impacted. Impacts to these three trees could be avoided with appropriate tree protection measures.

Of the 69 trees that are anticipated to require removal, 47 of these trees ( $\geq 10"$  DBH) meet the Significant Tree definition (0.60 acre of RPZ would be impacted for these 47 Significant Trees). Of the three trees that would not be removed but would have RPZ impacts, two meet the Significant Tree definition ( $< 0.01$  acre of RPZ).

Table 1. Tree Survey Summary

| Description                                     | Number of trees | RPZ Impact Area (Acre) |
|-------------------------------------------------|-----------------|------------------------|
| All Surveyed Trees ( $\geq 6"$ DBH)             |                 |                        |
| All Trees Surveyed                              | 83              | N/A                    |
| Trees Requiring Removal                         | 69              | 0.76 acre              |
| Trees Avoided but with RPZ Impacts              | 3               | 0.01 acre              |
| Surveyed Trees Avoided                          | 11              | N/A                    |
| Significant Trees ( $\geq 10"$ DBH)             |                 |                        |
| Significant Trees Surveyed                      | 57              | N/A                    |
| Anticipated Significant Trees Requiring Removal | 47              | 0.60 acre              |
| Significant Trees Avoided but with RPZ Impacts  | 2               | $< 0.01$ acre          |
| Significant Trees Avoided                       | 8               | N/A                    |
|                                                 |                 |                        |

### Replacement Tree Requirements

According to Title 16.504.07 of the Zoning Code of the City of Vallejo, replacement of Significant Trees shall be required at a ratio of at least three new trees for every tree removed. While Monterey pine is a fire-prone species it is more than 100 feet from buildings and, thus, may still require mitigation in the form of tree replacement. The minimum size of a replacement tree shall be 15 gallons. Exception to this requirement may be approved by the Director when site conditions warrant. Replacement trees shall be planted in the following order of priority:

1. On the Study Area;
2. On any adjacent property subject to approval of the owner; or



3. In the public right-of-way adjacent to the property subject to approval of the Director of Public Works.

Table 3, below, shows the number of replacement trees that may be required to compensate for the anticipated removal of 47 Significant Trees protected under the local ordinance. A total of 141 replacement trees may be required. Selection of replacement trees should be done with approval of the City of Vallejo Public Works Director and in accordance with Chapter 16.504.09 Water-Efficient Landscape Requirements, Section G. Specific Requirements for Landscape Documentation Package, 3. Landscape Design Plan a. Plant material:

**a. Plant material.** Any plant not within a “required landscaped area,” may be selected for the landscape, providing the estimated total water use in the landscape area does not exceed the maximum applied water allowance. Plants to be located within a required landscaped area must be of a drought tolerant variety. Methods to achieve water efficiency shall include one or more of the following:

- i. Protection and preservation of native species and natural vegetation;
- ii. Selection of water-conserving plant, tree and turf species, especially local native plants;
- iii. Selection of plants based on local climate suitability, disease and pest resistance;
- iv. Selection of street trees based on city of Vallejo approved street tree list and size at maturity as appropriate for the planting area;
- v. Selection of plants from local and regional landscape program plant lists.
- vi. Selection of plants from local Modification Plan Guidelines.

Table 3. Summary of Anticipated Replacement Plantings Required for Significant Tree Removal

| Species                    | Number of Significant Trees Requiring Mitigation | Number of Replacement Trees Anticipated <sup>2</sup> | Minimum Plant Size |
|----------------------------|--------------------------------------------------|------------------------------------------------------|--------------------|
| strawberry tree            | 1                                                | 3                                                    | 15 gallon pot      |
| Monterey pine <sup>1</sup> | 2                                                | 6                                                    |                    |
| plum or cherry             | 2                                                | 6                                                    |                    |
| coast live oak             | 42                                               | 126                                                  |                    |
| Total                      | 47                                               | 141                                                  |                    |

<sup>1</sup>Monterey pine trees are a fire prone species that may not require replacement planting.

<sup>2</sup>Replacement tree species can be different from the tree species proposed for removal.

### Limitations

- This assessment is based upon conditions observed during the date of the site visit. Tree conditions change over time and, as they change, this report may need to be revised.



- The result of the evaluations for trees for which more detailed examination and/or testing and risk assessment is recommended (including aerial inspection, decay mapping and/or root examination) is provisional, pending the outcome of these studies.
- Tree condition assessments were based on visual observations from the ground level.
- The Arborist did not conduct any root excavation, coring, or aerial inspection to assess above ground conditions. Arborists cannot detect every condition that could possibly contribute to the structural failure or decline in the health of a tree and therefore affect the appraised value.
- There is no warranty or guarantee, expressed or implied, that problems or deficiencies in surveyed trees may not arise in the future.
- This report does not include a tree protection plan describing construction-related tree avoidance and protection measures for trees selected for preservation.

### **Arborist Disclosure Statement**

The following statement pertains to The Arborist work and this report:

- Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the Arborist, or to seek additional advice.
- Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.
- Treatment, pruning and removal of trees may involve considerations beyond the scope of the Arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the Arborist. An Arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.
- Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk.

### **Certification of Performance**

WRA, Inc. certifies:

- That we have personally inspected the tree(s) and/or the property referred to in this report and have stated our findings accurately. The extent of the evaluation is stated in this report;



- That we have no current or prospective interest in the vegetation, or the property, that is the subject of this report, and we have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated herein are our own, and are based on current scientific procedures and facts;
- That our compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events;
- That our analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted Arboricultural practices;
- That no one provided significant professional assistance to the consultant, except as indicated within the report.

Please feel free to contact me, or Patricia Valcarcel, Principal for the WRA Project, if you have any questions or concerns. We are available to provide additional arborist services such as tree preservation recommendations, monitoring, or other services as requested.

Sincerely yours,



Kevin Schwartz, Ph.D.  
ISA Certified Arborist #9541A  
ISA Qualified Tree Risk Assessor  
Kevin.Schwartz@wra-ca.com

Attachments:

Figure 1. Study Area Regional Location Map  
Figure 2. Tree Survey Study Area  
Table A. Tree Evaluation





**Figure 1. Study Area Regional Location Map**

Sancerra Vista Cove  
Vallejo, California

0 0.5 1  
Miles



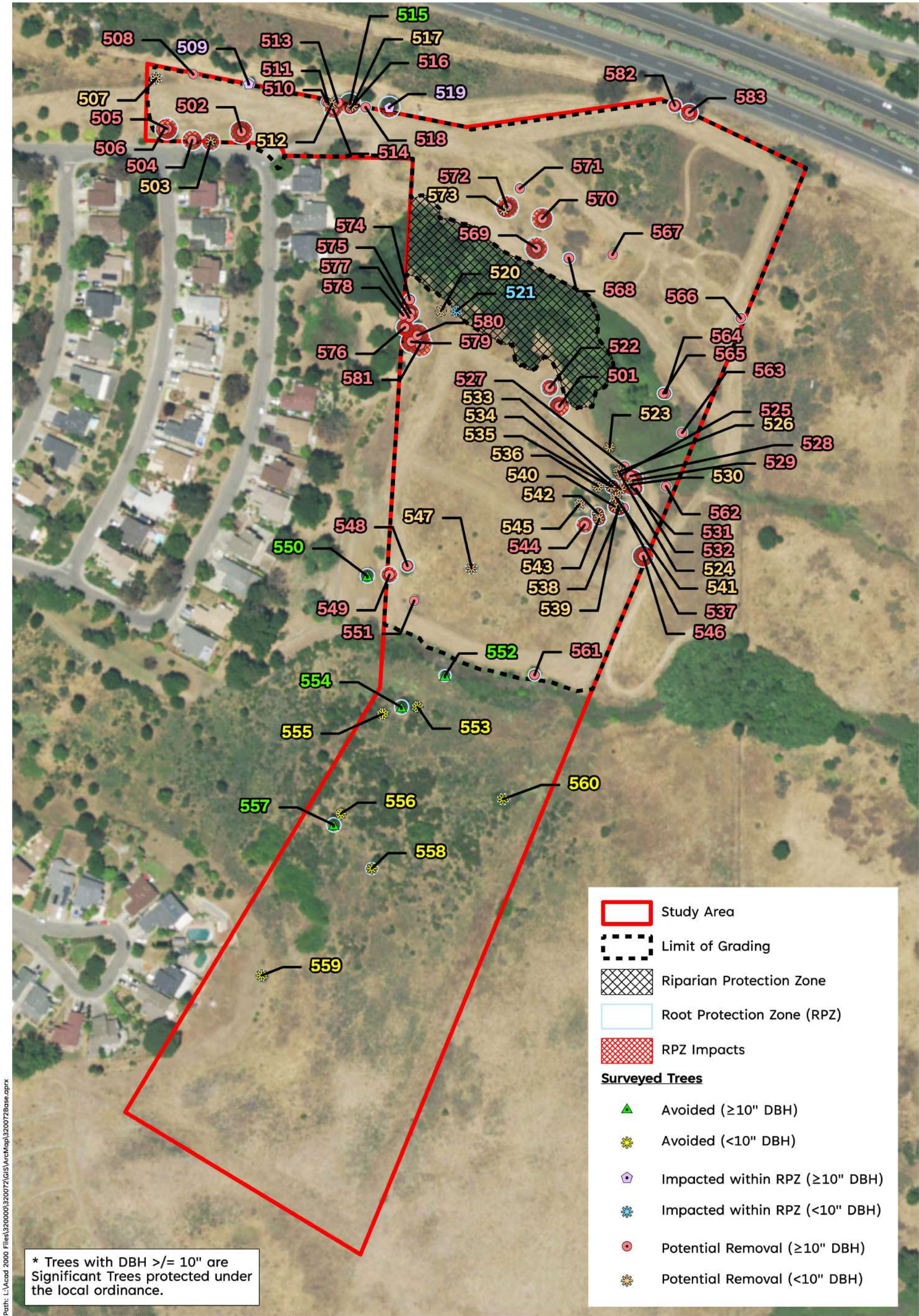


Figure 2. Tree Survey Study Area

Table A. Tree Evaluation

| #  | Tag_ID | Species                 | Common Name     | Multistem | DBH_1 | DBH_2 | DBH_3 | DBH_4 | DBH_5 | DBH (SUM) | Dripline_1 | Dripline_2 | RPZ_FT | RPZ (ac) | RPZ (sqft) | Impact (ac) | Impact (sqft) | Impact (%) | Condition | General Health | Structure | Health_1 | Health_2 | Comment                          |
|----|--------|-------------------------|-----------------|-----------|-------|-------|-------|-------|-------|-----------|------------|------------|--------|----------|------------|-------------|---------------|------------|-----------|----------------|-----------|----------|----------|----------------------------------|
| 1  | 501    | Quercus agrifolia       | coast live oak  | yes       | 11.6  | 7.1   | 0     | 0     | 0     | 18.7      | 13         | 17.2       | 17     | 0.02     | 929        | 0.021       | 929           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 2  | 502    | Quercus agrifolia       | coast live oak  | yes       | 12.2  | 13.6  | 7     | 10.4  | 0     | 43.2      | 19.3       | 13.8       | 19     | 0.03     | 1170       | 0.027       | 1170          | 100%       | Good      | Good           | Good      |          |          |                                  |
| 3  | 503    | Arbutus 'Marina'        | strawberry tree | no        | 9.5   | 0     | 0     | 0     | 0     | 9.5       | 14.8       | 15         | 15     | 0.02     | 707        | 0.016       | 707           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 4  | 504    | Arbutus 'Marina'        | strawberry tree | no        | 11.3  | 0     | 0     | 0     | 0     | 11.3      | 17         | 15         | 17     | 0.02     | 908        | 0.021       | 908           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 5  | 505    | Quercus agrifolia       | coast live oak  | yes       | 8.3   | 11.4  | 7.7   | 7.6   | 6.2   | 41.2      | 18         | 15         | 18     | 0.02     | 1018       | 0.023       | 1018          | 100%       | Good      | Good           | Good      |          |          |                                  |
| 6  | 506    | Quercus agrifolia       | coast live oak  | no        | 11    | 0     | 0     | 0     | 0     | 11        | 12         | 15         | 15     | 0.02     | 707        | 0.016       | 707           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 7  | 507    | Quercus agrifolia       | coast live oak  | yes       | 3     | 5     | 0     | 0     | 0     | 8         | 9          | 7          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 8  | 508    | Quercus agrifolia       | coast live oak  | yes       | 5.8   | 4     | 5     | 3.5   | 3     | 21.3      | 8          | 8          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 9  | 509    | Quercus agrifolia       | coast live oak  | yes       | 11    | 10    | 5     | 0     | 0     | 26        | 9          | 9          | 9      | 0.01     | 254        | 0.002       | 96            | 38%        | Good      | Good           | Fair      |          |          | included bark                    |
| 10 | 510    | Quercus agrifolia       | coast live oak  | yes       | 8     | 7     | 0     | 0     | 0     | 15        | 8          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 11 | 511    | Quercus agrifolia       | coast live oak  | yes       | 5.5   | 2.2   | 2.2   | 1.5   | 1.5   | 12.9      | 8          | 7          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 12 | 512    | Quercus agrifolia       | coast live oak  | yes       | 5.5   | 3     | 0     | 0     | 0     | 8.5       | 7          | 6          | 7      | 0.00     | 154        | 0.004       | 154           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 13 | 513    | Quercus agrifolia       | coast live oak  | yes       | 9.3   | 4.3   | 0     | 0     | 0     | 13.6      | 9          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 14 | 514    | Quercus agrifolia       | coast live oak  | yes       | 11    | 5     | 0     | 0     | 0     | 16        | 15         | 14         | 15     | 0.02     | 707        | 0.016       | 707           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 15 | 515    | Quercus agrifolia       | coast live oak  | yes       | 13    | 9     | 8     | 0     | 0     | 30        | 18         | 18         | 18     | 0.02     | 1018       | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 16 | 516    | Quercus agrifolia       | coast live oak  | yes       | 5     | 5     | 4     | 4     | 1     | 19        | 8          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 17 | 517    | Quercus agrifolia       | coast live oak  | yes       | 3     | 3     | 1     | 1     | 1     | 9         | 8          | 7          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 18 | 518    | Quercus agrifolia       | coast live oak  | yes       | 8     | 4     | 0     | 0     | 0     | 12        | 9          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Fair      |          |          | 1 trunk growing thru fence       |
| 19 | 519    | Quercus agrifolia       | coast live oak  | yes       | 13    | 13    | 11    | 0     | 0     | 37        | 16         | 18         | 18     | 0.02     | 1018       | 0.006       | 249           | 24%        | Good      | Good           | Good      |          |          | trunk outside prprty boundary    |
| 20 | 520    | Quercus agrifolia       | coast live oak  | yes       | 2.8   | 2.2   | 2     | 1.5   | 1     | 9.5       | 7          | 7          | 7      | 0.00     | 154        | 0.004       | 154           | 100%       | Fair      | Fair           | Good      |          |          | minor decay/dieback              |
| 21 | 521    | Heteromeles arbutifolia | toyon           | yes       | 2.1   | 2.2   | 2     | 2     | 1.5   | 9.8       | 8          | 7          | 8      | 0.00     | 201        | 0.002       | 70            | 35%        | Fair      | Fair           | Fair      |          |          | unk abiotic disorder             |
| 22 | 522    | Quercus agrifolia       | coast live oak  | yes       | 6.7   | 10.7  | 0     | 0     | 0     | 17.4      | 13         | 14         | 14     | 0.01     | 616        | 0.014       | 616           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 23 | 523    | Quercus agrifolia       | coast live oak  | yes       | 3.5   | 1.5   | 1     | 1     | 1     | 8         | 4.5        | 5          | 5      | 0.00     | 79         | 0.002       | 79            | 100%       | Good      | Good           | Good      |          |          |                                  |
| 24 | 524    | Quercus agrifolia       | coast live oak  | no        | 6     | 0     | 0     | 0     | 0     | 6         | 7          | 5          | 7      | 0.00     | 154        | 0.004       | 154           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 25 | 525    | Quercus agrifolia       | coast live oak  | yes       | 5.2   | 4.5   | 3.6   | 0     | 0     | 13.3      | 7          | 6          | 7      | 0.00     | 154        | 0.004       | 154           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 26 | 526    | Quercus agrifolia       | coast live oak  | no        | 6.6   | 0     | 0     | 0     | 0     | 6.6       | 9          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 27 | 527    | Quercus agrifolia       | coast live oak  | yes       | 6.2   | 7.1   | 5     | 0     | 0     | 18.3      | 6          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 28 | 528    | Quercus agrifolia       | coast live oak  | yes       | 8     | 2     | 0     | 0     | 0     | 10        | 9          | 12         | 12     | 0.01     | 452        | 0.010       | 452           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 29 | 529    | Quercus agrifolia       | coast live oak  | yes       | 12.5  | 8     | 4     | 3     | 3     | 30.5      | 15         | 18         | 18     | 0.02     | 1018       | 0.023       | 1018          | 100%       | Good      | Good           | Good      |          |          |                                  |
| 30 | 530    | Quercus agrifolia       | coast live oak  | no        | 6.9   | 0     | 0     | 0     | 0     | 6.9       | 12         | 5          | 12     | 0.01     | 452        | 0.010       | 452           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 31 | 531    | Quercus agrifolia       | coast live oak  | yes       | 6.2   | 4.1   | 0     | 0     | 0     | 10.3      | 4          | 15         | 15     | 0.02     | 707        | 0.016       | 707           | 100%       | Good      | Good           | Fair      |          |          |                                  |
| 32 | 532    | Quercus agrifolia       | coast live oak  | yes       | 8     | 6     | 4     | 0     | 0     | 18        | 12         | 10         | 12     | 0.01     | 452        | 0.010       | 452           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 33 | 533    | Quercus agrifolia       | coast live oak  | no        | 8     | 0     | 0     | 0     | 0     | 8         | 9          | 8          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 34 | 534    | Quercus agrifolia       | coast live oak  | no        | 9     | 0     | 0     | 0     | 0     | 9         | 12         | 10         | 12     | 0.01     | 452        | 0.010       | 452           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 35 | 535    | Quercus agrifolia       | coast live oak  | no        | 8     | 0     | 0     | 0     | 0     | 8         | 8          | 8          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 36 | 536    | Quercus agrifolia       | coast live oak  | no        | 6.1   | 0     | 0     | 0     | 0     | 6.1       | 8          | 7          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 37 | 537    | Quercus agrifolia       | coast live oak  | yes       | 8.5   | 4.5   | 2     | 0     | 0     | 15        | 10         | 10         | 10     | 0.01     | 314        | 0.007       | 314           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 38 | 538    | Quercus agrifolia       | coast live oak  | no        | 9     | 0     | 0     | 0     | 0     | 9         | 13         | 9          | 13     | 0.01     | 531        | 0.012       | 531           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 39 | 539    | Quercus agrifolia       | coast live oak  | no        | 6.4   | 0     | 0     | 0     | 0     | 6.4       | 10         | 8          | 10     | 0.01     | 314        | 0.007       | 314           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 40 | 540    | Quercus agrifolia       | coast live oak  | no        | 9     | 0     | 0     | 0     | 0     | 9         | 10         | 12         | 12     | 0.01     | 452        | 0.010       | 452           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 41 | 541    | Quercus agrifolia       | coast live oak  | no        | 6.4   | 0     | 0     | 0     | 0     | 6.4       | 8          | 7          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 42 | 542    | Quercus agrifolia       | coast live oak  | no        | 8.3   | 0     | 0     | 0     | 0     | 8.3       | 11         | 8          | 11     | 0.01     | 380        | 0.009       | 380           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 43 | 543    | Quercus agrifolia       | coast live oak  | no        | 9     | 0     | 0     | 0     | 0     | 9         | 10         | 12         | 12     | 0.01     | 452        | 0.010       | 452           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 44 | 544    | Quercus agrifolia       | coast live oak  | yes       | 13.5  | 6     | 4     | 0     | 0     | 23.5      | 14         | 12         | 14     | 0.01     | 616        | 0.014       | 616           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 45 | 545    | Quercus agrifolia       | coast live oak  | no        | 6.2   | 0     | 0     | 0     | 0     | 6.2       | 8          | 7          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 46 | 546    | Quercus agrifolia       | coast live oak  | yes       | 12.7  | 9.8   | 11.8  | 9     | 9     | 52.3      | 15         | 18         | 18     | 0.02     | 1018       | 0.023       | 1018          | 100%       | Good      | Good           | Good      |          |          |                                  |
| 47 | 547    | Pinus radiata           | Monterey pine   | no        | 9.1   | 0     | 0     | 0     | 0     | 9.1       | 9          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 48 | 548    | Pinus radiata           | Monterey pine   | no        | 13.8  | 0     | 0     | 0     | 0     | 13.8      | 11         | 11         | 11     | 0.01     | 380        | 0.009       | 380           | 100%       | Fair      | Fair           | Good      |          |          | minor decay/dieback              |
| 49 | 549    | Quercus agrifolia       | coast live oak  | yes       | 6.2   | 7     | 6     | 5.5   | 3     | 27.7      | 14         | 13         | 14     | 0.01     | 616        | 0.014       | 616           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 50 | 550    | Quercus lobata          | valley oak      | no        | 11.2  | 0     | 0     | 0     | 0     | 11.2      | 12         | 12         | 12     | 0.01     | 452        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 51 | 551    | Pinus radiata           | Monterey pine   | yes       | 7.7   | 7     | 6.5   | 0     | 0     | 21.2      | 8          | 7          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 52 | 552    | Quercus agrifolia       | coast live oak  | no        | 10.2  | 0     | 0     | 0     | 0     | 10.2      | 10         | 8          | 10     | 0.01     | 314        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 53 | 553    | Quercus agrifolia       | coast live oak  | no        | 7.7   | 0     | 0     | 0     | 0     | 7.7       | 8          | 8          | 8      | 0.00     | 201        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 54 | 554    | Quercus agrifolia       | coast live oak  | no        | 10.5  | 0     | 0     | 0     | 0     | 10.5      | 12         | 10         | 12     | 0.01     | 452        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 55 | 555    | Quercus agrifolia       | coast live oak  | no        | 6.5   | 0     | 0     | 0     | 0     | 6.5       | 8          | 7          | 8      | 0.00     | 201        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 56 | 556    | Quercus agrifolia       | coast live oak  | yes       | 4.8   | 4.8   | 3.5   | 0     | 0     | 13.1      | 7          | 7          | 7      | 0.00     | 154        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 57 | 557    | Quercus agrifolia       | coast live oak  | no        | 14    | 0     | 0     | 0     | 0     | 14        | 12         | 12         | 12     | 0.01     | 452        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 58 | 558    | Quercus agrifolia       | coast live oak  | yes       | 8     | 7.7   | 0     | 0     | 0     | 15.7      | 10         | 8          | 10     | 0.01     | 314        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          |                                  |
| 59 | 559    | Malus sp.               | apple           | yes       | 4     | 4     | 3     | 3.6   | 3     | 17.6      | 7          | 8          | 8      | 0.00     | 201        | 0.000       | 0             | 0%         | Fair      | Poor           | Good      |          |          | major decay/dieback              |
| 60 | 560    | Quercus agrifolia       | coast live oak  | no        | 8     | 0     | 0     | 0     | 0     | 8         | 9          | 9          | 9      | 0.01     | 254        | 0.000       | 0             | 0%         | Good      | Good           | Good      |          |          | Too dense shrubs to tag          |
| 61 | 561    | Prunus sp.              | plum cherry     | yes       | 8     | 6     | 5     | 4     | 28    | 10        | 8          | 10         | 0.01   | 314      | 0.007      | 314         | 100%          | Fair       | Good      | Good           |           |          |          |                                  |
| 62 | 562    | Quercus agrifolia       | coast live oak  | yes       | 7.5   | 6     | 0     | 0     | 0     | 13.5      | 7          | 8.5        | 9      | 0.01     | 227        | 0.005       | 227           | 100%       | Good      | Good           | Good      |          |          | minor decay/dieback              |
| 63 | 563    | Quercus agrifolia       | coast live oak  | yes       | 8     | 5     | 0     | 0     | 0     | 13        | 9          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          | inaccessible due to RUAR, no tag |
| 64 | 564    | Quercus agrifolia       | coast live oak  | yes       | 5.6   | 7     | 6     | 6     | 3     | 27.6      | 10         | 9          | 10     | 0.01     | 314        | 0.007       | 314           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 65 | 565    | Quercus agrifolia       | coast live oak  | yes       | 5.6   | 6     | 0     | 0     | 0     | 11.6      | 10         | 8          | 10     | 0.01     | 314        | 0.007       | 314           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 66 | 566    | Quercus agrifolia       | coast live oak  | yes       | 7.6   | 8     | 6.5   | 6.7   | 5.4   | 34.2      | 9          | 9          | 9      | 0.01     | 254        | 0.006       | 254           | 100%       | Good      | Good           | Good      |          |          |                                  |
| 67 | 567    | Prunus sp.              | plum cherry     | yes       | 5.5   | 4.5   | 4     | 3.5   | 3     | 20.5      | 8          | 7          | 8      | 0.00     | 201        | 0.005       | 201           | 100%       | Fair      | Fair           | Good      |          |          | minor decay/dieback              |
| 68 | 568    | Quercus agrifolia       | coast live oak  | yes       | 9.7   | 7.6   | 0     | 0     | 0     | 17.3      | 10         | 9          | 10     | 0.01     | 314        | 0.0         |               |            |           |                |           |          |          |                                  |

## MEMORANDUM

**DATE:** March 17, 2025

**To:** Cesar Orozco, Principal Planner  
City of Vallejo

**FROM:** John Kunna, Associate/Senior Biologist  
Florentina Craciun, AICP Associate/Environmental Planner

**SUBJECT:** Third-Party Review of Biological Resources Report for the Vista Cove Project in Vallejo, California

## INTRODUCTION

LSA Associates, Inc. (LSA) completed a peer review of the *Biological Resources Technical Report* (BRTR) prepared for the Vista Cove Project (project) by WRA Environmental Consultants (WRA) in February 2024 to determine whether the report complies with the California Environmental Quality Act (CEQA) and conforms to accepted methodologies and procedures (industry standards).

LSA relied on the information presented in the BRTR and did not collect additional data or conduct additional site surveys. Therefore, LSA cannot include an opinion evaluating to what extent the presented information is representative of the current project site conditions.

LSA peer reviewed the BRTR with respect to the following parameters:

- Adequate description of the proposed project and project site to analyze potential impacts to biological resources
- Adequate description of the existing setting, including the location of known on-site resources and features, resources, and features in the project vicinity, and applicable federal, State, regional, and local regulations
- Appropriate assumptions if and where project- and site-specific information is unavailable
- Appropriate analytical methodology, assumptions, and significance thresholds for analyzing project impacts in conformance with CEQA and current professional standards
- Results, determinations of significance, and adequacy of any proposed mitigation measures

## METHODS

LSA reviewed the BRTR<sup>1</sup> as well as the December 2024 California Department of Fish and Wildlife (CDFW) Special Animals List<sup>2</sup> for updated legal/protection status of wildlife species. LSA also conducted an updated search of the California Department of Fish and Wildlife California Natural Diversity Database (CNDDDB).<sup>3</sup>

## RESULTS/PEER REVIEW

The following presents LSA's peer review of the BRTR in the order each section appears in the BRTR.

### Section 1.0: Introduction

- **Overview and Purpose:** This section adequately describes the purpose and limitations of the BRTR. The project location is described adequately in text and on figures.
- **Project Description:** This section defines the 20.13-acre study area as well as the 10.4-acre project area. The proposed project description text is brief, but it is adequate for the purpose of analyzing impacts to biological resources. This section does contain one sentence that is partially redundant and unclear: "The Project is development for a 10. 40-acre property."
- **Summary of Results:** This section adequately summarizes the results and conclusion. It includes the statement that one special-status bird species has the potential to occur within the study area. However, later in the document, Section 5.0 and Table 3 list five special-status wildlife species that have a moderate or high potential to occur within the study area. LSA recommends this omission is clarified.

### Section 2.0: Regulatory Background

This section adequately summarizes relevant laws and regulations and explains them in the context of the biological assessment.

### Section 3.0: Assessment Methodology

- **Literature Review and Database Searches:** WRA reviewed all the relevant literature necessary to characterize the nature and extent of biological resources in the study area.
- **Site Visits:** The surveys, as described, conform to industry standards and are sufficient.
- **Vegetation Communities and Other Land Cover Types:** This section provides a thorough description of the methods used to map and classify vegetation communities and other land cover types on the site. The methodology is appropriate.

<sup>1</sup> WRA Environmental Consultants. 2024. *Vista Cove Biological Resources Technical Report*. February.

<sup>2</sup> California Department of Fish and Wildlife (CDFW). 2024. California Natural Diversity Database (CNDDDB) Special Animals List. December. Sacramento, CA.

<sup>3</sup> CDFW. 2024. CNDDDB – Commercial version dated December 1, 2024.

- **Special-Status Species:** This sections provides an adequate description of the methods used to determine each special-status species' potential to occur on the site. This section would benefit from a clarification that for special-status bird species, the potential to *occur* is actually the potential to *nest* within the study area.
- **Wildlife Corridors and Native Wildlife Nursery Sites:** The methodology used to assess wildlife corridors and nursery sites was appropriate.

#### Section 4.0: Ecological Setting

- **Soils and Topography:** This section describes the soils mapped in the study area in sufficient detail.
- **Climate and Hydrology:** This section provides sufficient background on the climate at the site. The discussion of the National Wetland Inventory (NWI) and how it was ground-truthed is adequate.
- **Land Use:** This section describes the existing conditions in sufficient detail and accurately references the figures for a visual representation.

#### Section 5.0: Assessment Results

- **Vegetation Communities and Other Land Cover:** Table 2 provides a summary of the vegetation communities and land cover. The more detailed text and photographs in this section for each landcover type are accurate and adequate.
- **Special-Status Species:**
  - **Plants:** This section provides adequate justification for the conclusion that no special-status plant species are likely to occur in the study area and that further surveys are not warranted.
  - **Wildlife:** This section provides justification for the conclusion that five special-status wildlife species have potential to occur in the study area. It also provides more detail on three special-status wildlife species (pallid bat, burrowing owl, and Crotch bumble bee) that were determined to be unlikely to occur in the study area.

According to Appendix C, several other wildlife species were also determined to be unlikely to occur in the study area but are not discussed in further detail in this section.

Since the time of the writing of the BRTR, the California Fish and Game Commission voted to protect the western burrowing owl (*Athene cunicularia hypugaeae*) as a "candidate" species under the California Endangered Species Act (CESA).

- **Wildlife Corridors and Native Wildlife Nursery Sites:** This section adequately explains why the study area does not contain a wildlife corridor, essential fish habitat, native wildlife nursery sites, or designated critical habitat.

## Section 6.0: Analytical Methodology and Significance Threshold Criteria

This section outlines the six biological resource categories covered by Appendix G, Section IV, of the *State CEQA Guidelines*. It adequately defines significant impact and substantial adverse effect.

## Section 7.0: Impacts and Mitigation Evaluation

- **Special-Status Species:** This section provides reasonable and prudent measures to reduce impacts to a less than significant level for the five special-status wildlife species that have a moderate or higher potential to occur in the study area
- **Sensitive Natural Communities and Critical Habitat:** This section provides reasonable and prudent measures to reduce impacts to the seasonal wetland, freshwater marsh, and riparian area to a less than significant level.
- **Aquatic Resources:** This section describes how impacts to the freshwater marsh and intermittent stream will be avoided. It states that the previously described Mitigation Measures BIO-3, BIO-4a, and BIO-4b will reduce impacts to a less than significant level. LSA agrees with these conclusions.

This section also refers to the wetlands or other areas that may be in the jurisdiction of “BCDC.” The acronym is not defined, but presumably refers to the Bay Conservation and Development Commission. The BCDC is not mentioned elsewhere in the text, and the site is not within BCDC jurisdiction, so it is assumed this is a typographical error and refers to the CDFW, not the BCDC.

- **Wildlife Corridors:** LSA agrees with the conclusion that the project is not likely to interfere substantially with the movement of wildlife species or impact nursery sites and, therefore, mitigation measures are not required.
- **Local Policies and Ordinances:** This section references measures related to the planting of replacement trees. LSA agrees if these measures are implemented, there will be no conflict with local policies and ordinances.
- **Habitat Conservation Plans:** LSA agrees that the study area is not in an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan and that, therefore, there would be no conflict or impact.

## Section 8.0: References

All references in this section appear to have been cited accurately.

## Appendix A: Figures

The figures adequately depict the study area in sufficient detail.

## Appendix B: Species Observed Within the Study Area

### Appendix B-1. Plant Species Observed

The number of plant species detected indicates that the biologists thoroughly inventoried the study area during the site visits.

However, the table has several errors. For five species (*Cardamine cf. hirsuta*, *Erigeron canadensis*, *Medicago polymorpha*, *Rumex crispus*, and *Sanicula bipinnatifida*), the Life Form and Origin columns were transposed.

Ten native plant species (*Crassula connata*, *Galium aparine*, *Helenium puberulum*, *Heteromeles arbutifolia*, *Juncus effusus*, *Juncus mexicanus*, *Marah fabacea*, *Nasturtium officinale*, *Phoradendron leucarpum*, and *Quercus agrifolia*) were incorrectly identified as nonnative.

Conversely, 19 nonnative species (*Avena barbata*, *Avena fatua*, *Bellardia trixago*, *Bromus hordeaceus*, *Calendula arvensis*, *Capsella bursa-pastoris*, *Carduus pycnocephalus* ssp. *pycnocephalus*, *Cirsium vulgare*, *Dittrichia graveolens*, *Elymus caput-medusae*, *Elymus triticoides*, *Erodium botrys*, *Erodium moschatum*, *Ficus carica*, *Geranium molle*, *Holcus lanatus*, *Ligustrum lucidum*, *Raphanus sativus*, and *Rumex pulcher*) were misidentified as native.

For two species (*Cortaderia selloana* and *Cyperus eragrostis*), the Origin column was blank.

For one species (*Typha* sp.), the Common Name and Life Form columns were blank.

### Appendix B-2. Wildlife Species Observed

This table notes that bumble bees were observed. Presumably, these could not be identified to species. Several species of bumble bee in California have a protected conservation status, but the conservation status column was left blank where it should have been marked as unknown.

The table also notes that Botta's pocket gopher was observed in the study area. The absence of ground squirrel burrows was one of the justifications for the Crotch bumble bee's occurrence to be considered unlikely. However, gophers also create burrows that could be used by bumble bees.

## Appendix C: Potential For Special-Status Species to Occur in the Study Area

This table provides an adequate analysis of the potential for special-status wildlife species to occur in the study area as well as recommendations for further actions.

The table states that the most recent occurrences for western bumble bee within 60 miles are from the 1950s, but a review of the CNDDDB indicates that within 5 miles of the study area, Occurrence #179 is based on a collection made in 1962, and Occurrence #181 is based on a collection made in 1964.

## Appendix D: Project Plans

The project plans are sufficiently detailed to provide a basis for determining potential impacts to protected biological resources.

## CONCLUSION AND RECOMMENDATIONS

Generally, the efforts of the study are thorough and adequate and conform to industry standards. The errors in the BRTR are unlikely to significantly change the conclusions regarding potential impacts or the proposed mitigation measures.

Please contact me at (510) 462-1326 or via email at [john.kunna@lsa.net](mailto:john.kunna@lsa.net) if you have any questions regarding this document.

## MEMORANDUM

**DATE:** March 17, 2025

**To:** Cesar Orozco, Principal Planner  
City of Vallejo

**FROM:** John Kunna, Senior Biologist  
Florentina Craciun, AICP | Associate/Environmental Planner

**SUBJECT:** Third-Party Review of Arborist Report for the Vista Cove Project in Vallejo, California.

## INTRODUCTION

LSA completed a peer review of the *Sancerra Vista Cove Development Project – Arborist Tree Survey and Report* (ATSR) prepared by WRA dated February 22, 2023, to determine whether the report conforms to accepted methodologies and procedures (industry standards).

LSA relied on the information presented in the reviewed ATSR and did not collect additional data or survey the site. Therefore, LSA cannot include an opinion evaluating to what extent the presented information appears to be representative of the current project site conditions.

LSA peer reviewed the ATSR with respect to the following parameters:

- Adequate analysis of potential impacts to trees
- Adequate description of the applicable regulations
- Appropriate methodology, assumptions, and limitations

## METHODS

LSA reviewed the ATSR.<sup>1</sup> LSA also reviewed the City of Vallejo's Zoning Code Chapters 16.504.07 (tree protection) and 16.701.02 (Land use terms and definitions) of Title 16. LSA used the International Society of Arboriculture (ISA) website<sup>2</sup> to verify the credentials of the arborist.

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<sup>1</sup> WRA, Inc. 2023. *Sancerra Vista Cove Development Project – Arborist Tree Survey and Report*. February 22.

<sup>2</sup> International Society of Arboriculture (ISA). n.d. Verify an ISA Credential. Website: <https://www.treesaregood.org/findanarborist/verify>

## RESULTS/PEER REVIEW

The following presents LSA's peer review of the ATSR in the order each section appears.

### Introduction

The first paragraph adequately describes the location of the site. The paragraph also provides the arborist's certifications and the purpose of the report.

### Regulatory Background

This section accurately describes the relevant municipal codes.

### Methods

This section describes the methods used in sufficient detail. The methods, as described, are appropriate and conform to industry standards.

### Summary of Tree Evaluation

The text adequately describes the results of the survey, and a summary is provided in Table 1. No table 2 is presented or references, but Table 3 provides a suitable summary of anticipated number of trees that may be required to be planted as mitigation for tree removal. LSA suspects the omission of a Table 2 is a simple typographical error.

### Limitations

This section adequately describes the limitations of the report.

### Arborist Disclosure Statement

This statement is sufficient and conforms to industry standards.

### Certification of Performance

This statement is sufficient and conforms to industry standards.

### Attachments

#### *Figure 1. Study Area Regional Location Map*

This map adequately shows the location of the Study Area in the regional context.

#### *Figure 2. Tree Survey Study Area*

This map adequately shows all of the surveyed trees and classifies them according to size and whether they may be impacted. LSA found the use of the "RPZ" abbreviation for Root Protection Zone to be possibly confused with the Riparian Protection Zone, particularly for tree #521, which is on the limits of grading of the Riparian Protection Zone. Cross-referencing with the tree table eliminated the confusion.

*Table A. Tree Evaluation*

This table is generally sufficient. It contains one unidentified abbreviation (“RUAR”), but this does not affect the conclusions of the report.

**CONCLUSION AND RECOMMENDATIONS**

Generally, the efforts of the study appear to be thorough and adequate and conform to industry standards.

It may help to clarify that *Prunus* sp. refers to an escaped or hybridized tree cultivar that may commonly be called either plum or cherry. On page 4, two “cherry” trees are mentioned in the text, on page 6 two “plum or cherry” trees are included in Table 3, and Table A provides the details for two “plum cherry” trees. The trees are all accurately identified as non-native, so inconsistent use of common names is not a major issue.

LSA recommends that the City of Vallejo accept the ATSR.

Please contact me at (510) 462-1326 or via email at [john.kunna@lsa.net](mailto:john.kunna@lsa.net) if you have any questions regarding this document.



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