

Appendix C Biological Resources Evaluation for Tustin Unified School District Educational Center Project, City of Tustin, Orange County, California

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**BIOLOGICAL RESOURCE EVALUATION
FOR
TUSTIN UNIFIED SCHOOL DISTRICT EDUCATIONAL CENTER PROJECT,
CITY OF TUSTIN,
ORANGE COUNTY, CALIFORNIA**

Prepared for:

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September 2, 2025

CERTIFICATION STATEMENT

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

September 2, 2025

Date



Sloane Sanchez
Senior Biologist

September 2, 2025

Date



Ash Walker
Staff Biologist

September 2, 2025

Date



R. Austin Isakson
Associate Biologist

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SECTION 1. INTRODUCTION

HANA Resources, Inc. (HANA) was retained by PlaceWorks to prepare this Biological Resources Evaluation (BRE) Report for the proposed Project. Following completion of the reconnaissance-level biological evaluation, HANA prepared this BRE that: 1) summarized existing conditions; 2) assessed the potential presence of sensitive biological resources; 3) analyzed the potential impacts on those resources from project development; 4) recommended, as appropriate, best management practices (BMPs), avoidance and protection measures, and mitigation measures to avoid, eliminate and/or reduce environmental impacts to less than significant levels; and 5) identified biological permits or approvals that the project may need. The BRE includes: 1) methods and results of the literature review and field surveys; 2) figures depicting the size and location of plant communities and other sensitive biological resources; 3) a complete flora and fauna compendium; and 4) site photographs.

1.1. SITE LOCATION

The site is located within the former boundaries of the decommissioned Marine Corps Air Station (MCAS) Tustin, in the City of Tustin, Orange County, CA and covers approximately 9 acres (**Exhibit I, Project Location**). The parcel lies on the southwest corner of Legacy Road and Valencia Avenue and is on the APNs 430-391-37, 430-391-38, 430-391-74, 430-391-76, 430-391-91, 430-391-92, and 431-391-93 (**Exhibit II, Project Area**). The site is located on the United States Geological Survey (USGS) Tustin Quadrangle, 7.5-Minute Topographic map. The surface elevation of the site ranges from approximately 55 to 65 feet above mean sea level (MSL). The site is located within Section 28 in Township 5 South-Range 9 West, San Bernardino Meridian.

1.2. PROJECT DESCRIPTION

The proposed project is for the construction of a new education center that will house Tustin Unified School District (TUSD) offices, an outdoor community event space, and 256 parking stalls. The project site is within the Tustin Legacy Specific Plan Area, Neighborhood D. Part of the project site will be reserved for future development. No classroom or student use is proposed (**Exhibit III, Preliminary Site Plan**).

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Palmdale
Santa Clarita
Simi Valley
Thousand Oaks
Los Angeles
El Monte
Ontario
Victorville
Highland
Redlands
Yucaipa
Banning
Riverside
Corona
Anaheim
Santa Ana
Huntington Beach
Lake Forest
Mission Viejo
Laguna Niguel
San Clemente
Oceanside
Escondido
San Diego
Santee
El Cajon
Perris
Hemet
Menifee
Murrieta

Anges National Forest

Redondo Beach
Santa Monica

Chico
Paradise
Lake Oroville State Recreation Area

Tustin Unified School District Educational Center Project

Exhibit I: Project Location

★ Project Location

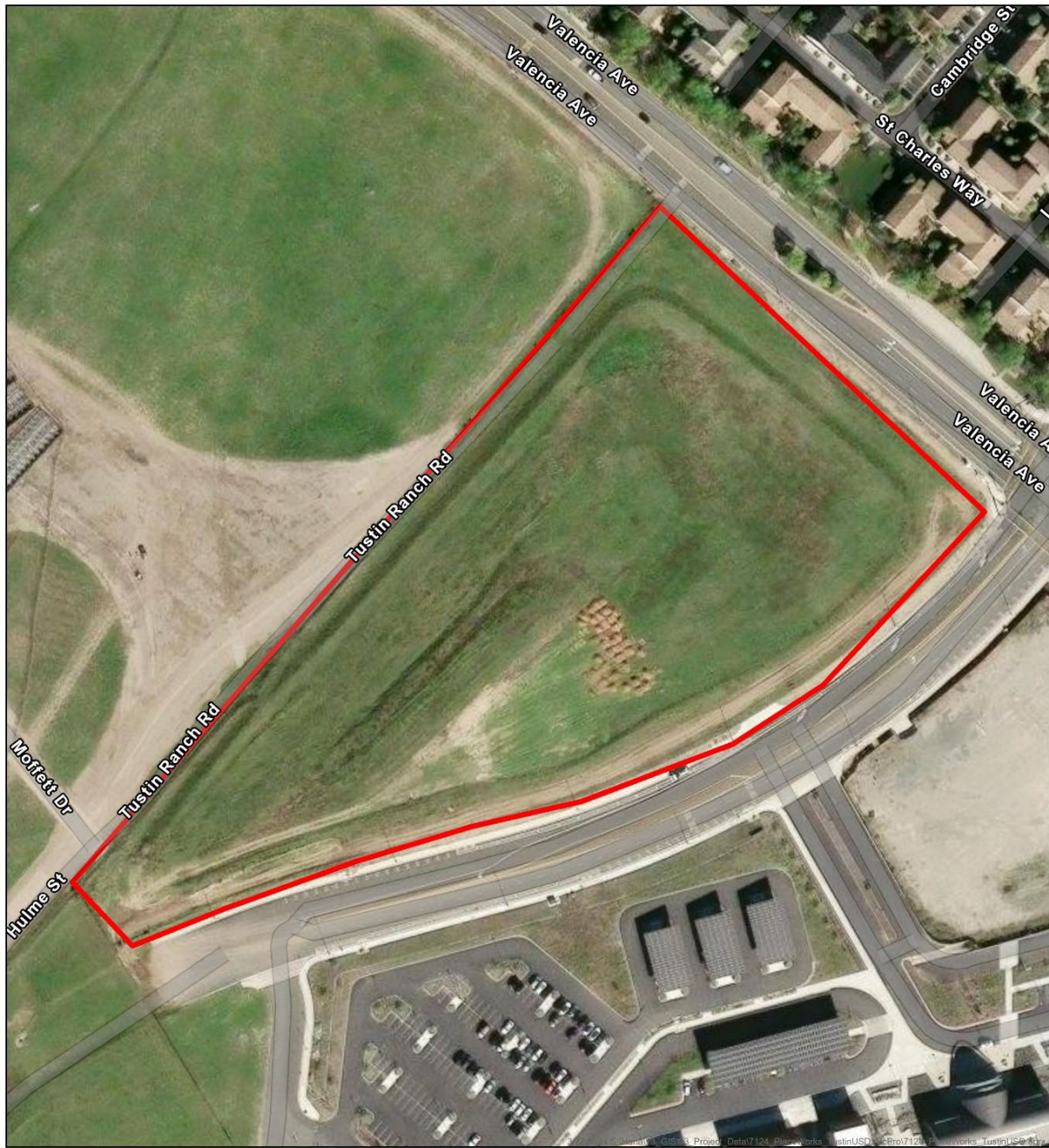
1 inch = 16 miles

0 10 20 Miles

N

HANA RESOURCES
Environmental Enterprise Solutions

Exhibit II: Project Area



**Tustin Unified School District
Educational Center Project**

Exhibit II: Project Area

 Project Area

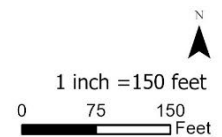


Exhibit IIII: Preliminary Site Plan



SECTION 2. REGULATORY OVERVIEW

2.1. Federal Statutes, Regulations and Executive Orders

Endangered Species Act (ESA)

The federal Endangered Species Act of 1973 (Title 16, United States Code [U.S.C.] §§ 1531-1543) (ESA), as amended, designates and provides for protection of listed threatened and endangered plant and animal species, and their critical habitat. The US Fish and Wildlife Service (USFWS), in the Department of the Interior, and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS), in the Department of Commerce, share responsibility for administration of the ESA. These responsibilities include listing and delisting species, designating critical habitat, and formulating recovery plans. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife.

Section 9 (Prohibited Acts)

Once a species is listed, section 9 of the ESA makes it unlawful for any person, including private and public entities, to "take" species listed as endangered or without a permit issued pursuant to section 10 or an incidental take statement issued pursuant to section 7. Section 9 defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include substantial habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

ESA section 9's take prohibitions apply to listed wildlife and fish species, but not to plants. Endangered plants are not protected from take, although it is unlawful to remove, possess, or maliciously damage or destroy them on federal lands. Removing or damaging listed plants on state and private lands in knowing violation of state law, or in the course of violating a state criminal trespass law, also is illegal under the ESA.

Section 10 (Incidental Take Permits and Habitat Conservation Plans)

An incidental take permit pursuant to section 10(a)(1)(B) is required when non-Federal, otherwise lawful activities, including lawful project development, will result in take of threatened or endangered wildlife. Under this provision, the USFWS and/or NMFS may, where appropriate, authorize the taking of federally listed wildlife or fish if such taking occurs incidentally during otherwise legal activities. Section 10(a)(2)(B) requires an application for an incidental take permit to include a Habitat Conservation Plan (HCP). The purpose of the habitat conservation planning process associated with the permit is to ensure there is adequate avoidance, minimization and mitigation measures to address the effects of the authorized incidental take. Section 10 provides a clear regulatory mechanism to permit the incidental take of federally listed fish and wildlife species by private interests and non-Federal governmental agencies.

Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) of 1918 (Title 16, U.S.C. sections 703 - 712), as amended, implements various treaties and conventions between the United States (U.S.) and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the

Interior. Some regulatory exceptions apply. Take is defined in regulations implementing the MBTA as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to carry out these activities.” The MBTA prohibits the collection and destruction of a migratory bird, its nest, and birds or eggs contained in the nest. The USFWS’ Migratory Bird Permit Memorandum (MBPM-2) dated April 15, 2003, clarifies that destruction of most unoccupied bird nests is permissible under the MBTA; exceptions include nests of federally listed threatened or endangered migratory birds, bald eagles, and golden eagles. Take under the MBTA does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The USFWS has statutory authority and responsibility for enforcing the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. If compatible with the preservation of bald and golden eagles, the Secretary of the Interior may permit the taking, possession and transportation of bald and golden eagles and nests for scientific or religious purposes, or for the protection of wildlife, agricultural or other interests. The Secretary of the Interior may authorize the take of golden eagle nests, which interfere with resource development or recovery operations. Bald eagles may not be taken for any purpose unless the Secretary issues a permit prior to the taking.

Clean Water Act (CWA)

The federal Clean Water Act (33 U.S.C. §§ 1251-1376) (CWA) is the principal federal law governing pollution control and water quality of the nation's waterways. It establishes the basic structure for regulating discharges of pollutants into “Waters of the United States” (Waters of the U.S.) and for regulating water quality and establishing water quality standards for surface waters. Sections 401, 402, and 404 of the CWA are pertinent to surface and coastal, Waters of the U.S. For purposes of Section 404 permitting under the CWA, “Waters of the U.S.”, are comprised of those wetland and non-wetland bodies of water that meet the criteria set forth in 33 Code of Federal Regulations (CFR) § 328.3, as interpreted by a number of court opinions and guidance, including Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001) (SWANCC), consolidated cases Rapanos v. United States (Rapanos), and Carabell v. United States (Carabell), 547 U.S. 715 (2006), and joint guidance issued by USACE and United States Environmental Protection Agency (EPA) in light of judicial decisions, including the joint guidance memorandum regarding Clean Water Act Jurisdiction Following the U.S. Supreme Court’s Decision in Rapanos v. United States and Carabell v. United States (December 12, 2008)(2008 Regulatory Guidance).

Section 404 – Discharge of Dredge and Fill Requirements

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into Waters of the U.S. The USACE implementing regulations define “dredged material” as material that is excavated or dredged from Waters of the U.S. The CWA implementing regulations define “fill material” as material placed in Waters of the U.S. where the material has the impact of either replacing any portion of Waters of the U.S. with dry land or changing the bottom elevation of any portion of a Waters of the U.S. Examples include discharges of rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure for development projects in Waters of the U.S.

Section 401 – Water Quality Certification

Although the CWA is a federal law, Section 401 of that law recognizes that states have the primary

authority and responsibility for setting surface water quality standards and requires the U.S. Army Corps of Engineers to obtain a state certification that their permits for discharge or dredge and fill material do not violate state water quality standards. Section 401 of the CWA requires every applicant for a Section 404 permit resulting in any discharge of dredge or fill material into Waters of the U.S. to provide a certification that any discharges will comply with the applicable state water quality standards set pursuant to the CWA and applicable state law.

2.2. State Statutes and Regulations

California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) (California Fish and Game Code § 2050 et seq.) was enacted in 1984 to parallel the federal ESA and allows the Fish and Game Commission to designate species, including plants, as “threatened” or “endangered.” The CESA states that all native species of fishes, amphibians, reptiles, birds, mammals, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. Unlike the ESA, the CESA does not include listing provisions for invertebrate species.

CESA makes it illegal to import, export, take, possess, purchase, sell, or attempt to do any of those actions to species that are designated as threatened, endangered, or candidates for listing, unless permitted by CDFW. Section 2080 of the California Fish and Game Code prohibits take of any species that the Commission determines to be an endangered species or a threatened species. “Take” is defined in section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

Under section 2081 of CESA, CDFW may permit take or possession of threatened, endangered, or candidate species for scientific, educational, or management purposes, and may also permit take of these species that is incidental to otherwise lawful activities if certain conditions are met. Some of the conditions for issuance of permits allowing incidental take are that the adverse effects of the take must be minimized and fully mitigated, adequate funding must be ensured for implementation of identified mitigation, and that the activity shall not jeopardize the continued existence of the listed species. CESA emphasizes early consultation to avoid potential impacts on candidate and listed endangered and threatened species, and to develop appropriate mitigation to offset project caused losses of listed species populations and their essential habitats.

California Fish and Game Code §§ 1600-1616

Pursuant to §§ 1600–1616 of the California Fish and Game Code, the CDFW regulates all substantial diversions, obstructions, or changes to the natural flow or the bed, channel, or bank of any river, stream, or lake, which provides habitat and supports fish or wildlife. CDFW defines a “stream” (including creeks and rivers) 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. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation” (California Code of Regulations, Title 14, Division 1, Subdivision 1, Chapter 1, § 1.72). “Bank” means the slope or elevation of land that bounds the bed of the stream in a permanent or longstanding way, and that confines the stream water up to its highest level. “Lake” includes “natural lakes or man-made reservoirs.”

Rivers, streams, lakes, and riparian vegetation that provide habitat for fish and wildlife species are subject to jurisdiction by the CDFW under §§ 1600-1616 of the California Fish and Game Code. Riparian areas are

lands adjacent to streams, lakes, and estuarine-marine shorelines. Section 2785(e) defines "riparian habitat" as lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source. CDFW regulates the bed, bank to bank, as well as associated riparian vegetation, and fish and wildlife resources. CDFW has interpreted jurisdictional boundaries to be defined by the tops of stream banks (i.e., the limit of stream influence) and/or the limit of the canopy of riparian vegetation (outer drip line) that is hydrologically connected to river, stream, or lake, whichever is greatest. As a result, the area of CDFW jurisdiction is usually greater than the active channel and overlaps and extends beyond the USACE jurisdiction. Isolated wetlands not associated with a river, stream or lake are not protected under §§ 1600 et seq. of the California Fish and Game Code. In addition, CDFW does not have regulatory authority on Tribal Lands.

California Green Building Standards Code (CALGreen)

This code requires sustainable building practices that minimize environmental impacts, including habitat disruption. Relevant provisions include construction waste reduction (minimum 65% recycling/reuse), low-impact development standards, and site protection measures during construction.

2.3. Regional and Local Ordinances, Plans and Policies

California Fish and Game Code §§ 2800–2835 (NCCP Act): Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP)

This regional conservation plan was developed in coordination with CDFW, USFWS, and the City of Tustin to balance regional development with the long-term protection of native habitats and listed or sensitive species. Projects within or adjacent to the NCCP area may require participation in the plan through payment of mitigation fees, preservation of habitat, or implementation of species-specific conservation measures. Compliance ensures streamlined permitting under CESA and ESA.

City of Tustin General Plan – Conservation and Open Space Element

This General Plan outlines policies for the conservation of biological resources, including native vegetation, sensitive species, and wildlife movement corridors. It includes goals to protect environmentally sensitive areas, open space networks, and natural habitats through environmentally responsible land use planning. Projects must demonstrate consistency with these policies during the environmental review process, particularly under the California Environmental Quality Act (CEQA). This includes conducting biological surveys, avoiding impacts to significant habitats, and implementing mitigation for unavoidable impacts to ensure no net loss of sensitive biological resources.

SECTION 3. METHODOLOGY

3.1. LITERATURE REVIEW

Prior to performing the field surveys, a desktop literature review was performed to review existing documentation relevant to the Biological Study Area (BSA). The BSA is defined as the site and a 500-foot buffer zone outside of but contiguous with the site. The most recent records of the Information for Planning and Consultation (IPaC) database, managed by the U.S. Fish and Wildlife Service (USFWS 2025); California Natural Diversity Database (CNDDB), managed by the California Department of Fish and Wildlife (CDFW 2025); and the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2025) were reviewed for the quadrangles containing Tustin, California USGS 7.5-minute quadrangle. These databases contain records of reported occurrences of federal- or state-listed as endangered or threatened species, proposed endangered or threatened species, former Federal Species of Concern (FSC), California Species of Special Concern (CSC), or otherwise special-status species or sensitive habitat that may occur within or in the immediate vicinity of the BSA.

3.2. SOILS

Soil maps for the site were referenced online to determine the types of soil found on the site from the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025). Soils are determined in accordance with categories set forth by the U.S. Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025).

3.3. WETLANDS

The project boundary and its 500-foot buffer were referenced online to determine presence or absence of wetlands through USFWS's Natural Wetland Inventory (NWI) Wetland Mapper (USFWS 2025). The USFWS is the principal federal agency tasked with monitoring and providing information on the extent, status, characteristics, and functions of the country's wetlands, deepwater, and other aquatic habitats (USFWS 2025). This inventory follows the national standard definition of wetlands as outlined in Cowardin et al. 2nd edition (2013). Wetlands are then categorized based upon landscape, substrate, vegetation cover, and hydrologic regime and is known as the Cowardin system (Cowardin et al. 2013).

3.4. POTENTIAL FOR OCCURRENCE

3.4.1. Criteria

A vegetation community or special-status species is considered to potentially occur in a BSA if its known geographic range includes part of the BSA or an adjacent USGS 7.5-minute quadrangle and/or if the general habitat or environmental conditions (e.g., soil type, etc.) required for the species are present. The criteria for evaluating the potential for occurrence (PFO) on a site is presented in **Table 1, Criteria for Evaluating Special-Status Species Occurrences**.

Table 1. Criteria for Evaluating Special-Status Species Occurrences

Potential for Occurrence	Criteria
Absent	Species was not observed during focused surveys conducted at an appropriate time for identification of the species, or species is restricted to habitats or environmental conditions that do not occur within the site.
Low	Historical records for this species do not exist within the immediate vicinity of the site (approximately 5 miles), and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate	Either a historical record exists of the species within the immediate vicinity of the site (approximately 5 miles) and marginal habitat exists on the site, or the habitat requirements or environmental conditions associated with the species occur within the site, but no historical records exist within 5 miles of the site.
High	Both a historical record exists of the species within the site or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the site.
Present	Species was detected within the site at the time of the survey.

3.4.2. Status Codes

A list of abbreviations used to help determine the significance of biological resources potentially occurring in the BSA is provided in **Table 2, Abbreviations for Federal- and State-listed Special-status Species.**

Table 2. Abbreviations for Federal- and State-listed Special-status Species

Designation	Abbreviation	Explanation
Federal	FE	Federally listed; Endangered
	FT	Federally listed; Threatened
	FC	Federal Candidate for listing
	BGEPA	Bald and Golden Eagle Protection Act
State	SE	State listed; Endangered
	ST	State listed; Threatened
	SC-T	State Candidate for Threatened listing
	SC-E	State Candidate for Endangered listing
	RARE	State listed; Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
	SC-RARE	State Candidate for Rare listing
	SSC	State Species of Special Concern
	SNC	State Natural Communities rarity ranking: 1-3 are considered sensitive, R is Rare
CNPS CRPR	BCC	Bird of Conservation Concern
	List 1A	Plants presumed to Extinct in California
	List 1B	Plants Rare and Endangered in California and throughout their range
	List 2	Plants Rare, Threatened or Endangered in California but more common elsewhere in their range
	List 3	Plants about which we need more information; a review list
CNPS CRPR Extensions	List 4	Plants of limited distribution; a watch list
	0.1	Seriously Endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat)
	0.2	Fairly Endangered in California (20-80 percent of occurrences threatened)
	0.3	Not Very Endangered in California (less than 20 percent of occurrences threatened)

3.5. BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

The field survey was conducted within the BSA to identify any potential for occurrence of sensitive species, vegetation communities, or habitats to support sensitive wildlife species. This also includes vegetation mapping, plant identification, and opportunistic wildlife surveys. The survey was conducted by HANA Associate Biologist, Austin Isakson, and Staff Biologist, Ash Walker, on foot between 0720 and 1000 hours on March 25, 2025. Photographs of the BSA were recorded to document existing conditions (**Appendix A, Site Photographs**). Weather conditions during the survey included temperatures ranging from approximately 56 to 65 degrees Fahrenheit, 100 percent cloud cover, no precipitation, and varying wind speeds of 1-2 mph. The Biological Reconnaissance Survey Field Forms can be found in **Appendix B, Biological Reconnaissance Survey Field Forms**.

3.5.1. Vegetation

Plant communities in the BSA were identified, qualitatively described, and mapped onto an aerial photograph. Plant communities were determined in accordance with the categories set forth in Holland (1986) or Sawyer et al. (2009). Plant nomenclature follows that of *The Jepson Manual: Higher Plants of California* (Hickman 2012, Jepson 2025). A comprehensive list of the plant species observed during the survey is presented in **Appendix C, Plant & Wildlife Species Observed/Detected Onsite**.

3.5.2. Wildlife

All wildlife and wildlife signs observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (undisturbed native habitat, wildlife trails, etc.) or in habitats with the potential to support state- and/or federal-listed or proposed listed species. Notes were made on the general habitat types, species observed, and the conditions of the site. A list of the wildlife species observed during the site visit is included as **Appendix C, Plant & Wildlife Species Observed/Detected Onsite**.

3.5.3. USACE, SWRQCB, and CDFW Preliminary Jurisdictional Assessment

Prior to beginning the field preliminary delineation, a 50-foot-to-the-inch scaled topographic map, scaled aerial photograph, and the Tustin 7.5-minute USGS topographic quadrangle map were examined to determine the locations of potential areas of U.S. Army Corps of Engineers (USACE), California State Water Resources Quality Control Board (SWRQCB), and/or California Department of Fish and Wildlife (CDFW) jurisdiction. HANA biologists examined the BSA to identify potential USACE jurisdiction pursuant to Section 404 and 401 of the Clean Water Act and CDFW jurisdiction pursuant to Section 1602 of the State of California Fish and Game Code. No jurisdictional drainages/areas were found onsite.

SECTION 4. RESULTS

4.1. LITERATURE REVIEW

4.1.1. Soils

After review of the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025) (**Appendix D**, *USDA Natural Resources Conservation Service Web Soil Survey*), it was determined that the BSA is composed of the following soil type:

140 – Chino silty clay loam, drained, 0 to 2 percent slopes

The Chino silty clay loam has a mean annual precipitation of 12 to 16 inches and mean annual air temperature of 63 to 65°F. The soil can be found at elevations of 30 to 750 feet. The Chino silty clay loam is comprised of silty clay loam. The parent material is alluvium derived from sedimentary rock. The soil is somewhat poorly drained and has low runoff potential. The soil is not hydric.

4.1.2. Wetlands

A review of the USFWS National Wetlands Inventory's Wetland Mapper indicated that no wetlands occur within the BSA or the surrounding 1-mile radius. The nearest mapped wetland is located over 1 mile away and is separated from the BSA by a school, the 261 toll road, and undeveloped land. A small stormwater inlet was located onsite; however, this feature has no hydrologic connectivity to jurisdictional waters and is situated within a highly urbanized, residential area. Given the absence of nearby wetlands and the developed nature of the surrounding landscape, the inlet is not expected to pose any issues during construction activities. As such, wetlands are not considered a factor in the evaluation of biological resources for this project.

4.2. POTENTIAL FOR OCCURRENCE

A map of the CNDDDB database occurrences is included in **Exhibit IV, *Special-Status Species within 1 Mile of Project Area***.

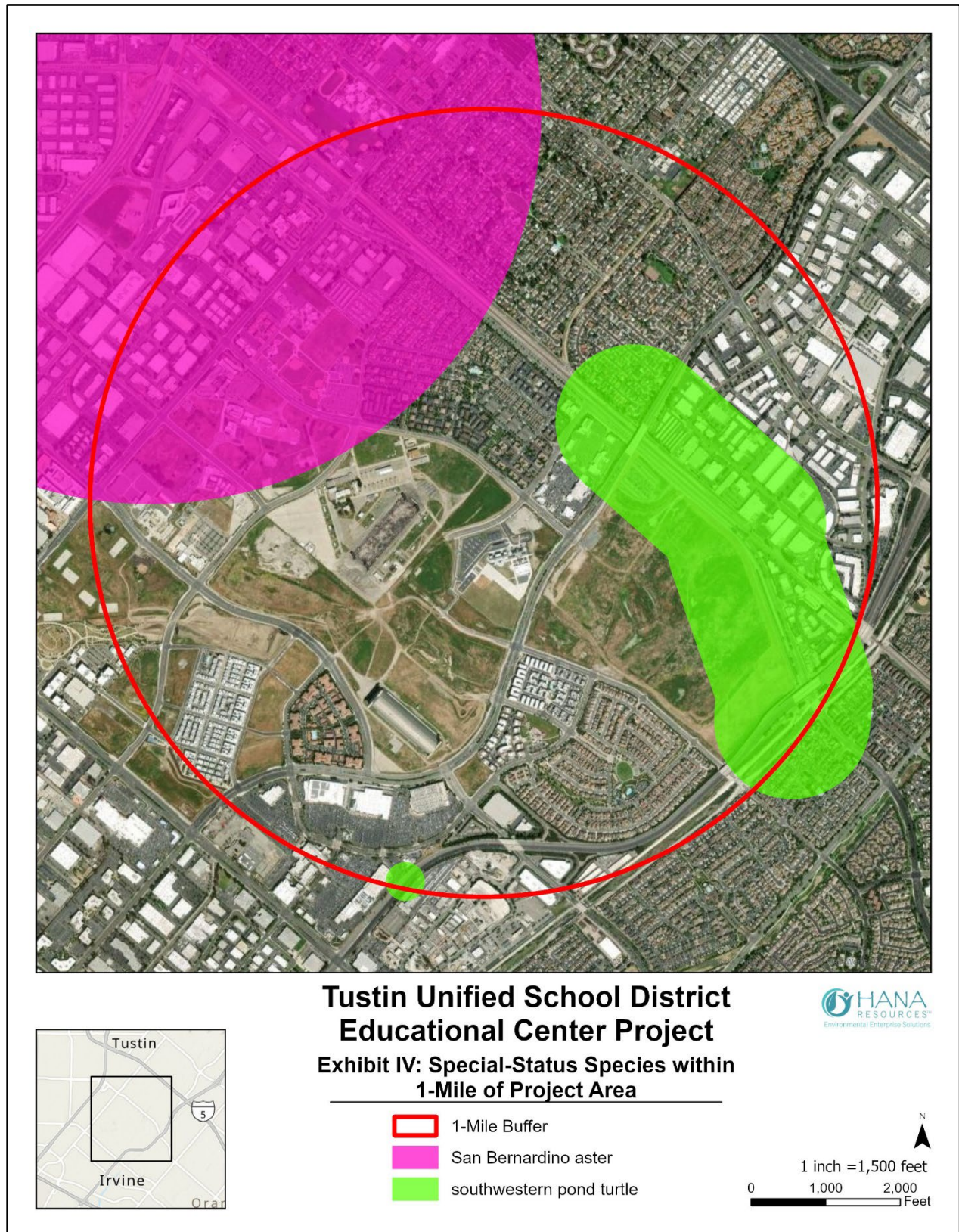
4.2.1. Vegetation

Vegetation

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable. These communities may or may not contain special-status plants or their habitat.

The literature review found no sensitive vegetation communities within the one-mile area.

Exhibit IIV: Special-Status Species within 1 Mile of Project Area



4.2.2. Plants

The literature review resulted in a list of twenty-two (22) special-status plant species that have been known to occur within the BSA and surrounding 1-mile, presented in **Table 3, *Special-Status Plant Species***. Of twenty-two (22) species, five (5) have *low* potential for occurrence, and seventeen (17) have *no* potential to occur in the BSA. Factors used to determine potential for occurrence include quality of habitat, soil type, impact from previous land use, and the date and location of prior CNDDDB and Jepson eFlora occurrence records. Reconnaissance plant surveys were conducted to determine if they are present or absent in the BSA.

Table 3. Special-Status Plant Species

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
Listed Endangered, Threatened, Candidate and State Rare Plants:								
Plants with official status under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and/or the Native Plant Protection Act (NPPA). A species may have other sensitive designations in addition to their federal or state listing.								
<i>Berberis nevinii</i>	Nevin's barberry	FE, SE	Nevin's barberry is a perennial evergreen shrub that grows in two habitat types. In the alluvial scrub community it grows on sandy and gravelly substrates along the margins of dry washes. In the chaparral community, it grows on steep, north-facing slopes with coarse soils and rocky slopes. It has also been found in cismontane woodlands, riparian scrub, and coastal sage scrub. This listed plant flowers from March to June.	No	899 – 2,706	No	No	No Potential for Occurrence in the BSA. The BSA lacks the alluvial scrub, chaparral, and other upland habitats with coarse or rocky soils that this species requires, none of which are present in the BSA. Additionally, the BSA falls outside of this species known elevation range.
<i>Nasturtium gambelii</i>	Gambel's water cress	FE, ST, CRPR: 1B.1, G1, S1	Gambel's watercress is a perennial rhizomatous herb that is found in freshwater and brackish marshes or swamps and grows on the margins of lakes and slowly flowing streams in or just above the water level and requires a permanent source of water, often where other vegetation is absent, but with bulrush, cattails or willows nearby. In drought, plants can be found growing on mud. This listed plant flowers from April to October.	No	16 – 1,082	Yes	Yes	No Potential for Occurrence in the BSA. This species is currently only known from three populations located in San Luis Obispo County. The BSA also lacks the aquatic habitat required for this perennial herb.
Sensitive Plants:								
These plants have no official status under the ESA, the CESA, and/or the NPPA; however, they are designated as sensitive or locally important by federal agencies, state agencies, and/or local conservation agencies and organizations.								
<i>Atriplex coulteri</i>	Coulter's saltbush	CRPR: 1B.2, G3, S2	Coulter's saltbush is an annual herb, which grows that typically can be found in valley and foothill grasslands, Chenopod scrub, and playas as well as moist meadows and vernal pools. It grows in areas of saline and alkaline soils, such as ocean bluffs. This sensitive plant flowers from April to October.	No	10 – 1510	Yes	Yes	No Potential for Occurrence in the BSA. This species is typically associated with coastal bluffs, alkaline soils, and sandy areas, which are not present in the BSA.
<i>Atriplex pacifica</i>	South Coast saltscale	CRPR: 1B.2, G4, S2	South Coast saltscale is an annual herb that occurs on coastal bluff scrub, coastal dunes, coastal scrub, chenopod scrub and playas. Found in alkaline soils. This wiry little herb grows in xeric, often mildly disturbed locales. Usually the surrounding vegetation is an open Diegan sage scrub dominated by <i>Artemisia californica</i> ; although, near the Bernasconi Hills it was found on alkaline flats in an area devoid of taller shrubs. This sensitive plant flowers from March to October.	No	0 – 460	Yes	Yes	No Potential for Occurrence in the BSA. The BSA lacks the coastal habitat and alkaline soils for which this species is associated.
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's saltscale	CRPR: 1B.2, G5T1, S1	Davidson's saltscale is an annual herb that is found in coastal bluff scrub and coastal scrub. In Riverside County, it is found in alkali vernal pools, alkali annual grasslands, alkali playa, and alkali scrub components of alkali vernal plains. This sensitive plant flowers from April to October.	No	35 – 655	Yes	Yes	No Potential for Occurrence in the BSA. The BSA lacks the coastal habitat and alkaline soils for which this species is associated.
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	CRPR: 3, G4, S4	Lewis' evening-primrose is an annual herb that is found in sandy or clay soils within coastal bluff scrub, cismontane woodlands, coastal dunes, coastal scrub, and valley and foothill grasslands. This sensitive plant flowers from March to June.	Yes	0 – 985	Yes	Yes	Low Potential for Occurrence in the BSA. The BSA contains clay soils preferred by this species; however, observations in the region are rare and typically associated with coastal or sandy habitats not found onsite.
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	CRPR: 1B.1, G3T2, S2	Southern tarplant is an annual herb that is found on the margins of marshes and swamps, and in vernally mesic sites within valley and foothill grasslands and vernal pools. This sensitive plant flowers from May to November.	Yes	0 – 1575	Yes	Yes	Low Potential for Occurrence in the BSA. The BSA contains minimal, though suitable, habitat but observations within the county are rare and largely limited to wetlands and coastal areas.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
<i>Convolvulus simulans</i>	small-flowered morning-glory	CRPR: 4.2, G4, S4	Small-flowered morning-glory is an annual herb primarily associated with heavy, cracking, and friable clay substrates typically devoid of shrubs, often found in Vernal pools. Habitats it is usually associated with include annual grasslands, coastal sage scrub, and chaparral.	Yes	100 – 2430	Yes	Yes	Low Potential for Occurrence in the BSA. The BSA contains disturbed, open areas devoid of shrubs that may provide suitable habitat.
<i>Dudleya multicaulis</i>	many-stemmed dudleya	CRPR: 1B.2, G2, S2	Many-stemmed dudleya is a perennial herb that is often associated with clay soils in barrens, rocky places, and ridgelines as well as thinly vegetated openings in chaparral, valley and foothill grasslands, and coastal sage scrub in heavy soils, often clay. This sensitive plant flowers from April to July.	Yes	50 – 2590	Yes	Yes	Low Potential for Occurrence in the BSA. The BSA contains suitable open and disturbed clay soils; however, local observations are associated with coastal sage scrub habitat, which is absent onsite.
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	CRPR: 1A, G5TX, SX	Los Angeles sunflower is a perennial rhizomatous herb that is found in coastal salt and freshwater marshes and swamps. Usually occurs in wetlands, but occasionally found in non-wetlands. This sensitive plant flowers from August to October.	No	35 – 5005	Yes	Yes	No Potential for Occurrence in the BSA. The BSA lacks the aquatic habitats preferred by this species, and modern occurrences in the area are extremely rare.
<i>Hordeum intercedens</i>	vernal barley (=bobtail barley)	CRPR: 3.2, G3G4, S3S4	Vernal barley is an annual herb that is associated with coastal dunes, vernal pools and saline flats and depressions in valley and foothill grasslands. In Riverside County, vernal barley is associated with alkali flats and flood plains within the alkali vernal plains community. Within this community vernal barley is primarily associated with alkali annual grasslands and vernal pools and to a lesser extent alkali scrub and alkali playa. This sensitive plant flowers from March to June.	No	15 – 3280	Yes	Yes	No Potential for Occurrence in the BSA. The BSA lacks the saline and alkaline conditions associated with this species, and modern occurrences in the area are extremely rare.
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	southwestern spiny rush	CRPR: 4.2, G5T5, S1S2	Southwestern spiny rush is a perennial rhizomatous herb that usually occurs in wetlands (alkaline seeps, swamps, and salt marshes), but occasionally found in non-wetlands (meadows and coastal dunes). It likes moist, saline places throughout southern California. This sensitive plant flowers from March to June.	No	10 – 2955	Yes	Yes	No Potential for Occurrence in the BSA. The BSA lacks the necessary wetland, meadow, or coastal dune habitat required by the species. Additionally, local observations are limited to coastal areas within the region.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	CRPR: 1B.1, G4T2, S2	Coulter's goldfields is an annual herb that is associated with low-lying alkali habitats along the coast and in inland valleys. The majority of the populations are associated with coastal salt marshes and swamps. Coulter's goldfields occur primarily in the alkali vernal plains community. These are floodplains dominated by alkali scrub, alkali playas, vernal pools, and alkali grasslands. These habitats form mosaics that are largely dependent on salinity and micro-elevational differences. This sensitive plant flowers from February to June.	No	5 – 4005	Yes	No	No Potential for Occurrence in the BSA. The BSA lacks the alkali habitat associated with this species and modern occurrences in the area are rare.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	CRPR: 4.3, G5T3, S3	Robinson's pepper-grass is an annual herb that is found in dry soils on chaparral and coastal sage scrub often around rock outcrops. This sensitive plant flowers from January to July.	No	5 – 2905	Yes	Yes	No Potential for Occurrence in the BSA. This species is associated with chaparral and coastal sage scrub habitats, often around rock outcrops, none of which are present in the BSA.
<i>Lycium californicum</i>	California box-thorn	CRPR: 4.2, G4, S4	Common on ocean bluffs, mesas, and borders of estuaries in coastal bluff scrub along the coast. Grows under Torrey pine (<i>Pinus torreyana</i>) in the coastal sage scrub habitat.	No	15 – 490	Yes	Yes	No Potential for Occurrence in the BSA. The BSA lacks sandy coastal bluffs and dunes that this species requires, as well as (<i>Pinus torreyana</i>) that it is associated with.
<i>Nama stenocarpa</i>	mud nama (=mud fiddleleaf)	CRPR: 2B.2, G4G5, S1S2	Mud nama is an annual/perennial herb that is found along marshes, swamps, lake shores, riverbanks, stream banks and intermittently wet areas. This sensitive plant flowers from January to July.	No	15 – 1640	Yes	Yes	No Potential for Occurrence in the BSA. The BSA lacks aquatic habitats such as streambanks, marshes, or intermittently wet areas required by this species.
<i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Allen's pentachaeta	CRPR: 1B.1, G4T1, S1	Allen's pentachaeta is an annual herb that is found in openings in coastal scrub and valley and foothill grasslands. This sensitive plant flowers from March to June.	No	245 – 1705	No	Yes	No Potential for Occurrence in the BSA. While the BSA contains open area, it falls outside of this species known elevation range.
<i>Senecio aphanactis</i>	chaparral ragwort (=rayless ragwort)	CRPR: 1B.2, G3, S2	Chaparral ragwort is an annual herb that is found in chaparral, cismontane woodlands, coastal scrub (sometimes alkaline) and drying alkaline flats. This sensitive plant flowers from January to April.	No	50 – 2625	Yes	Yes	No Potential for Occurrence in the BSA. The BSA does not contain suitable habitat and occurs at the lower limit of this species' elevation range.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
<i>Sidalcea neomexicana</i>	salt spring checkerbloom (=mountain sidalcea)	CRPR: 2B.2, G4, S2	Salt spring checkerbloom is a perennial herb that is found in alkaline, mesic sites in chaparral, coastal scrub, lower montane coniferous forests, Mojavean desert scrub, alkali playas, and brackish marshes. This sensitive plant flowers from March to June.	No	50 – 5020	Yes	Yes	No Potential for Occurrence in the BSA. The BSA does not contain suitable habitat and occurs at the lower end of this species' elevation range. Additionally, modern occurrences in the area are extremely rare.
<i>Symphyotrichum defoliatum</i> (= <i>Aster greatae</i>)	San Bernardino aster	CRPR: 1B.2, G2, S2	San Bernardino aster is a perennial rhizomatous herb that is found in cismontane woodlands, coastal scrub, lower montane coniferous forests, meadows and seeps, marshes and swamps, and vernally mesic valley and foothill grasslands. While this species usually occurs in meadows, springs and streams, it also occurs in upland habitats. Can be found near ditches, streams, springs or disturbed areas. Grows in seasonally moist fine alluvial soils. This sensitive plant flowers from July to November.	Yes	7 – 6,691	Yes	Yes	Low Potential for Occurrence in the BSA. While the BSA contains suitable disturbed habitat and alluvial soils, it lies on the lower limit of this species elevation range.
<i>Suaeda esteroa</i>	estuary seablite	CRPR: 1B.2, G3, S2	Estuary seablite is a perennial fleshy herb that is found in coastal salt marshes and swamps often growing with <i>Salicornia subterminalis</i> . Soils at such locales are usually mapped as tidal flats. Oftentimes, only a narrow band of terrain on the very periphery of the salt marsh is utilized by this plant. This sensitive plant flowers from May to January.	No	0 – 15	No	No	No Potential for Occurrence in the BSA. The BSA lacks this species plant associate (<i>Salicornia subterminalis</i>), coastal aquatic habitat, and elevation which is typically associated with this species and plant associate.
<i>Suaeda taxifolia</i>	woolly seablite	CRPR: 4.2, G4, S3S4	Wolly seablite is perennial evergreen shrub native to the coastline of southern California and Baja California, where it grows in saline habitat such as salt marshes, beaches, coastal dunes, and coastal bluff scrub.	No	0 – 165	Yes	Yes	No Potential for Occurrence in the BSA. The BSA does not contain saline habitat such as salt marshes, beaches, or dunes, and is not located on the coastline where this species is exclusively found.

Legend and Notes
Notes: • The BSA contains approximate elevations of 55-65 feet above mean sea level (amsl). • The BSA encompasses disturbed habitat including developed areas containing ornamental plants, agricultural land, and a maintained field that was previously agricultural land. • Yes = the BSA is located within the plant species' known distribution, elevation range, and/or the BSA contains suitable habitats and/or soils to support the plant species. The plant species has a potential to occur within the BSA. Further evaluation is needed. • No = the BSA is located outside the plant species' known distribution, elevation range, and/or the BSA lacks suitable habitats and/or soils to support the plant species. It is highly unlikely for the plant species to have a potential to occur within the BSA. No further evaluation is needed. • A CNPS elevation range is provided for each taxon in feet. The stated range is for the California portion of a plant's range only (if the taxon also occurs outside the state). These CNPS elevation range data are accumulated from literature, herbarium specimens, and field survey information. Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened plants is published in 50 CFR § 17.12. • FE = federally listed as endangered: any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range. • FT = federally listed as threatened: any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future. • FC = federal candidate for listing: candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need. A proposed regulation has not yet been published in the Federal Register for these species. • FPE = federally proposed for listing as endangered: a candidate species that has been proposed by USFWS for listing as endangered and the proposed rule, but not a final rule, to list has been published in the Federal Register. • FPT = federally proposed for listing as threatened: a candidate species that has been proposed by USFWS for listing as threatened and the proposed rule, but not a final rule, to list has been published in the Federal Register. • FPD = federally proposed for delisting: a species that has been proposed by USFWS for delisting (or down listing from endangered to threatened) and the proposed rule to delist has been published in the Federal Register. California Endangered Species Act (CESA) and California Native Plant Protection Act (NPPA) Listing Codes: the CESA and NPPA are administered by CDFW. The official listing of <i>Plants of California Declared to Be Endangered, Threatened or Rare</i> is contained in the California Code of Regulations, Title 14, § 670.2. Species, subspecies and varieties of California native plants are declared to be endangered, threatened as defined by § 2062 and § 2067 of the Fish and Game Code or rare as defined by § 1901 of the Fish and Game Code.

Legend and Notes
SE = state-listed as endangered: "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062). ST = state-listed as threatened: "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067). SCE = state candidate for listing as endangered: a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068). SCT = state candidate for listing as threatened: a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068). SCD = state candidate for delisting: a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species to either list. SR = state rare: A species, subspecies, or variety of native plant is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens (Fish and Game Code § 1901). California Rare Plant Ranks (Formerly known as CNPS Lists): the CNPS is a statewide, nonprofit organization that maintains, with CDFW, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFW officially changed the name “CNPS List” or “CNPS Ranks” to “California Rare Plant Rank” (or CRPR). This was done to reduce confusion over the fact that CNPS and CDFW jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment. CRPR: 1A = California Rare Plant Rank 1A - plants presumed extirpated in California and either rare or extinct elsewhere: the plants with a CRPA of 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes plants that are both presumed extinct as well as those plants which are presumed extirpated in California. All of the plants constituting CRPR 1A meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. CRPR 1B = California Rare Plant Rank 1B - plants rare, threatened, or endangered in California and elsewhere: plants with a CRPR of 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. All of the plants constituting CRPR 1B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. CRPR 2A = California Rare Plant Rank 2A - plants presumed extirpated in California, but more common elsewhere: the plant taxa of CRPR 2A are presumed extirpated because they have not been observed or documented in California for many years. This list includes only those plant taxa that are presumed extirpated in California, but more common elsewhere in their range. All of the plants on List 2A meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. CRPR 2B = California Rare Plant Rank 2B - plants rare, threatened, or endangered in California, but more common elsewhere: except for being common beyond the boundaries of California, plants with a CRPR of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the ESA. All of the plants constituting CRPR 2B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. CRPR 3 = California Rare Plant Rank 3 - plants about which more information is needed - a review list: the plants that comprise CRPR 3 are united by one common theme – CNPS and CDFW lack the necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting CRPR 3 are taxonomically problematic. Some of the plants constituting CRPR 3 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. CNPS strongly recommends that CRPR 3 plants be evaluated for consideration during preparation of environmental documents relating to CEQA. CRPR 4 = California Rare Plant Rank 4 - plants of limited distribution - a watch list: the plants in this category are of limited distribution or infrequent throughout a broader area in California. While CNPS and CDFW cannot call these plants "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a CRPR 4 plant change, CNPS and CDFW will transfer it to a more appropriate rank. Some of the plants constituting CRPR 4 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS strongly recommends that CRPR 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA. Considered But Rejected = plants that have been considered for inclusion into the CNPS Inventory, but were not included for various reasons. California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) (as a decimal code) and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. A Threat Rank is present for all CRPR 1B's, 2B's, 4's, and the majority of CRPR 3's. CRPR 4 plants are seldom assigned a Threat Rank of .1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a CRPR. In addition, all CRPR 1A and 2A (presumed extirpated in California), and some CRPR 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension. .1 = seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat) .2 = moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat) .3 = not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known) Other: Annual: grows from seed and reproduce within a single year. Perennial: lives more than one year. Deciduous: plants shed their leaves for part of the year. Evergreen: plants retain their leaves for an entire year. Mesic habitat: a habitat with a moderate or well-balanced supply of moisture.

Legend and Notes	
• Hemiparasitic: plants that are connected to host plants and derive energy, water, and minerals from them, but also maintain their own functional root systems or photosynthetic surfaces. • Parasitic: plants that are connected to host plants and rely solely on them for energy, water, and nutritional requirements. • Carnivorous: plants that trap insects and other small animals and derive nourishment from them. • Herbs: plants that are herbaceous and lack above-ground woody tissue. ○ Bulbiferous herb: plants that have fleshy underground storage organs typically derived from scale leaves (this category includes coniferous and other similar plants in which storage organs have other origins). ○ Rhizomatous herb: plants that have underground stems (rhizomes), typically bearing shoots which develop into new plants. ○ Stoloniferous herb: plants that have above-ground runners (stolons) which typically root and produce new plants. • Shrubs: smaller woody perennials that retain most of their above-ground woody tissue and are typically many-stemmed. ○ Leaf succulents: succulents with thick, fleshy leaves. ○ Stem succulents: succulents with thick, fleshy stems and reduced or absent leaves. • Trees: larger woody perennials that retain all of their above-ground wood tissue and are typically single-stemmed. • Vines: twining woody perennials requiring external support for growth. • Mosses: small green plants (one of three groups of bryophytes) with structures that resemble miniature leaves and stems. The leaves generally have a midrib called a costa. The sporophyte (the spore-bearing structure) is persistent for weeks. • Liverworts: small green plants (one of three groups of bryophytes). There are both leafy and thalloid types - leafy liverworts lack a midrib on the leaves, while thalloid liverworts have no leaves. The sporophyte is short-lived.	

4.2.3. Wildlife

The literature review resulted in a list of thirty-five (35) special-status wildlife species that have been known to occur within the BSA and surrounding 1-mile, which is presented in **Table 4, *Special-Status Wildlife Species***. None of these special-status wildlife species were considered to have *high* or *moderate* potential, five (5) were considered to have *low* potential, and thirty (30) were considered to have *no* potential to occur in the BSA. Factors used to determine potential for occurrence include quality of habitat, soil type, impact from previous land use, and the date and location of prior CNDDDB occurrence records. A reconnaissance wildlife survey was also conducted to determine if they are present or absent in the BSA.

Table 4. Special-Status Wildlife Species

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential For Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Listed Endangered, Threatened, and Candidate Wildlife:						
Wildlife with official status under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA). A species may have other sensitive designations in addition to their federal or state listing.						
Listed Birds						
<i>Aquila chrysaetos</i>	golden eagle	fully protected WL BLMS BCC CDF:S OC NCCP/HCP: Covered Species	Golden eagles occur primarily in mountainous canyon land, rimrock terrain of open desert and grassland areas. Habitat typically includes open rolling foothills of grasslands, oak savannas, oak and juniper woodlands, chaparral, mountain areas, and desert. They usually avoid heavily forested areas and extensive croplands. They may be found in coniferous habitat when open space is available (e.g. fire breaks, clear-cuts, burned areas, pasture-land, etc.). Golden eagles are typically not found on the immediate coast and are almost never detected in urbanized environments. Golden eagles usually nest on cliffs. Nesting is primarily restricted to rugged, mountainous country and open habitats with canyons and escarpments. Golden eagles will also nest in trees, on ground, clay cliffs, river banks, and human-made structures, including windmills, observation towers, powerline poles, electricity transmission towers, nesting platforms, abandoned gold dredges, and electrical transmission towers. Many nests have an unobstructed wide view of the surrounding area or are on prominent escarpments. These eagles require a huge territory to forage for prey. They typically forage in open habitats including grasslands, deserts, savannahs, and shrublands. Preferred territory sites include those that have a favorable nest site, a dependable food supply, and broad expanses of open country for foraging. Hilly or mountainous country, deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	Yes	No	No Potential for Occurrence in the BSA. The BSA does not contain suitable nest sites or a dependable food supply. In addition, golden eagles are almost never detected in urbanized environments.
<i>Athene cunicularia</i>	burrowing owl	SCE CDFW: SSC BLM: S USFWS: BCC Season of Concern: burrowing sites and some wintering sites	The burrowing owl (BUOW) is a small, ground-inhabiting owl. Typical BUOW habitat is open, dry, flat ground or low rolling hills with sparse vegetation and available burrows. BUOWs are generally found in open country, where tree or shrub canopies cover less than 30% of the habitat. Typical habitats include annual and perennial grasslands, shortgrass prairies open agricultural areas (particularly rangelands), deserts floors, and vacant lots in residential areas and university campuses. Other habitats include oak savannah; grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitat; sandy beaches and coastal dunes; and river bottom lands. BUOWs inhabiting urban landscaped areas may live in vacant fields/lots, pastures, airports, athletic fields, golf courses, cemeteries, city parks, road shoulders, drainage sumps, railroad beds, irrigation ditches, and road cuts. Nest and roost burrows of the BUOW in California are most commonly dug by California ground squirrels (<i>Spermophilus beecheyi</i>). BUOWs in Imperial County often use the small holes of round-tailed ground squirrels (<i>Citellus tereticaudus</i>) and Botta's pocket gophers (<i>Thomomys bottae</i>), but they also can dig their own burrows in the soft banks of irrigation canals and ditches. Where burrows are scarce, man-made structures, such as culverts, piles of concrete, rubble, or debris, pipes, asphalt, artificial nest boxes, and openings beneath cement or asphalt pavement also are used as nest sites.	Yes	No	No Potential for Occurrence in the BSA. The BSA does not contain suitable burrows for this species to occupy. Although abandoned rodent burrows were detected onsite, none of them were deemed large enough to support BUOW, and thus it is highly unlikely BUOW would occupy this site in the future. Additionally, no BUOW sign was observed within the BSA.
<i>Charadrius nivosus</i>	western snowy	FT	The Pacific coast population breeds above the high tide line on coastal beaches, sand spits, dune-	Yes	No	No Potential for Occurrence in the BSA.

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				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
<i>nivosus</i>	plover	SSC BCC	backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Less common nesting habitat includes bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars. The interior population breeds on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, and pond; on riverine sand bars; and at sewage, salt-evaporation, and agricultural waste-water ponds.			This BSA does not contain suitable undisturbed breeding habitats or large aquatic feeding grounds to support this species.
<i>Haliaeetus leucocephalus</i>	bald eagle	FDR SE CDFW: FP BLM: S CDF:S BCC	The bald eagle is federally delisted. Range-wide, bald eagles occur primarily in or near seacoasts, rivers, wetlands swamps, and large lakes. Requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches and nesting sites to support them. Perching sites need to be composed of large trees or snags with heavy limbs or broken tops. It roosts communally in winter in dense, sheltered, remote conifer stands. The State's breeding habitats are mainly in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers. Large nests are normally built in the upper canopy of large trees, usually conifers.	Yes	No	No Potential for Occurrence in the BSA. The BSA does not contain adequate large bodies of water, or free flowing rivers with abundant fish for foraging. In addition, suitable perching sites, roosting sites, and breeding habitats are absent from the BSA. Any occurrence would mostly likely be restricted to fly-overs.
<i>Laterallus jamaicensis coturniculus</i>	California black rail	ST BLM: S CDFW: FP IUCN: EN	Occurs in various habitats, from high coastal marshes to freshwater marshes along the lower Colorado River. Along the coast, they favor marshland with unrestricted tidal influence (estuarine, intertidal, emergent, and regularly flooded). The rails often make their homes in tidal salt marshes dominated by pickleweed (<i>Salicornia pacifica</i>), but they inhabit brackish and freshwater marshes as well. In coastal and estuarine saltmarshes, their favored areas are dominated by pickleweed, bulrushes, and matted salt grass (<i>Distichlis spicata</i>) and other marsh vegetation. Along the Colorado River, they use areas of shallow water with relatively stable water levels and flat shoreline supporting dense stands of three-square bulrush.	No	No	No Potential for Occurrence in the BSA. The BSA does not contain suitable breeding coastal salt marsh or freshwater marsh habitats and aquatic mudflat foraging habitats to support this species.
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT SSC OC NCCP/HCP: Covered Species	This species occurs in or near coastal sage scrub, a habitat characterized by relatively low growing, dry-season deciduous, and succulent plants. Characteristic plants of these communities include California sagebrush (<i>Artemisia californica</i>), California buckwheat (<i>Eriogonum fasciculatum</i>), laurel sumac (<i>Malosma laurina</i>), lemonade berry (<i>Rhus integrifolia</i>), bush penstemon (<i>Keckiella antirrhinoides</i>), and various species of sage (<i>Salvia</i> spp.).	Yes	No	No Potential for Occurrence in the BSA. The BSA lacks coastal sage scrub habitat and is dominated by ruderal and non-native species. Additionally, the BSA lacks foraging and nesting vegetation.
<i>Rallus obsoletus levipes</i>	light-footed Ridgway's rail	FE	The light-footed Ridgway's rail uses southern California coastal salt marshes, lagoons, and their maritime environs. The birds nest in the lower littoral zone of coastal salt marshes where dense stands of cordgrass are present. They require shallow water and mudflats for foraging, with adjacent higher vegetation for cover during high water. It is believed that most salt marshes along the coastline at one time supported Ridgway's rails. However, recent census data (USFWS 2024) indicate that less than 50% of the coastal wetlands in California are currently occupied. Southern California's largest subpopulation of these rails, located in the Upper Newport Bay, has been successfully reproducing since 1980.	No	No	No Potential for Occurrence in the BSA. The BSA does not contain estuarine marshes or shallow water for foraging. There is no cover or hydrology to support this species.
<i>Sternula antillarum browni</i>	California least tern	FE	This species breeds along the Pacific coast from San Francisco Bay southward to Baja California, favoring sparsely vegetated beaches and coastal dune habitats. Nests are typically shallow scrapes in sandy or gravelly substrates near estuaries, lagoons, and river mouths. Foraging occurs in nearby shallow marine or estuarine waters. Key breeding colonies persist in areas such as the Bolsa Chica Ecological Reserve and Upper Newport Bay.	Yes	No	No Potential for Occurrence in the BSA. The BSA does not contain open sandy beaches or adjacent estuarine foraging habitat. Vegetation and substrate are unsuitable for nesting.
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE OC NCCP/HCP: Covered Species	Breeds in lowland riparian woodlands throughout southern California, with the core of its range concentrated in inland valleys and foothill drainages. It nests in dense, shrubby vegetation such as willows (<i>Salix</i>), mulefat (<i>Baccharis salicifolia</i>), or wild rose (<i>Rosa</i> spp.), generally within 2 meters of the ground and often near surface water. Foraging and roosting occur within the riparian canopy and understory. Population increasing in Santa Ana River and San Diego Creek areas, where suitable willow-cottonwood vegetation persists (Houston et al. 2024).	Yes	Yes	No Potential for Occurrence in the BSA. The BSA contained isolated mulefat and coyotebrush, but not in adequate amounts. The site also lacks continuous riparian vegetation.
Listed Mammals						
<i>Perognathus longimembris</i>	Pacific pocket mouse	FE	Restricted to sandy soils within coastal southern California, with a highly fragmented range extending from Dana Point south into northern San Diego County. Breeding occurs in burrows	No	No	No Potential for Occurrence in the BSA. This species is typically associated with loose soils

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<i>pacificus</i>		OC NCCP/HCP: Covered Species	constructed in loose, well-drained soils within open coastal sage scrub, dune, or alluvial fan habitats.			and native habitats that are not present in the BSA.
Listed Reptiles						
<i>Actinemys pallida</i>	Southwestern pond turtle	FPT CDFW: SSC IUCN: VU BLM: S G2G3	Inhabits slow moving permanent or intermittent streams, small ponds, small lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons. Pools are the preferred habitat within streams. Abundant logs, rocks, submerged vegetation, mud, undercut banks, and ledges are necessary habitat components for cover as well as a water depth greater than 2 m.	Yes	No	No Potential for Occurrence in the BSA. The BSA does not contain aquatic habitats or basking sites to support this turtle.
Listed Amphibians						
<i>Spea hammondi</i>	western spadefoot	FPT SSC BLMS OC NCCP/HCP: Covered Species	May be found in coastal sage scrub, open chaparral, pine-oak woodlands and grassland habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas. Within these habitats, they require rain pools/vernal pools in which to reproduce, and that persist with more than three weeks of standing water in which to metamorphose successfully. They can also breed in slow-moving streams (e.g., areas flooded by intermittent streams). Water breeding sites must lack fish, bullfrogs, and crayfish in order for to successfully reproduce and metamorphose. They estivate in sandy, gravelly soil in upland habitats adjacent to potential breeding sites in burrows approximating 1 meter in depth.	No	No	No Potential for Occurrence in the BSA. The BSA lacks the wetland habitat for which this species is reliant for breeding and does not venture far from. Additionally, the BSA contains soils inconsistent with the needs of the species.
Listed Insects						
<i>Bombus crotchii</i>	Crotch bumble bee	SCE	Crotch's bumblebee occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills throughout much of southwestern California, with additional records from southwest Nevada near the California border. It inhabits open grassland and scrub habitats and is adapted to hotter and drier conditions than many other bumblebee species. Crotch's bumblebee is a short-tongued species, which influences its floral preferences and foraging behavior. Known food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Yes	Yes	Low Potential for Occurrence in the BSA. The BSA is highly disturbed and is adjacent to active construction and utilized as an access point. The site is characterized by low-lying grasses and contains minimal vegetation to support this species.
<i>Danaus plexippus</i>	monarch butterfly	FPT	Their roosts are located in wind-protected tree groves (eucalyptus [<i>Eucalyptus</i> sp.], Monterey pine [<i>Pinus radiata</i>], cypress [<i>Hesperocyparis</i> spp.]), with nectar and water sources nearby. Monarch butterflies lay their eggs exclusively on milkweed, which the larva feed on.	Yes	No	Low Potential for Occurrence in the BSA. The BSA does not contain milkweed, a plant necessary as an egg-laying site and food source for larvae but adults will utilize a wide variety of flowering plants as a nectar source during migration.
Sensitive Wildlife: These animals have no official status under the ESA and/or the CESA; however they are designated as sensitive or locally important by federal agencies, state agencies, and/or local conservation agencies and organizations.						
Sensitive Birds						
<i>Aechmophorus clarkii</i>	Clark's grebe	BCC	Large freshwater lakes and marshes whose edges have emergent vegetation such as reeds and rushes. On very large lakes, colonies may number in the hundreds of pairs during breeding season. Smaller numbers winter inland on lakes and rivers.	Yes	No	No Potential for Occurrence in the BSA. Freshwater lakes and emergent marsh vegetation required for breeding and foraging are not present in the BSA. There is no aquatic habitat to support this species.
<i>Aechmophorus occidentalis</i>	western grebe	BCC Rangewide (CON)	Western Grebes breed in freshwater lakes and marshes and migrate to coastal bays and marine environments for winter. They feed on small fish such as perch (<i>Perca</i> spp.) and aquatic invertebrates like water fleas (<i>Daphnia</i> spp.). Western Grebes are found in large freshwater lakes and marshes in western North America. They are known for their striking courtship displays and are often seen in breeding colonies on isolated lakes. Their diet includes fish such as Percidae and small invertebrates. Habitat changes due to water management and pollution are concerns.	Yes	No	No Potential for Occurrence in the BSA. The BSA lacks freshwater marshes, lakes, or coastal bays that provide suitable nesting and foraging habitat. No aquatic features are present to support this species.
<i>Agelaius tricolor</i>	tricolored blackbird	BCC SSC	The tricolored blackbird breeds primarily in the Central Valley and southern California, forming large colonies in freshwater marshes, agricultural fields, and other open wetlands with dense,	Yes	No	No Potential for Occurrence in the BSA. Freshwater marshes with dense emergent

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			emergent vegetation such as cattails (<i>Typha</i> spp.) or bulrush (<i>Schoenoplectus</i> spp.). Nests are built low within dense stands of vegetation over or near standing water. Foraging occurs in adjacent grasslands, pastures, and croplands. Roosting takes place in tall wetland vegetation near nesting colonies or in nearby trees and shrubs, often communally and near foraging areas.			vegetation used for nesting and colony formation are not present. The BSA's vegetation is dominated by non-native forbs and grasses, offering no suitable habitat.
<i>Baeolophus inornatus</i>	oak titmouse	BCC	The oak titmouse is a common resident in a variety of habitats, but is primarily associated with oaks (<i>Quercus</i> spp.). It occurs in montane hardwood-conifer, montane hardwood, blue, valley, and coastal oak woodlands, chaparral, and montane and valley foothill riparian habitats. They may live in habitats with scrub oaks or other brush as long as woodland occurs nearby. Despite clear preference for oaks, populations in some areas have adapted locally to live in warm, dry environments without oaks, e.g. western juniper woodland in extreme northern California. Nests are constructed in natural tree cavities, in old woodpecker holes, or in a bird box.	Yes	No	No potential to occur in the BSA. The BSA does not contain suitable oak, conifer, or riparian habitats to support this species.
<i>Chamaea fasciata</i>	wrentit	BCC	Found in dense chaparral, coastal scrub, riparian scrub and oak woodland with dense vegetation. Extremely site-tenacious and very unlikely to be found out of habitat or out of range.	Yes	No	No Potential for Occurrence in the BSA. The BSA lacks dense coastal scrub, chaparral, or oak woodland, and no suitable nesting or foraging cover is available.
<i>Circus hudsonius</i>	northern harrier	SSC, BCC OC NCCP/HCP: Covered Species Season of Concern: nesting	Northern harriers breed and forage in a variety of open (treeless) habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered hunting, plucking, and lookout perches such as shrubs or fence posts. In California, such habitats include open wetlands, freshwater marshes, brackish and saltwater marshes, wet meadows, weedy borders of lakes, rivers and streams, annual and perennial grasslands (including those with vernal pools), weed fields, fallow fields, ungrazed or lightly grazed pastures, some croplands (especially alfalfa [<i>Medicago sativa</i>], grain, sugar beets [<i>Beta vulgaris</i>], tomatoes [<i>Solanum lycopersicum</i>], and melons), sagebrush flats, and desert sinks. Northern harriers are ground nesters, with the nest placed in dense, often tall, vegetation in undisturbed areas.	Yes	Yes	Low Potential for Occurrence in the BSA. Open ruderal vegetation in the BSA may provide limited foraging habitat, but dense vegetation required for nesting is absent, and the site is highly disturbed.
<i>Contopus cooperi</i>	olive-sided flycatcher	SSC Season of Concern: nesting	They breed mostly in coniferous forests in high mountains where tall trees overlook canyons, meadows, lakes or other open terrain. They are mostly associated with edges, openings, and natural and human-created clearings in otherwise relatively dense forests, but they also occupy semi-open forests and burned forests. They require large, tall trees, usually conifers, for nesting and roosting sites. In the Sierra Nevada, it is more abundant in open mixed conifer and California red forest than in closed-canopy forest. High in the White Mountains, this species is associated with limber pine (<i>Pinus flexilis</i>), western bristlecone pine (<i>Pinus longaeva</i>), and lodgepole pine (<i>Pinus contorta</i>), preferring mature open stands. In bigcone Douglas-fir (<i>Pseudotsuga macrocarpa</i>) forests in northwestern California, the species is detected more often at forest edges than in forest interiors. They also nest near the coast in tall trees, including eucalyptus (<i>Eucalyptus</i> spp.) in foothill canyons. Nests in California are mostly in conifers, but may be in a variety of species including willows (<i>Salix</i> sp.), alders (<i>Alnus</i> sp.), oaks and eucalyptus.	Yes	No	No potential to occur in the BSA. The BSA does not contain suitable conifer and tall tree habitats to support this species. Vegetation is herbaceous and lacks vertical structure.
<i>Dryobates nuttallii</i>	Nuttall's woodpecker	BCC	Found in oak woodlands, mixed oak-conifer and oak-riparian woodlands, wooded suburban areas and woodlands near streams and tall, dense chaparral. Small populations extend onto deserts along riparian corridors.	Yes	No	No Potential for Occurrence in the BSA. The species relies on mature oaks, riparian corridors, and woodlands near water for nesting and foraging. None of these features are present in or near the BSA.
<i>Geothlypis trichas sinuosa</i>	salt marsh common yellowthroat (=San Francisco common	BCC	The breeding habitat is divided into three broad types: woody swamp, brackish marsh, and freshwater marsh. For the San Francisco Bay area as a whole, 60% occupy brackish marsh, 20% riparian woodland/swamp, 10% freshwater marsh, 5% salt marsh and 5% upland. This yellowthroat occupies the ecotone between moist and upland situations. Yellowthroat abundance is positively associated with a high percent cover of rushes (<i>Juncus</i> sp.), Peppergrass and Juncus, height of the highest herbaceous plant, and vegetation density over 30 cm. They	No	No	No Potential for Occurrence in the BSA. The BSA lacks brackish marshes, dense herbaceous vegetation, and wetland edge habitats. The disturbed, dry conditions onsite offer no nesting or cover habitat.

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	yellowthroat)		build open-cup nests that are well concealed, typically near the ground in grasses, herbaceous vegetation, cattails (<i>Typha</i> sp.), tules and some shrubs.			
<i>Icterus bullockii</i>	Bullock’s oriole	BCC-BCR	This species is found in western North America, northeastern Mexico, and southwestern Canada. They breed in open deciduous woodlands, scrubland, and riparian corridors. Bullock’s orioles nest from late spring to early summer in willows (<i>Salix</i> spp.), cottonwoods (<i>Populus</i> spp.), sycamores (<i>Platanus</i> spp.), madrones (<i>Arbutus</i> spp.), and mesquite trees (<i>Prosopis</i> spp.) at approximately 10-25’ above ground at habitat edges. It migrates to Mexico and Central America for winter. Can adapt to pecan trees (<i>Carya illinoensis</i>) in orchards, irrigated fields, ranches, parks, and street trees. Its diet includes caterpillars (e.g., <i>Lonomia obliqua</i>) and beetles (e.g., <i>Chrysomela scripta</i>), fruits like mulberries (<i>Morus</i> spp.) and cherries (<i>Prunus</i> spp.), and nectar from flowering plants, using the “gaping” method to extract juices with their brush-like tongues.	Yes	No	No Potential for Occurrence in the BSA. The BSA does not contain tall riparian trees such as willows, cottonwoods, or sycamores required for nesting. The surrounding habitat is not suitable for breeding.
<i>Larus californicus</i>	California gull	BCC Season of Concern: nesting colony	A fairly common colonial nester at alkali and freshwater lacustrine habitats east of the Sierra Nevada and Cascades, and an abundant visitor to coastal and interior lowlands in nonbreeding season. A colonial nester on islets in large interior lakes, either fresh or strongly alkaline. Preferred winter habitats along the coast are sandy beaches, mudflats, rocky intertidal, and pelagic areas of marine and estuarine habitats, as well as fresh and saline emergent wetlands. Inland, frequents lacustrine, riverine, and cropland habitats, landfill dumps, and open lawns in cities.	Yes	No	No Potential for Occurrence in the BSA. The BSA lacks interior lakes, large open water bodies, or foraging areas associated with this species. No nesting or loafing habitat is present.
<i>Larus occidentalis</i>	western gull	BCC	The western gull is a coastal species occurring year-round along the Pacific coast from Washington to Baja California. Breeding colonies are located on isolated coastal bluffs, sea stacks, and offshore islands, where nests are constructed on bare ground or rocky ledges using grasses and debris. Foraging occurs in nearshore marine waters, intertidal zones, and urban areas, with a diet that includes fish, invertebrates, carrion, and refuse. Roosting occurs on coastal beaches, jetties, rooftops, and piers, often in large flocks, with individuals favoring open areas offering clear lines of sight.	Yes	No	No Potential for Occurrence in the BSA. The BSA is not located near coastal marine environments or offshore nesting sites. No suitable foraging or roosting areas exist.
<i>Limnodromus griseus</i>	short-billed dowitcher	BCC	Winters along both coasts of North America, with California’s coastal estuaries and mudflats serving as key habitat during migration and winter. It breeds in subarctic bogs and wet meadows of Canada and Alaska, where it nests in grassy tussocks or mossy ground near water. Foraging occurs in coastal mudflats, estuaries, and salt marshes, where it probes for small invertebrates in soft substrates. Roosting sites are typically on elevated mudbanks, salt marsh islands, or shorelines that provide protection from flooding and disturbance.	No	No	No Potential for Occurrence in the BSA. The BSA lacks coastal estuaries, mudflats, or salt marshes to provide the soft substrates and invertebrate prey used during migration and wintering.
<i>Megascops kennicottii cardonensis</i>	western screech owl	BCC	This species is distributed across western North America, including throughout California, where it inhabits woodlands, riparian areas, and suburban settings with sufficient tree cover. Nests in natural tree cavities or abandoned woodpecker holes, often in sycamores, oaks, or cottonwoods. Roosting typically occurs in cavities or dense foliage.	Yes	No	No Potential for Occurrence in the BSA. The BSA does not support woodland, riparian trees, or cavities required for roosting and nesting. Vegetation is too low growing.
<i>Melospiza melodia graminea</i>	Channel Island song sparrow (Santa Barbara song sparrow)	FDE	Similar requirements of mainland song sparrow. Require moderately dense scrubby vegetation for nesting, escape cover, and foraging; a source of standing or running water or, in dry scrub habitats, constant moisture from fog or dew; adequate light; and exposed ground or leaf litter for foraging. Most numerous in areas of dense shrubs and thickets of giant Coreopsis (<i>Leptosyne gigantea</i>), but they might inhabit grasslands with scattered shrubs. Defend areas of significantly higher vegetation and more shrubs and often locate their nests in shrubbery of densely vegetated gullies. Build heavier nests and locate their nests away from strong prevailing northwest winds and deep within the nest plant.	No	No	No Potential for Occurrence in the BSA. This species has been declared extinct in 1983.
<i>Passerculus sandwichensis beldingi</i>	Belding’s savannah sparrow	BCC SE	They are associated with coastal salt marshes in the upper intertidal marsh zone, which is above flood level except during very high spring tides. They forage on nearby mud flats, shorelines, and rock jetties.	No	No	No Potential for Occurrence in the BSA. The BSA lacks upper salt marsh and mudflat habitat used for nesting and foraging. It is too far inland and hydrologically disconnected from tidal

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						wetlands.
<i>Selasphorus sasin</i>	Allen's hummingbird	BCC	Allen's hummingbirds are found in sparse to dense scrub habitats and sparse to open woodlands. Distribution highly dependent on abundance of nectar sources. They nest on twig or fork of tree or shrub.	Yes	Yes	Low Potential for Occurrence in the BSA. The BSA supports sparse scrub and weedy vegetation, which may provide limited foraging opportunities. The absence of shrubs or trees on the site does not support nesting for this species.
<i>Spinus lawrencei</i>	Lawrence's goldfinch	BCC	A California-endemic species that breeds in dry foothills and arid woodlands from the Coast Ranges to the western Sierra Nevada. Breeding habitat includes oak savannas and open chaparral where nesting occurs in shrubs or low branches of trees. Foraging is focused on native and non-native annuals and grasses. Roosting takes place in trees or dense shrubs within or near breeding and foraging areas, often communally outside of the nesting season.	Yes	Yes	Low Potential for Occurrence in the BSA. The BSA may provide minimal foraging opportunities due to presence of annual grasses and ruderal species. However, nesting and roosting habitat is absent. Occurrence potential limited to foraging opportunities.
<i>Thalasseus elegans</i>	elegant tern	BCC Season of Concern: nesting colony	Preferred habitats are inshore coastal waters, bays, estuaries, and harbors; rarely occurs far offshore, and never inland. Elegant terns primarily feed in shallow ocean waters beyond the turbulent breaker zone, but they may also forage in protected bays and lagoons. They congregate on beaches and tide flats when not feeding. It nests in colonies on undisturbed island beaches. Nest is a shallow scrape in sand.	Yes	No	No Potential for Occurrence in the BSA. The BSA is located inland and does not contain coastal waters, bays, or island beaches used by this species for nesting or foraging.
<i>Toxostoma redivivum</i>	California thrasher	BCC	Nests and forages in chaparral of coastal and foothill areas, as well as in nearby areas with junipers, pines, and oaks with plenty of underbrush, including sagebrush. Usually on or near ground. Breed in nests in bushes or small trees. Nest constructed by both adults.	Yes	No	No Potential for Occurrence in the BSA. Chaparral and dense sage scrub used for nesting and foraging are not present. The ruderal vegetation on site does not offer suitable structure or cover.
<i>Tringa semipalmata</i>	willet	BCC	Found along both coasts of North America, with the western population wintering along the Pacific coast and breeding inland across the western U.S. In California, it is primarily a winter resident of estuaries, mudflats, and sandy beaches. Breeding occurs farther inland in wet meadows and marsh edges where nests are placed on the ground in tall grasses. Foraging occurs in intertidal zones and mudflats. Roosting sites include open flats, salt marsh levees, or sandy beaches, typically near foraging areas	Yes	No	No Potential for Occurrence in the BSA. The BSA lacks estuarine, intertidal, or wet meadow habitat used by this species for wintering or breeding. No foraging or roosting habitat is present.

Legend and Notes
Notes Yes = the BSA is located within the wildlife species' known distribution, elevation range, and/or the BSA contains suitable habitats or conditions to support the species. The wildlife species has the potential to occur within the BSA. Further evaluation is needed. No = the BSA is located outside the wildlife species' known distribution, elevation range, and/or the BSA lacks suitable habitats or conditions to support the species. It is highly unlikely for the wildlife species to have a potential to occur within the BSA. No further evaluation is needed. DPS = distinct population segment: A DPS, or a distinct population segment, is a vertebrate population or group of populations that is discrete from other populations of the species and significant in relation to the entire species. The ESA provides for listing species, subspecies, or distinct population segments of vertebrate species. Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened animals is published in 50 CFR § 17.11. FE = federally listed as endangered: any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range. FT = federally listed as threatened: any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future. FC = federal candidate for listing: candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need. A proposed regulation has not yet been published in the Federal Register for these species. FPE = federally proposed for listing as endangered: a candidate species that has been proposed by USFWS or NMFS for listing as endangered and the proposed rule, but not a final rule, to list has been published in the Federal Register.

Legend and Notes
FPT = federally proposed for listing as threatened: a candidate species that has been proposed by USFWS or NMFS for listing as threatened and the proposed rule, but not a final rule, to list has been published in the Federal Register. FPD = federally proposed for delisting: a species that has been proposed by USFWS or NMFS for delisting (or down listing from endangered to threatened) and the proposed rule to delist has been published in the Federal Register. FDR = federally delisted (recovered): a species that has been removed from the federal list of endangered and threatened species by USFWS or NMFS due to meeting recovery criteria, with the final rule published in the Federal Register. FDE = federally delisted (extinct): a species that has been removed from the federal list of endangered and threatened species by USFWS or NMFS due to extinction, with the final rule published in the Federal Register. <u>California Endangered Species Act (CESA) Listing Codes:</u> the CESA is administered by CDFW. The official listing of <i>Animals of California Declared To Be Endangered or Threatened</i> is contained in the California Code of Regulations, Title 14, § 670.5. Species and subspecies of California native animals are declared to be endangered or threatened as defined by §§ 2062 and 2067 of the Fish and Game Code. SE = state-listed as endangered: "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062). ST = state-listed as threatened: "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067). SCE = state candidate for listing as endangered: a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068). SCT = state candidate for listing as threatened: a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed by publication in the California Regulatory Notice Register as being under review by CDFW for addition to the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068). SCD = state candidate for delisting: a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species to either list. <u>California Department of Fish and Wildlife (CDFW) Designations:</u> For some wildlife species, the CNDDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nesting colonies. For many species of birds, the primary emphasis is on the breeding population in California. For some species which do not breed in California but winter here, emphasis is on wintering range. The SSC designation thus may include a comment regarding the specific protection provided such as nesting or wintering. SSC = species of special concern: a species of special concern is a species, subspecies, or distinct population of an animal (fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; is listed as federally-, but not state-, threatened or endangered; meets the state definition of threatened or endangered, but has not formally been listed; is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status. Fully protected: fully protected animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of a fully protected bird species for the protection of livestock. Lists were created for fish (Fish and Game Code § 5515), amphibians and reptiles (Fish and Game Code § 5050), birds (Fish and Game Code § 3511) and mammals (Fish and Game Code § 4700). WL = watch list: this list includes birds identified in the <i>California Bird Species of Special Concern</i> (Shuford and Gardali, 2008) report and are not on the current CDFW species of special concern list, but were on previous lists and they have not been state-listed under CESA; were previously state or federally listed and now are on neither list; or are on the list of fully protected species. Special Animals List: a species tracked by the CNDDDB, regardless of their legal or protection status. This list is also referred to as the list of “species at risk” or “special status species.”. California Fish and Game Code §§ 4800 – 4810: The mountain lion (genus <i>Puma</i>) is a specially protected mammal under the laws of California. It is unlawful to take, injure, possess, transport, import, or sell any mountain lion or any part or product thereof, except as specifically provided in California Fish and Game Code §§ 4800 - 4810. - Protected by § 460 of the California Code of Regulations [CCR], Title 14. <u>Global Ranking</u> The global rank (G-rank) is a reflection of the overall status of an element throughout its global range. - GX: Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery. - GH: Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct throughout its range. - G1: Critically Imperiled – At very high risk of extinction due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. - G2: Imperiled – At high risk of extinction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. - G3: Vulnerable – At moderate risk of extinction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. - G4: Apparently Secure – At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. - G5: Secure – At very low risk of extinction due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats. - GNR: Unranked – Global rank not yet assessed. <u>State Ranking:</u> The state rank (S-rank) is assigned in much the same way as the global rank, but state ranks refer to the imperilment status only within California’s state boundaries. SX: Presumed Extirpated – Species is believed to be extirpated from the state, and could not be located despite intensive searches of historical sites and other appropriate habitat. There is virtually no likelihood that it will be rediscovered. SH: Possibly Extirpated – Known from only historical records but still some hope of rediscovery. There is evidence that the species may no longer be present in the state, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction. S1: Critically Imperiled – At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

Legend and Notes	
• S2: Imperiled – At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. • S3: Vulnerable – At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. • S4: Apparently Secure – At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of recent declines, threats, or other factors. • S5: Secure – At very low or no risk of extirpation in the state due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats. • SNR: Unranked – State rank not yet assessed.	
<u>United States Fish and Wildlife Service (USFWS) Designations:</u>	
• FSC = federal species of concern: federal species of concern is an informal term. It is not defined in the ESA. The term commonly refers to species that are declining or appear to be in need of conservation. • BCC = bird of conservation concern: a bird of conservation concern is listed in the USFWS’ 2008 <i>Birds of Conservation Concern</i> report. The report identifies species, subspecies, and populations of all migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report are priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing. • BCC-BCR = bird of conservation concern within bird conservation regions: a bird of conservation concern within bird conservation regions, as opposed to being a concern across their entire range.	

4.3. BIOLOGICAL RECONNAISSANCE SURVEY

4.3.1. Vegetation

4.3.1.1. Vegetation Communities Descriptions

Determining vegetation communities is critical for understanding the natural processes of the area and informs potentials for wildlife and plant species to occur. Due to the disturbed nature of the BSA, the Holland vegetation classification was used (1986). This classification relies on more qualitative or descriptive analysis compared to the 2009 Manual of California Vegetation which relies on quantitative measurements (i.e. vegetation transects) (Sawyer et al.). One vegetation community was determined within the site. Description of this community found within is discussed below. A map that illustrates all onsite plant communities is included in **Exhibit V, Vegetation Communities**.

Disturbed - Ruderal

Disturbed/Developed areas are those with a high percentage of non-native vegetation with a low to zero percentage of native vegetation.

The project area is largely dominated by non-native species such as redstem filaree (*Erodium cicutarium*), annual bluegrass (*Poa annua*), and bur clover (*Medicago polymorpha*). Several mature beet (*Beta vulgaris*) plants were found growing along the southern boundary of the project site, adjacent to the dirt road bordering the fence. Small patches of native species including mulefat (*Baccharis salicifolia*) and coyotebrush (*Baccharis pilularis*) were found in the center of the site. Arroyo lupine (*Lupinus succulentus*) was the dominant native species and occurred alongside redstem filaree, annual bluegrass, and bur clover throughout the site. The majority of the project site is open habitat, consisting of herbaceous non-native species and a dirt road.

Tustin Unified School District Educational Center Project

Exhibit V: Vegetation Communities

Legend:

- Project Area
- Disturbed-Ruderal

Scale: 1 inch = 150 feet

0 75 150 Feet

North Arrow

Inset Map: Tustin, Irvine, Orange

4.3.1.2. Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable. These communities may or may not contain special-status plants or their habitat. The literature review and survey found no sensitive vegetation communities within the BSA.

4.3.2. Plant Species

4.3.2.1. General

Plant species observed or detected during the site survey were characteristic of the existing site conditions. A full list of the plant species detected within the Survey Area is included in **Appendix C, Plant & Wildlife Species Observed/Detected Onsite**.

4.3.2.2. Special-Status Species

Of the twenty-two (22) special-status plant species found during the literature review, five (5) have *low* potential for occurrence, and seventeen (17) have *no* potential to occur in the BSA. Because of the survey area's disturbed habitat dominated by non-native vegetation, there is low to no potential for occurrence in the survey area for the sensitive species identified in the literature review. No focused botanical surveys are required.

4.3.3. Wildlife

4.3.3.1. General

Wildlife species observed or detected during the site survey were characteristic of the existing site conditions. A full list of the wildlife species detected within the Survey Area is included in **Appendix C, Plant & Wildlife Species Observed/Detected Onsite**.

Birds

Twenty-three (23) species were observed/detected within the BSA during the reconnaissance field surveys.

- American crow (*Corvus brachyrhynchos*)
- house finch (*Haemorrhous mexicanus*)
- Say's phoebe (*Sayornis saya*)
- killdeer (*Charadrius vociferus*)
- greater yellowlegs (*Tringa melanoleuca*)
- western meadowlark (*Sturnella neglecta*)
- song sparrow (*Melospiza melodia*)
- house sparrow (*Passer domesticus*)
- northern mockingbird (*Mimus polyglottos*)
- black phoebe (*Sayornis nigricans*)
- Cassin's kingbird (*Tyrannus vociferans*)
- American pipit (*Anthus rubescens*)
- rufous-crowned sparrow (*Aimophila ruficeps*)
- mallard (*Anas platyrhynchos*)
- European starling (*Sturnus vulgaris*)
- yellow-rumped warbler (*Setophaga coronata*)
- white-crowned sparrow (*Zonotrichia leucophrys*)
- horned lark (*Eremophila alpestris*)
- American goldfinch (*Spinus tristis*)
- mourning dove (*Zenaida macroura*)
- lesser goldfinch (*Spinus psaltria*)
- pine siskin (*Spinus pinus*)
- Savannah sparrow (*Passerculus sandwichensis*)

Amphibians

One (1) amphibian species, the garden slender salamander (*Batrachoseps major*), was detected visually.

Reptiles:

One (1) reptile species, the western fence lizard (*Sceloporus occidentalis*), was detected visually.

Mammals

No mammals were detected visually or aurally during the survey; however, signs of small mammal presence were observed throughout the site. Burrows consistent with California ground squirrel (*Otospermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) were abundant within the BSA.

4.3.3.2. Sensitive Wildlife Species

None of the thirty-five (35) special-status wildlife species identified in the literature review were present in the BSA, nor did any of the species have a high or moderate potential for occurrence.

SECTION 5. CONCLUSIONS AND RECOMMENDATIONS

5.1. SENSITIVE SPECIES

5.1.1. Sensitive Plants

Out of the twenty-two (22) sensitive plant species identified in the literature review, seven (7) have a low potential to be present in the BSA, while the remaining fifteen (15) have no potential. Focused surveys are only required for federally or state-listed endangered species when they are in bloom to ensure proper identification. Since the two federally listed species from the review have no potential to occur, no additional botanical surveys are needed. The seven (7) species with low potential are considered "sensitive" but are not listed, so further surveys are not required.

5.1.2. Sensitive Wildlife

Of the thirty-five (35) sensitive wildlife species identified in the literature review, five (5) have a low potential to occur due to potential foraging opportunities on site, and thirty (30) have no potential to occur. Although the BSA primarily serves as a migratory pathway and does not provide suitable breeding or nesting habitat for resident or breeding species, it should still be considered as having the potential for nesting. To minimize impacts, vegetation clearing or ground disturbing activities should be conducted during the non-breeding season (September 1 to February 14) in order to limit impacts to nesting birds. If vegetation clearing or ground disturbing activities need to take place during breeding season (February 15 through August 31), in order to remain in compliance with the Migratory Bird Treaty Act, a pre-construction nesting bird survey(s) will be required. The last survey day should be conducted no more than three days prior to the start of work.

The monarch butterfly is a migratory species whose potential for occurrence is limited to time of year. The BSA occurs within the overwintering range in coastal California. As the BSA lacks suitable habitat and the species is dependent on milkweed (*Asclepias* spp.) as a source of food and location where eggs are laid, we recommend including this species in pre-construction surveys. This would involve determining presence or absence of adult butterflies and milkweed, if neither are found, no additional mitigation efforts are needed. If present, a mitigation plan would be necessary to remain compliant with CEQA and could include a restoration plan, avoiding direct impacts to individuals and host plants, or compensatory mitigation.

SECTION 6. REFERENCES

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APPENDIX A
SITE PHOTOGRAPHS



Photo 1: Site overview. View of the site from the southern corner of the parcel looking northwest towards Valencia Ave.



Photo 2: Site overview. View of the site from the western section of the parcel looking east towards Legacy Rd.

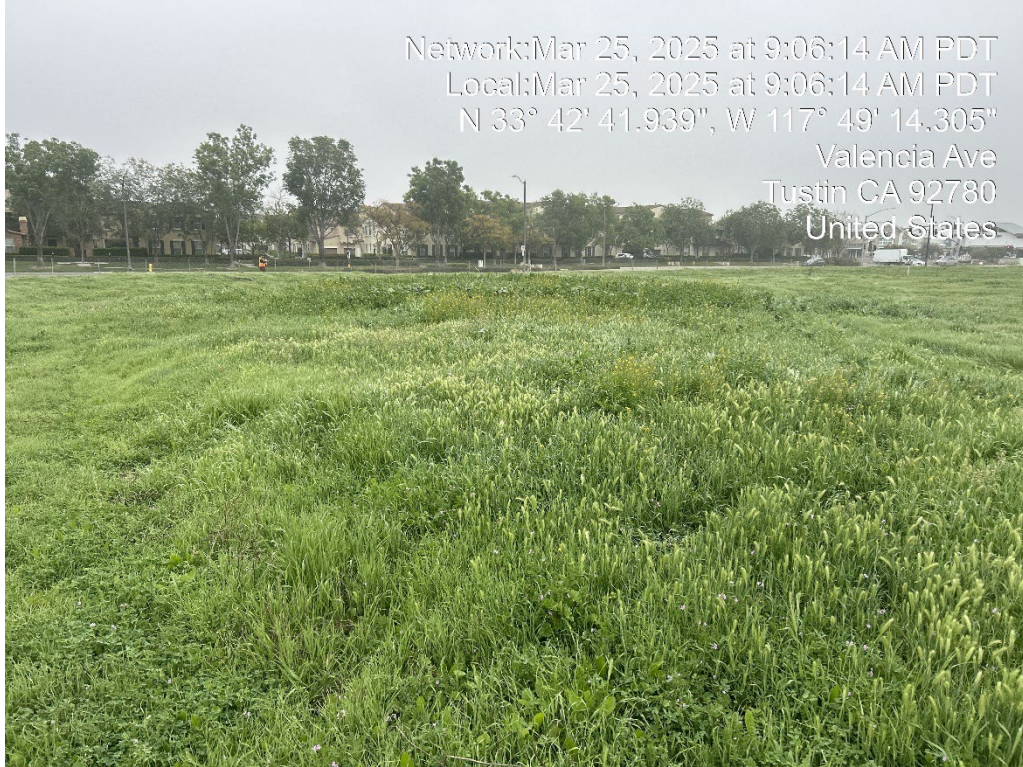


Photo 3: Site overview. View of northern section of the parcel looking north towards Valencia Ave. Non-native wall barley (*Hordeum murinum*) and redstem filaree (*Erodium cicutarium*) shown here.



Photo 4: Site overview. View of the northwest corner of the parcel looking northwest.



Photo 5: Site overview. View of the site from the northwest corner of the parcel looking south along western edge of the parcel.

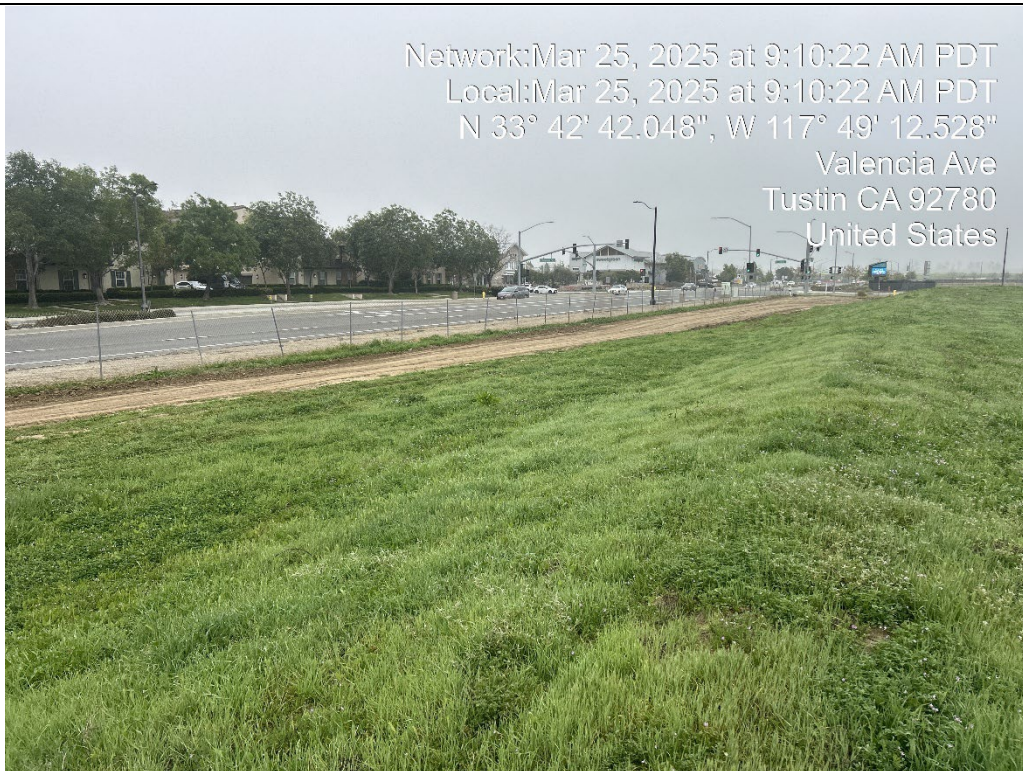


Photo 6: Site overview. View of the northwest boundary of the parcel (Valencia Ave.) facing north. Adjacent dirt road shown here.



Photo 7: Site overview. View of the northwest boundary of the parcel (Valencia Ave.) facing west. Adjacent dirt road shown here.



Photo 8: Site overview. View of the site from the northwest corner looking northeast along the northwest boundary of the parcel (Valencia Ave.) facing west. Adjacent dirt road shown here.



Photo 9: Site overview. View of the site along the northwest boundary of the parcel facing west. Orange cones mark the western boundary.



Photo 10: Site overview. View of the northern corner of the parcel looking east.



Photo 11: Site overview. View of the site along the northeastern boundary of the parcel looking south.



Photo 12: Site overview. View of the southern corner of the site facing west from the southern corner of the parcel.

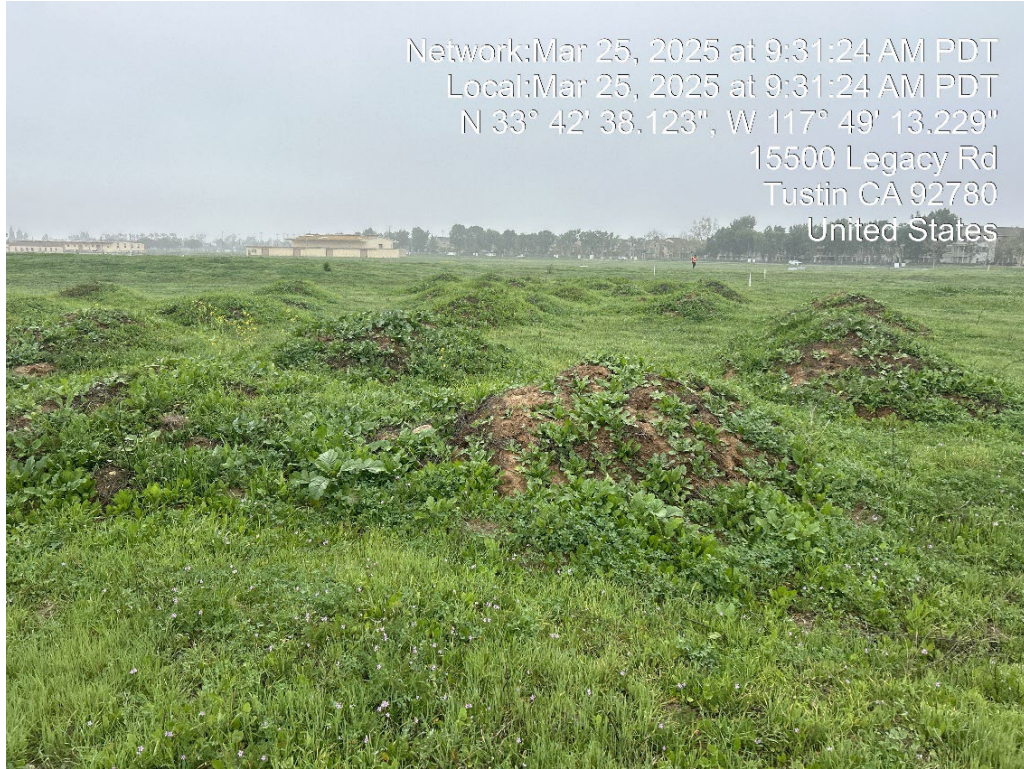


Photo 13: Site overview. View of the vegetated mounds seen in the center of the parcel looking west.



Photo 14: Site overview. View of disturbed soil in the dirt road along the northwestern boundary, facing west. Native common fiddleneck (*Amsinckia intermedia*) shown here.



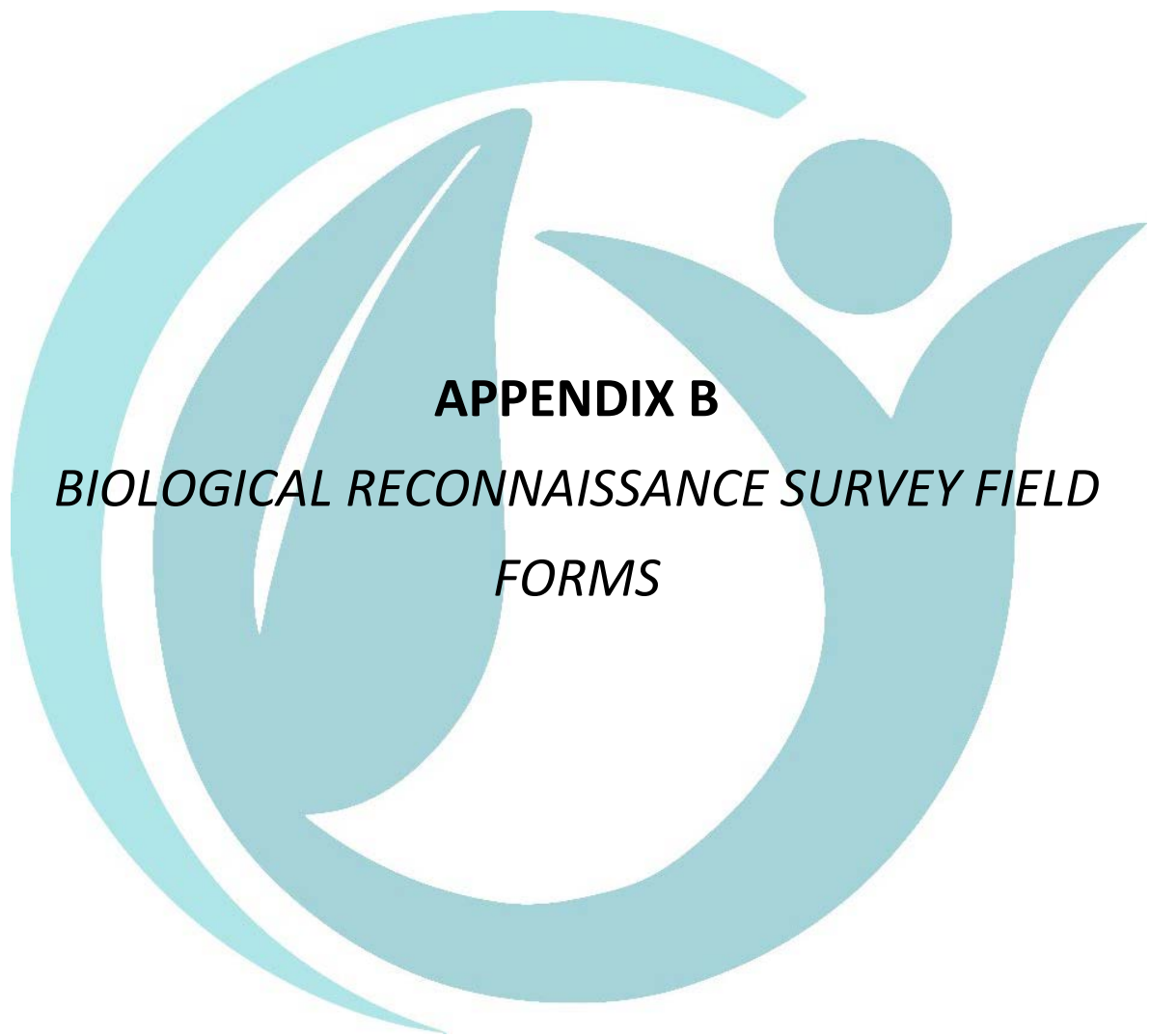
Photo 15: Site overview. Example of open grassy herbaceous layer that dominates the site.



Photo 16: Stormwater inlet adjacent to western edge of parcel, shown here.



Photo 17: Small mammal burrows seen throughout site.



APPENDIX B
BIOLOGICAL RECONNAISSANCE SURVEY FIELD
FORMS



Biological Reconnaissance Survey Field Form

Date: 3/25/25 Project Name: Tustin USD Educational Center

Job #: 7124 Client: Place Works

Surveyor(s): ASH Walker, Austin Isakson

LOCATION DESCRIPTION

Site Address: Legacy Rd. + Valencia Ave. City, State: Tustin, CA

Habitat Types Present: herbaceous non-natives, urban, residential, open space

Current Land Uses: developed, open space

Start (time) 7:20 AM

Temp (°F) 56° F

Cloud Cover (%) 100%

Precipitation Ø

Wind (mph) 1 mph

End (time) 10:00 AM

Temp (°F) 65° F

Cloud Cover (%) 100%

Precipitation Ø

Wind (mph) 2 mph

NOTES: (Nest locations and species behavioral notes, disturbances, habitat conditions, etc.)

- Habitat Assessment:

- Small mammal burrows at moderate → high density throughout site
- Compacted dirt road along NE + SE boundary
- Site is mostly comprised of herbaceous non-natives, mostly open area

- Wildlife Survey:

- Almost all wildlife observations were birds, w/ one amphibian species and one reptile species also observed
- Mammal presence was only identified by sign (burrows)

- Other:

- Grade 6-12 magnet school adjacent to legacy rd = high volume traffic during morning hours
- Site is adjacent to open area w/ 2 large hangars on NW + SW boundary.

Biological Reconnaissance Survey Field Form

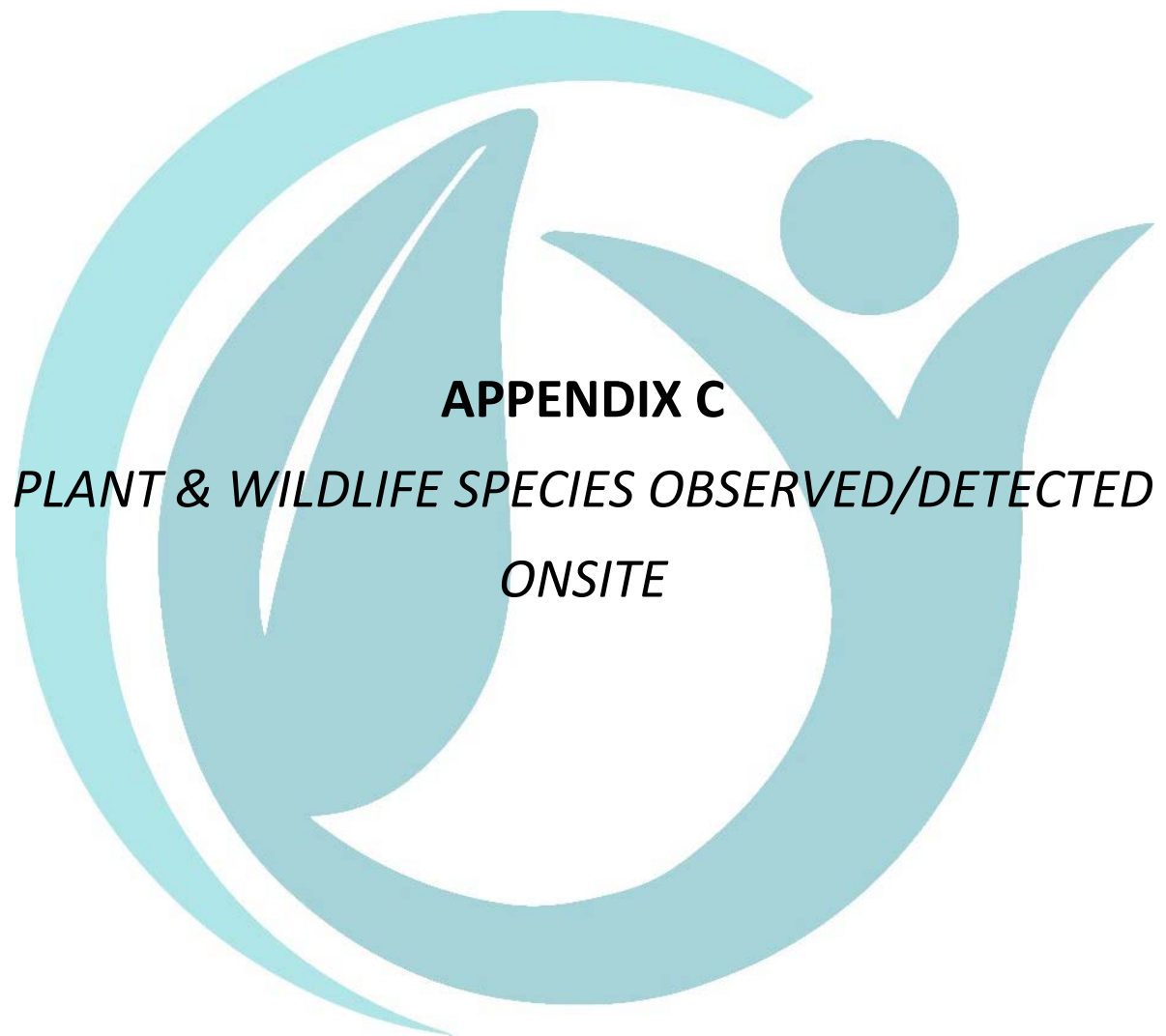
* = Non-native

PLANT SPECIES OBSERVATIONS

[illegible][illegible]

Biologist Signature:

Date:



APPENDIX C
PLANT & WILDLIFE SPECIES OBSERVED/DETECTED
ONSITE

Scientific Name	Common Name
EUDICOTS	
AMARANTHACEAE	PIGWEED FAMILY
* <i>Salsola tragus</i>	Russian thistle
* <i>Atriplex semibaccata</i>	berry saltbush
* <i>Amaranthus blitoides</i>	prostrate pigweed
* <i>Beta vulgaris</i>	beet
ASTERACEAE	SUNFLOWER FAMILY
* <i>Sonchus oleraceus</i>	common sow-thistle
* <i>Senecio vulgaris</i>	common groundsel
* <i>Helminthotheca echinoides</i>	bristly oxtongue
<i>Baccharis salicifolia</i>	mulefat
<i>Baccharis pilularis</i>	coyote brush
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia intermedia</i>	common fiddleneck
BRASSICACEAE	MUSTARD FAMILY
* <i>Hirschfeldia incana</i>	shortpod mustard
* <i>Brassica nigra</i>	black mustard
* <i>Brassica rapa</i>	field mustard
CONVOLVULACEAE	MORNING GLORY FAMILY
* <i>Convolvulus arvensis</i>	field bindweed
FABACEAE	LEGUME FAMILY
* <i>Medicago polymorpha</i>	bur clover
* <i>Melilotus indicus</i>	small memilolot
<i>Lupinus succulentus</i>	arroyo lupine
GERANIACEAE	GERANIUM FAMILY
* <i>Erodium cicutarium</i>	redstem filaree
MALVACEAE	MALLOW FAMILY
* <i>Malva parviflora</i>	cheeseweed mallow
PAPAVERACEAE	POPPY FAMILY
* <i>Fumaria parviflora</i>	fineleaf fumitory
TAMARICACEAE	TAMARISK FAMILY
* <i>Tamarix ramosissima</i>	saltcedar
MONOCOTS	
Arecaceae ARECACEAE	PALM FAMILY
* <i>Washingtonia robusta</i>	Mexican fan palm
POACEAE	GRASS FAMILY
* <i>Hordeum murinum</i>	wall barley
* <i>Bromus madritensis</i>	red brome
* <i>Avena barbata</i>	slender oat
* <i>Poa annua</i>	poa annua
Legend	
*= Non-native/ invasive species	

Scientific name	Common Name
Amphibians	
<i>Batrachoseps major</i>	garden slender salamander
Reptiles	
<i>Sceloporus occidentalis</i>	western fence lizard

Mammals	
Class Mammalia	small mammal spp.
Birds	
<i>Aimophila ruficeps</i>	rufous-crowned sparrow
<i>Anas platyrhynchos</i>	mallard
<i>Anthus rubescens</i>	American pipit
<i>Charadrius vociferus</i>	killdeer
<i>Corvus brachyrhynchos</i>	American crow
<i>Eremophila alpestris</i>	horned lark
<i>Haemorhous mexicanus</i>	house finch
<i>Melospiza melodia</i>	song sparrow
<i>Mimus polyglottos</i>	northern mockingbird
<i>Passer domesticus</i>	house sparrow
<i>Passerculus sandwichensis</i>	savannah sparrow
<i>Sayornis nigricans</i>	black phoebe
<i>Sayornis saya</i>	Say's phoebe
<i>Setophaga coronata</i>	yellow-rumped warbler
<i>Spinus pinus</i>	pine siskin
<i>Spinus psaltria</i>	lesser goldfinch
<i>Spinus tristis</i>	American goldfinch
<i>Sturnella neglecta</i>	western meadowlark
* <i>Sturnus vulgaris</i>	European starling
<i>Tringa melanoleuca</i>	greater yellowlegs
<i>Tyrannus vociferans</i>	Cassin's kingbird
<i>Zenaida macroura</i>	mourning dove
<i>Zonotrichia leucophrys</i>	white-crowned sparrow
*=Non-native or invasive species	



APPENDIX D
*USDA NATURAL RESOURCES CONSERVATION
SERVICE WEB SOIL SURVEY*



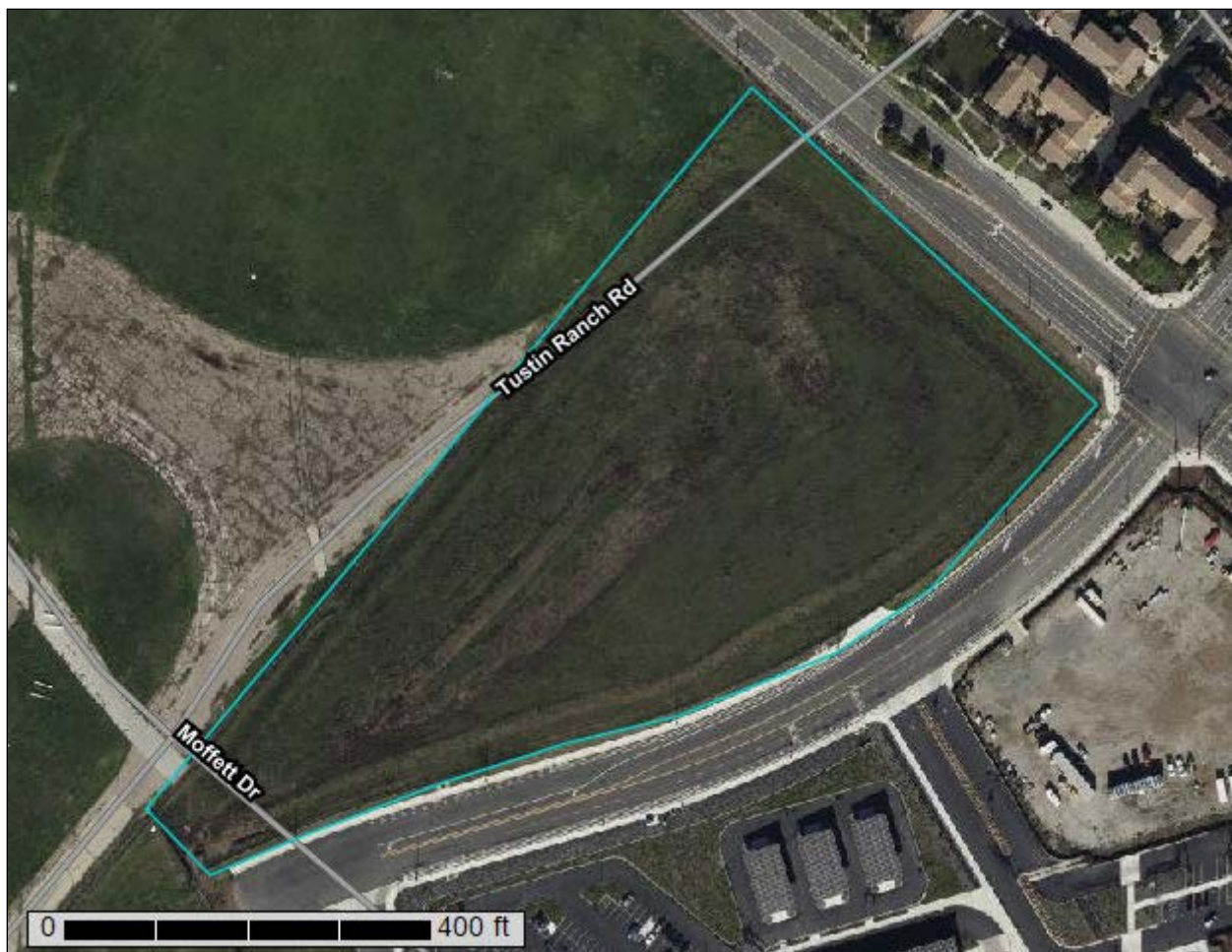
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Orange County and Part of Riverside County, California



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County and Part of Riverside County, California
Survey Area Data: Version 18, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 17, 2023—Feb 8, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
140	Chino silty clay loam, drained	8.6	100.0%
Totals for Area of Interest		8.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Orange County and Part of Riverside County, California

140—Chino silty clay loam, drained

Map Unit Setting

National map unit symbol: hcmj
Elevation: 30 to 750 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 63 to 65 degrees F
Frost-free period: 320 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Chino and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chino

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 24 inches: silty clay loam
C1 - 24 to 37 inches: silty clay loam
C2 - 37 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C
Ecological site: R019XG911CA - Loamy Fan
Hydric soil rating: No

Minor Components

Bolsa, silty clay loam

Percent of map unit: 10 percent

Landform: Alluvial fans

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Omni, clay

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Mocho, loam

Percent of map unit: 3 percent

Landform: Alluvial fans

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Sorrento, clay loam

Percent of map unit: 2 percent

Landform: Fan remnants

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

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