

**Appendix B:
Biological Resources Assessment**

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**Biological Resources Assessment
Park Avenue and Alabama Street Warehouse Project
City of Redlands, San Bernardino County, California**

Prepared for:

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December 14, 2018

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Table of Contents

Section 1: Introduction	1
1.1 - Project Site Location	1
1.2 - Project Description	1
Section 2: Methodology	9
2.1 - Literature Review	9
2.2 - Field Survey	10
Section 3: Existing Conditions	19
3.1 - Environmental Setting	19
3.2 - Soils	19
3.3 - Vegetation Communities and Land Cover Types	19
3.4 - Wildlife	20
3.5 - Trees	20
3.6 - Jurisdictional Waters and Wetlands	20
Section 4: Sensitive Biological Resources	23
4.1 - Special-status Plant Species	23
4.2 - Special-status Wildlife Species	23
4.3 - Nesting Birds.....	24
4.4 - Wildlife Movement Corridors.....	25
4.5 - Jurisdictional Waters and Wetlands	25
Section 5: Regulatory Framework	27
5.1 - Federal Endangered Species Act	27
5.2 - Migratory Bird Treaty Act	27
5.3 - Bald and Golden Eagle Protection Act.....	27
5.4 - Executive Order 13112—Invasive Species.....	28
5.5 - Clean Water Act Section 404	28
5.6 - Clean Water Act Section 401	28
5.7 - California Fish and Game Code	29
5.8 - California Porter-Cologne Water Quality Control Act	30
5.9 - Local Ordinances	30
Section 6: Impact Analysis and Recommendations	31
6.1 - Special-status Plant Species and Communities	31
6.2 - Special-status Wildlife Species	31
6.3 - Nesting Birds.....	31
6.4 - Wildlife Movement Corridors.....	31
6.5 - Jurisdictional Waters and Wetlands	31
Section 7: Certification	33
Section 8: References	35
Appendix A: Site Photographs	
Appendix B: Special-Status Species Tables	
B.1 - Special-status Plant Species Table	

B.2 - Special-status Wildlife Species Table

Appendix C: Literature Review

- C.1 - CNDDDB Inventory Results
- C.2 - CNPS Inventory Results
- C.3 - Soil Search Results

List of Exhibits

Exhibit 1: Regional Location Map.....3

Exhibit 2: Local Vicinity Map, Aerial Base5

Exhibit 3: Site Plan.....7

Exhibit 4: Soils Map11

Exhibit 5: CNDDDB Map (3 Mile Radius)13

Exhibit 6: USFWS National Wetlands Inventory Map.....15

Exhibit 7: Plant Communities.....21

SECTION 1: INTRODUCTION

At the request of the City of Redlands, FirstCarbon Solutions (FCS) conducted a Biological Resources Assessment (BRA) to document the existing biological conditions and analyze any potential impacts to biological resources within the proposed project located in the City of Redlands in San Bernardino County, California (Exhibit 1).

Analysis of the biological resources associated with the project site began with a thorough review of relevant literature followed by a field review to determine potential impacts to special-status species or other sensitive biological resources. The purpose of this assessment is to describe on-site vegetation communities, identify potential jurisdictional waters of the United States, and assess the potential for occurrence of special-status plant and wildlife species within the project site.

Based upon the literature review, the field review, and implementation of the proposed mitigation measures, no sensitive species or waters of the United States will be impacted by this project.

1.1 - Project Site Location

The approximately 7.77-acre project site is located within Redlands, California. The project site is south of the Interstate 10 (I-10) Freeway, at West Park Avenue and Alabama Street (Exhibit 1). The project site is situated in the East Valley Corridor Specific Plan Area, which is primarily made up of industrial and commercial land uses. The project site is dominated by ruderal vegetation. Surrounding land uses include a retail center to the north, and vacant land to the east, and commercial/industrial uses to the west and south. The 500-foot buffer surrounding the project site is primarily made up of roadways and commercial, industrial, and retail uses (Exhibit 2). Access to the site is achieved via the I-10 Freeway.

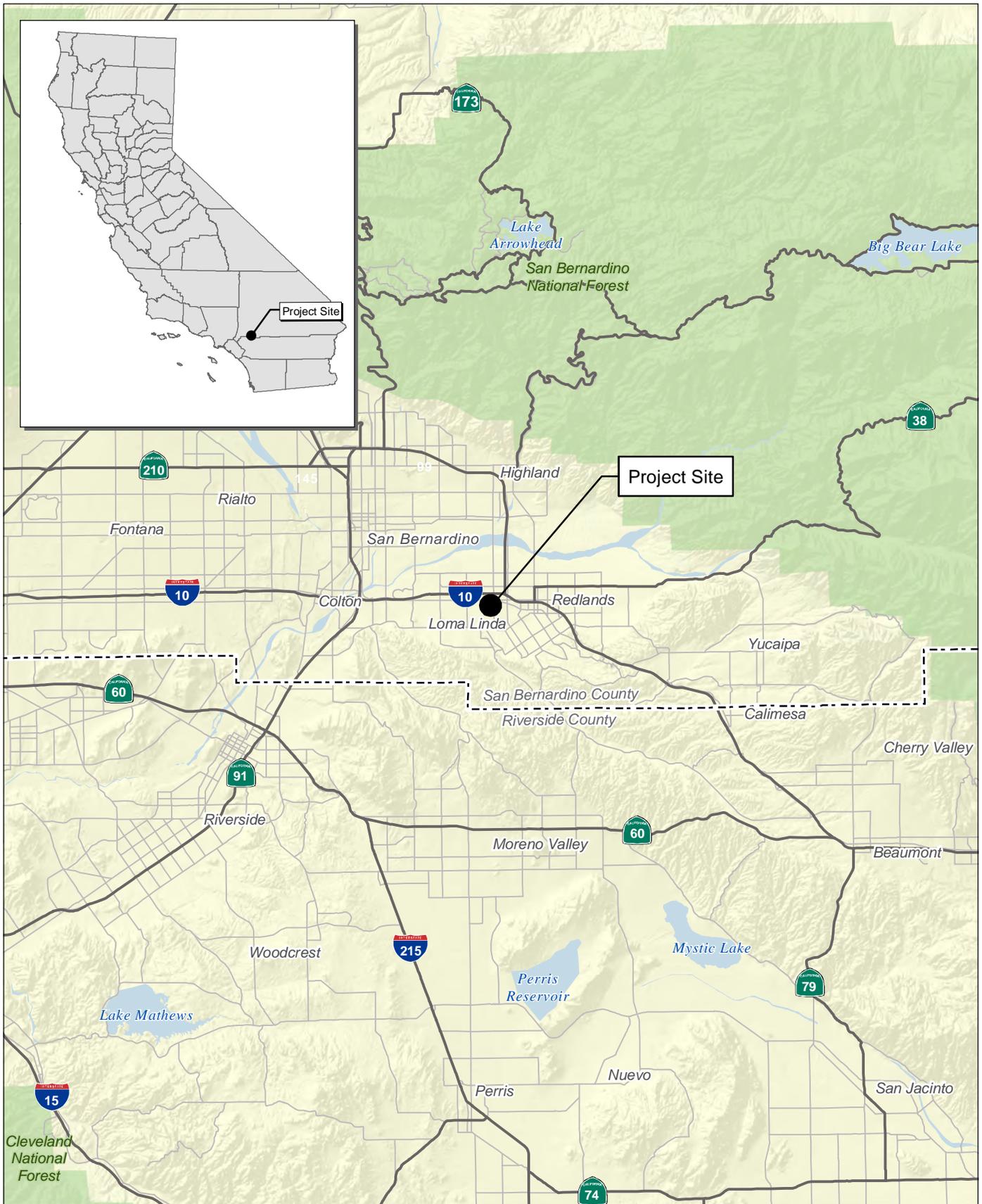
The City of Redlands contains a variety of biological communities that provide habitat for both rare and common species. Redlands includes a number of natural communities including riparian forest, Riversidean alluvial fan sage scrub, oak woodland, woodland, and scrub communities that support the southwestern willow flycatcher (*Empidonax traillii extimus*), Santa Ana River woollystar (*Eriastrum densifolium* ssp. *Sanctorum*), least Bell's vireo (*Vireo bellii pusillus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), slender-horned spineflower (*Dodecahema leptoceras*), and coastal California gnatcatcher (*Polioptila californica californica*) (City of Redlands General Plan 2017).

1.2 - Project Description

The project will divide one parcel of approximately 7.77 acres of land into two legal parcels; one parcel at 3.62 acres, and one parcel at 4.14 acres in size to construct two concrete tilt-up industrial warehouses, totaling 149,000 square feet in size. Building One will encompass 73,500 square feet, and Building Two will encompass 80,500 square feet. Each building will contain two ground floor office areas located at either end of the warehouse totaling 5,000 square feet and a 2,500 square foot mezzanine. The total proposed building area will be 154,000 square feet. Public improvements will be performed as needed on the adjacent right-of-way. There will be a total of 239 parking

Introduction

spaces on-site in addition to a fire lane and bicycle racks. Landscaping outside of the building will total 49,128 square feet. Building One will include 70 skylights and Building Two will contain 76 skylights. Twelve loading docks will be located alongside the northern middle portion of each building, and loading spaces will be paved with concrete. Vehicular access to the project site will be available from two points on Park Avenue, and one point on Alabama Street. (Exhibit 3).



Source: Census 2000 Data, The CaSIL

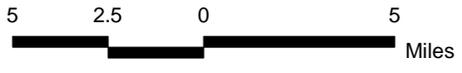
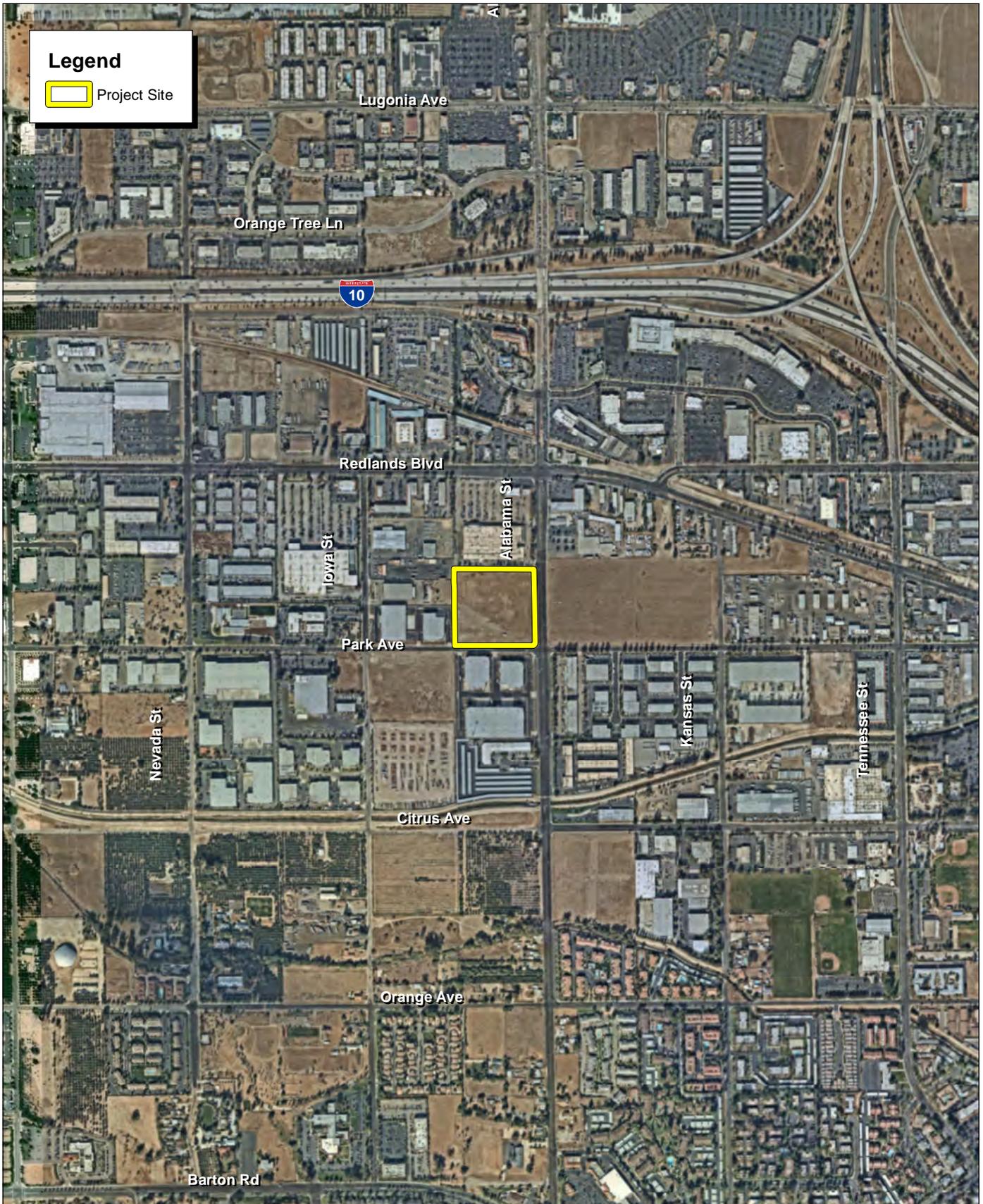


Exhibit 1 Regional Location Map

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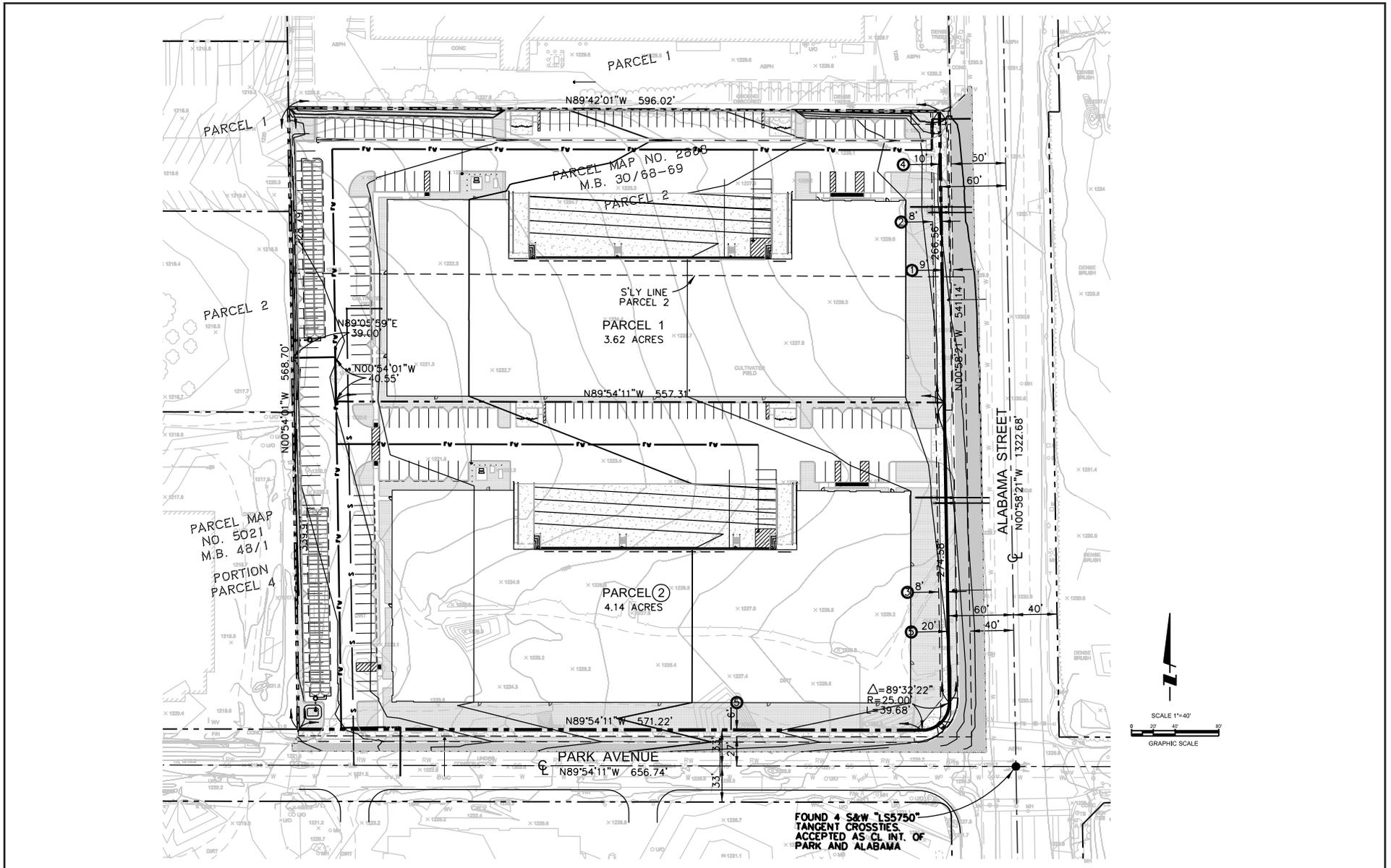
Source: ESRI Aerial Imagery.

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Exhibit 2
Local Vicinity Map
Aerial Base

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Source: Valued Engineering, Inc., April 2018.

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SECTION 2: METHODOLOGY

The survey area for the literature and field survey included the approximately 7.77-acre project site as well as a survey buffer area that extended 500 feet from the project site boundary in order to consider the potential for impacts on biological communities in the immediate vicinity of the project site.

For the purpose of this report, special-status species refers to all species formally listed as threatened and/or endangered under Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA); California Species of Special Concern; designated Fully Protected by CDFW; given a status of 1A, 1B, or 2 by the California Native Plant Society (CNPS); or designated special-status by city, county, or other regional planning documents. Federal and state listed threatened and/or endangered species are legally protected under FESA/CESA. The designated special-status species listed by CNPS have no direct legal protection, but they require an analysis of the significance of potential impacts under California Environmental Quality Act (CEQA) guidelines.

2.1 - Literature Review

Prior to performing the field survey, a literature review was conducted of the environmental setting of the project site. This included a review of the most recent records of the CNDDDB managed by the CDFW (2015) and the CNPS's Electronic Inventory of Rare and Endangered Vascular Plants of California (2015) for the Redlands, California USGS 7.5-minute topographic quadrangle map (1978). These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, proposed endangered or threatened species, California State Species of Special Concern, or otherwise sensitive species or habitats that may occur within or in the immediate vicinity of the project site. The CNDDDB Geographic Information System database was utilized, together with ArcGIS software, to map recorded occurrences of special status species within a 5-mile radius of the project site. The RCIP Conservation Summary Report Generator was queried determine to MSHCP "planning species" potentially occurring on-site and potential survey requirements for the project site. The results of the literature review are provided in Appendix C: Literature Review to this report.

The literature reviewed also included the United States Department of Agriculture (USDA 1971) Soil Survey for the project site.

Federal Register listings, survey protocols, and species data published by the United States Fish and Wildlife Service (USFWS) (1993) and CDFW (2015) were reviewed in conjunction with anticipated federal and State listed species potentially occurring in the vicinity.

The literature review provides a baseline from which to evaluate the biological resources potentially occurring on the project site as well as the surrounding area.

2.1.1 - Topographic Maps and Aerial Photographs

An FCS biologist reviewed current USGS 7.5-minute topographic quadrangle maps and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate

vicinity. Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations (USGS 1986). Aerial photographs provide a perspective of the most current site conditions relative to on-site and off-site land use, plant community locations, and potential locations of wildlife movement corridors.

2.1.2 - Soil Surveys

The USDA has published soil surveys that describe the soil series (a group of soils with similar profiles) occurring within a particular area (USDA 1980). These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These series are further subdivided into soil mapping units that provide specific information regarding soil characteristics. Many special-status plant species have a limited distribution based exclusively on soil type. Therefore, pertinent USDA soil survey maps were reviewed to determine the existing soil mapping units within the project site and to establish if soil conditions on-site are suitable for any special-status plant species (Soil Survey Staff 2017) (Exhibit 4).

2.1.3 - Special-status Species Database Search

An FCS biologist compiled a list of threatened, endangered, and otherwise special-status species previously recorded within the general project vicinity. The list was based on a search of the CDFW's CNDDDB (2018), a special-status species and plant community account database, and the CNPS's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California database (CNPS 2018) for the Redlands USGS 7.5-minute topographic quadrangle map.

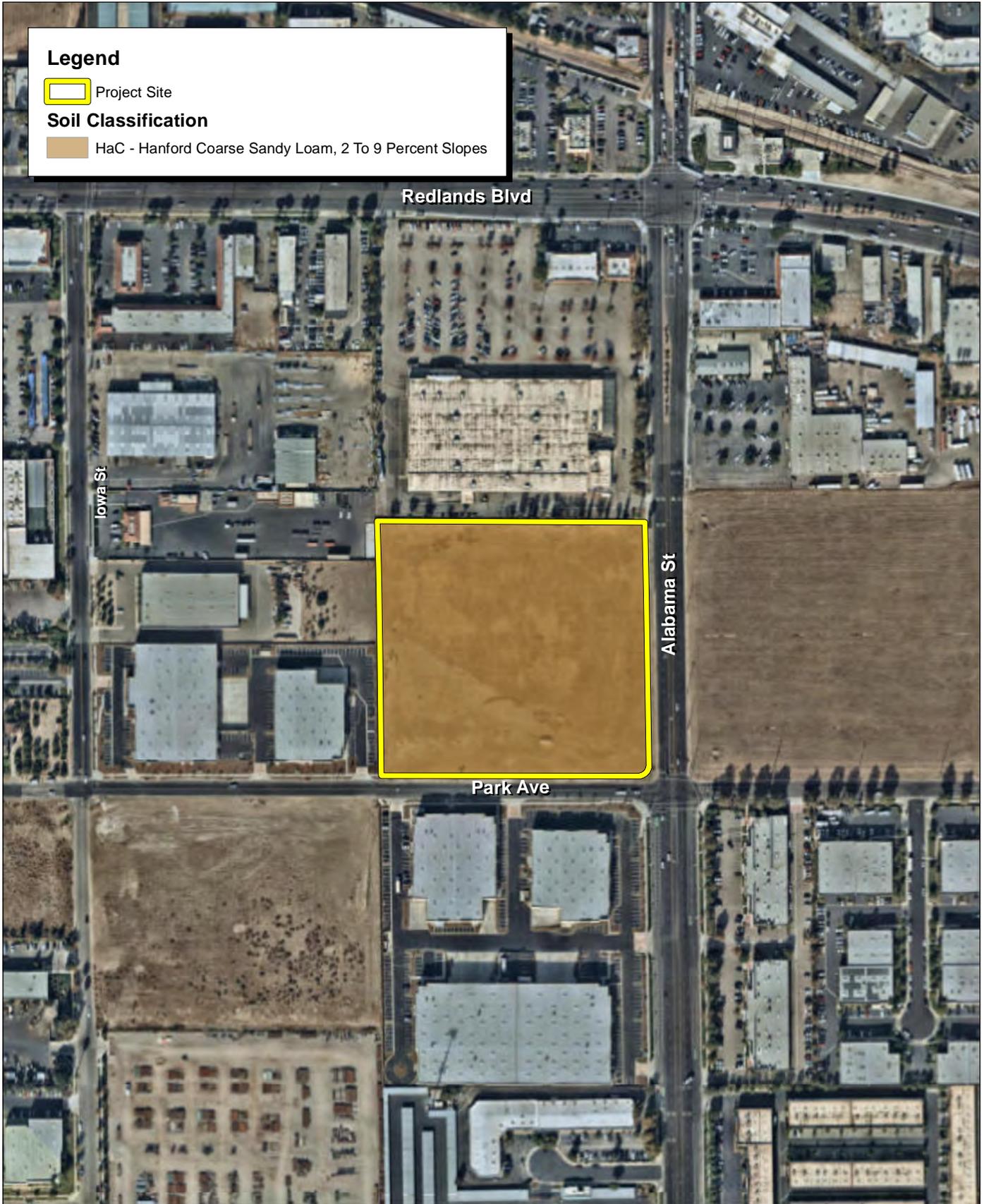
The CNDDDB Biogeographic Information and Observation System (BIOS 5; CDFW 2005) database was used to determine the distance between known recorded occurrences of special-status species and the project site (Exhibit 5).

2.1.4 - Jurisdictional Waters and Wetlands

Prior to conducting the field survey, FCS biologists reviewed USGS topographic maps, USFWS "blue line maps," and aerial photography to identify any potential natural drainage features and water bodies. In general, all surface drainage features identified as blue-line streams on USGS and USFWS maps and linear patches of vegetation are expected to exhibit evidence of flows and considered potentially subject to State and federal regulatory authority as "waters of the United States and/or State." A preliminary assessment was conducted to determine the location of any existing drainages and limits of project-related grading activities, to aid in determining if a formal delineation of waters of the United States or State is necessary (Exhibit 6).

2.2 - Field Survey

FCS Biologist Vanessa Welsh conducted the reconnaissance-level field survey on November 27, 2018, from 1:30 p.m. to 2:15 p.m. Weather conditions during the field survey were sunny, with partially cloudy skies and a temperature of 76 degrees Fahrenheit. There was one incident of rain within the past 10 days of the field survey.



Source: ESRI Aerial Imagery. USDA Soils Data, Southwest San Bernardino.



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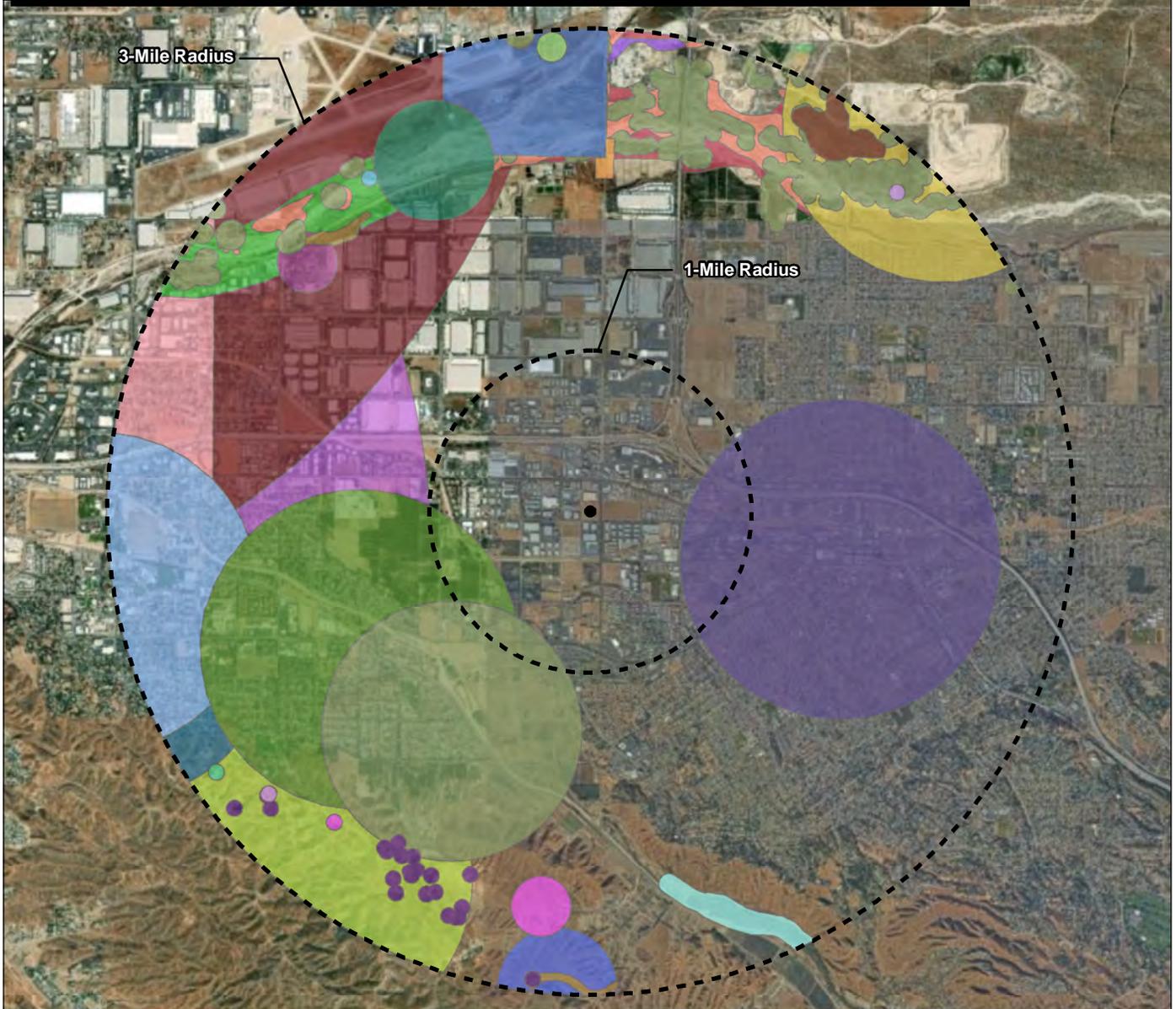
Legend

● Project Site

Common Name - Scientific Name

- Busck's gallmoth - *Carolella busckana*
- California glossy snake - *Arizona elegans occidentalis*
- California horned lark - *Eremophila alpestris actia*
- Crotch bumble bee - *Bombus crotchii*
- Delhi Sands flower-loving fly - *Rhaphiomidas terminatus abdominalis*
- Los Angeles pocket mouse - *Perognathus longimembris brevinasus*
- Nevin's barberry - *Berberis nevinii*
- Parish's bush-mallow - *Malacothamnus parishii*
- Parry's spineflower - *Chorizanthe parryi* var. *parryi*
- Riversidian Alluvial Fan Sage Scrub - *Riversidian Alluvial Fan Sage Scrub*
- San Bernardino kangaroo rat - *Dipodomys merriami parvus*
- Santa Ana River woollystar - *Eriastrum densifolium* ssp. *sanctorum*
- Southern Sycamore Alder Riparian Woodland - *Southern Sycamore Alder Riparian Woodland*
- Stephens' kangaroo rat - *Dipodomys stephensi*
- burrowing owl - *Athene cunicularia*

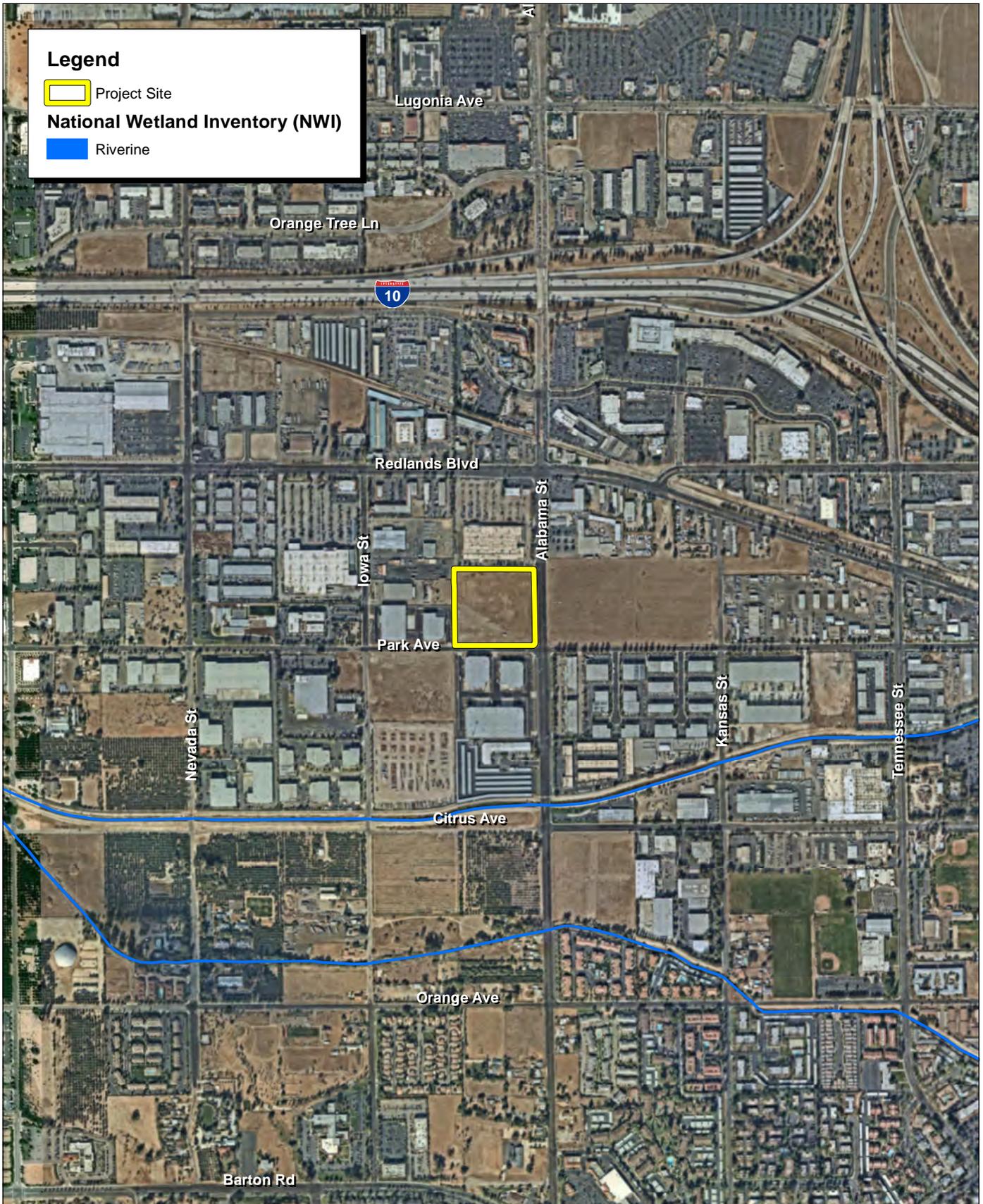
- coast horned lizard - *Phrynosoma blainvillii*
- coastal California gnatcatcher - *Poliophtila californica californica*
- coastal whiptail - *Aspidoscelis tigris stejnegeri*
- least Bell's vireo - *Vireo bellii pusillus*
- marsh sandwort - *Arenaria paludicola*
- northwestern San Diego pocket mouse - *Chaetodipus fallax fallax*
- orange-throated whiptail - *Aspidoscelis hyperythra*
- pallid bat - *Antrozous pallidus*
- pocketed free-tailed bat - *Nyctinomops femorosaccus*
- salt marsh bird's-beak - *Chloropyron maritimum* ssp. *maritimum*
- slender-horned spineflower - *Dodecahema leptoceras*
- smooth tarplant - *Centromadia pungens* ssp. *laevis*
- southern California rufous-crowned sparrow - *Aimophila ruficeps canescens*
- steelhead - southern California DPS - *Oncorhynchus mykiss irideus* pop. 10
- western mastiff bat - *Eumops perotis californicus*
- western yellow bat - *Lasiurus xanthinus*
- western yellow-billed cuckoo - *Coccyzus americanus occidentalis*



Source: ESRI Aerial Imagery, California Department of Fish and Wildlife CNDDDB GIS Data, November 2018.



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Legend

- Project Site
- National Wetland Inventory (NWI)**
- Riverine

Source: ESRI Aerial Imagery. USFWS NWI Data.

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Exhibit 6
USFWS National
Wetlands Inventory Map

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The field survey was conducted on foot during daylight hours. The object of the survey was not to extensively search for every species potentially occurring within the project site but to ascertain general site conditions and identify potentially suitable habitat areas for any special-status plant and wildlife species that may be on-site as indicated by the literature review. The field survey also ground-truthed any special-status or unusual biological resources identified during the literature review. Special attention was paid to any potential sensitive habitats or areas on-site that could potentially support special-status floral and faunal species. Additional parameters of investigation included general habitat, soil conditions, presence of indicator species, slope, aspect, and hydrology.

2.2.1 - Plant Species

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Any uncommon and less familiar plants were identified in a similar fashion augmented by the use of taxonomical guides, such as Clarke et al. (2007), Hitchcock (1971), McAuley (1996), and Munz (1974). Taxonomic nomenclature used in this study follows Baldwin et al. (2012). Common plant names, when not available from Baldwin et al. (2012), were taken from other regionally specific references.

2.2.2 - Wildlife Species

Wildlife species detected during the survey by sight, calls, tracks, scat, or other signs were recorded in a field notebook. Notations were made regarding suitable habitat for those special-status species determined to potentially occur within the project site (CDFW 2018). Appropriate field guides were used to assist with species identification during surveys, such as Peterson (2010), Reid (2006), and Stebbins (2003).

2.2.3 - Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. Urbanization and the resulting fragmentation of open space areas create isolated “islands” of wildlife habitat, forming separated populations. Corridors act as an effective link between populations.

The project site was evaluated for evidence of a wildlife movement corridor during the field survey. However, the scope of the BRA did not include a formal wildlife movement corridor study utilizing track plates, camera stations, scent stations, or snares. Therefore, the focus of this study was to determine if the change of current land use of the project site may have significant impacts on the regional movement of wildlife. These conclusions are based on the information compiled during the literature review, including aerial photographs, USGS topographic maps and resource maps for the vicinity, the field survey conducted, and professional knowledge of desired topography and resource requirements for wildlife potentially utilizing the project site and vicinity.

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SECTION 3: EXISTING CONDITIONS

3.1 - Environmental Setting

The project site is located in the City of Redlands on a highly disturbed and currently vacant lot that is bound on the south and east by roadways. No undisturbed habitat or natural lands exist within the site nor within the immediately surrounding parcels. The project site contains ruderal vegetation and some ornamental tree species in the adjacent lots. Trash and debris is scattered throughout the site. A homeless encampment that may or may not be occupied was found along the block wall on the northern portion of the site. T

There are no designated refuges or conservation areas within the project site or the 500-foot buffer area. In addition, the site is not located within a Multiple Species Habitat Conservation Plan (MSHCP).

3.2 - Soils

The soils on-site appear to be made up primarily of fill material. The literature search identified that the site made up of Hanford coarse sandy loam (HeC2) (Exhibit 4). Hanford coarse sandy loam has slopes of 2 to 8 percent and rapid permeability. This soil series consists of deep, well-drained soils formed from granitic sources, alluvial fans, and floodplains.

3.3 - Vegetation Communities and Land Cover Types

A search of the USFWS Critical Habitat Portal revealed that the project does not contain identified critical habitat for any federally listed species (USFWS 2011). The project will have no impacts on any USFWS designated Critical Habitat, and there are no designated refuges within the project boundaries. The predominant natural vegetation community in the project area is disturbed, ruderal vegetation.

The bulk of the project site appears to be covered with fill dirt. The site's western border has a landscaped buffer consisting of ornamental trees and irrigation infrastructure. The remainder of the site has a sparse cover of annual grasses, native annual forbs, and invasive species including Russian thistle (*Salsola tragus*). There are no trees on-site. The project site is composed of the Ruderal/Developed/Disturbed land cover type, which is described in detail below. The 500-foot buffer area surrounding the project site is largely composed of paved roadways, commercial and retail development, and ornamental landscaping associated with surrounding development.

The literature search for the project identified the potential for thread-leaved brodiaea (*Brodiaea filifolia*), slender-horned spineflower (*Dodecahema leptoceras*), bird-foot checkerbloom (*Sidalcea pedata*), Nevin's barberry (*Berberis nevinii*), marsh sandwort (*Arenaria paludicola*), Gambel's watercress (*Nasturtium gambelii*), salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) and Santa Ana River woollystar to exist in the vicinity of the project site (Appendix B). The habitat on the project site, given the likelihood that the bulk of the site is disturbed and covered with fill dirt, is unlikely to provide even marginally suitable habitat for these plant species. No sensitive, threatened, or endangered plant species were found on the site during the field survey.

A complete description of the community or land cover type is based on Holland (1986), and the extent to which it occurs on and within the project and 500-foot buffer area is provided below (Exhibit 7).

3.3.1 - Ruderal/Developed/Disturbed Land

Ruderal/Developed/Disturbed Land is classified as areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association, but continues to retain a soil substrate. Typically, vegetation, if present, is nearly exclusively composed of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance, or shows signs of past or present animals usage that removes any capacity of providing viable natural habitat for uses other than dispersal. Examples of disturbed land include areas that have been graded, repeatedly cleared for fuel management purposes, and/or experienced repeated use that prevents natural vegetation, recently graded firebreaks, graded construction pads, construction staging areas, off-road vehicle trails, and old home sites. Vegetation within this plant community varies based on the type and frequency of disturbance.

The dominant plant species observed within the project site include Tumbleweed (*Amaranthus albus*), bristly oxtongue (*Helminthotheca echioides*), Mustard (*Brassica tournefortii*), cheeseweed (*Malva parviflora*), Jimsonweed (*Datura wrightii*), Foxtail barley (*Hordeum murinum*), Foxtail brome (*Bromus madriensis* ssp. *rubens*), and Ripgut brome (*Bromus diandrus*) among others, including Russian thistle.

Because the site is considered disturbed, it offers little suitable habitat for both special-status wildlife and plants. Habitat quality for sensitive plants is considered to be extremely low.

3.4 - Wildlife

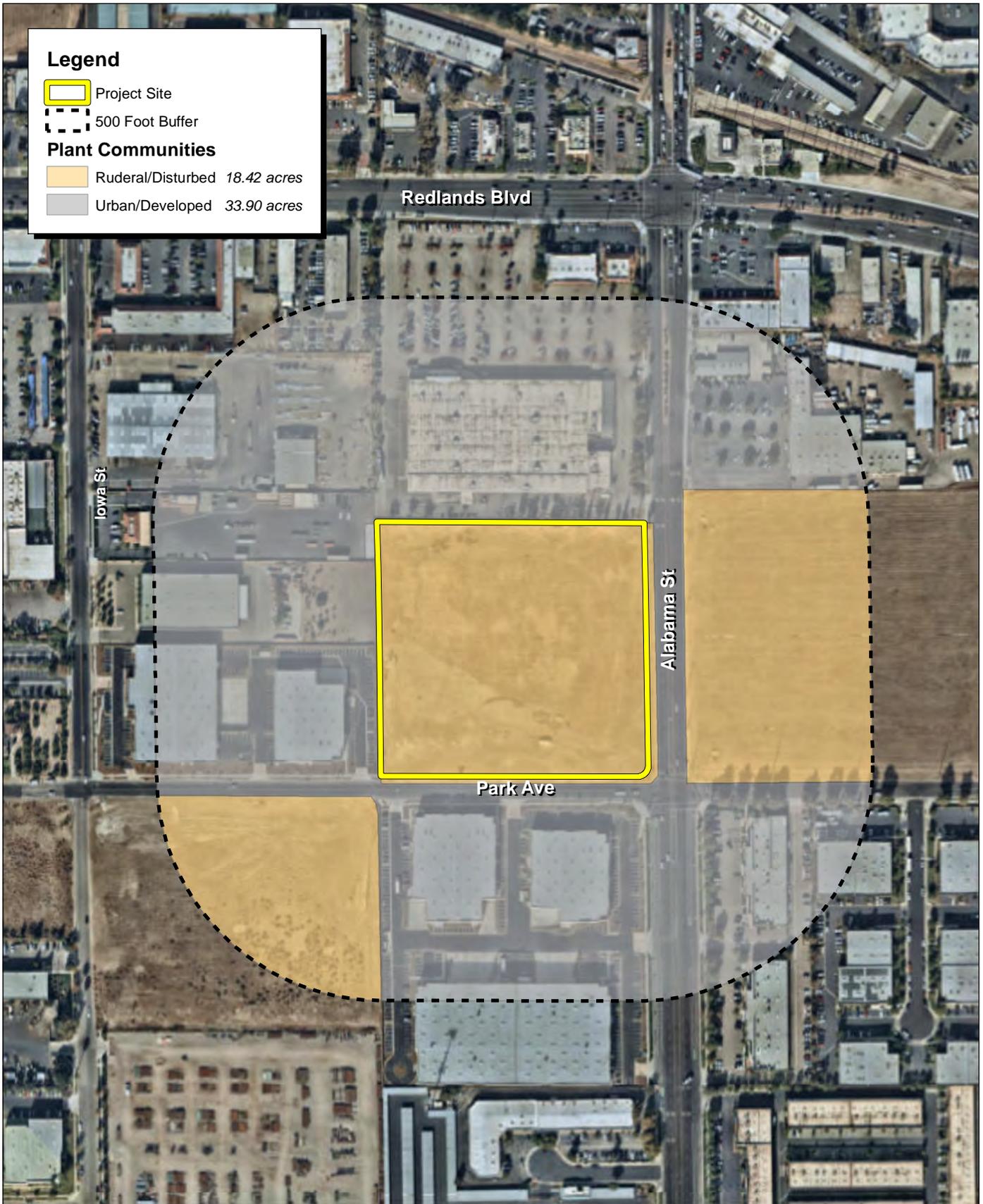
The vegetation community and land cover types discussed above provide habitat for a limited number of local wildlife species. Wildlife activity was low during the field survey and consisted exclusively of avian species. Avian species observed include the common raven (*Corvus corax*).

3.5 - Trees

There are no trees located on the project site. Ornamental trees, including Mexican fan palm (*Washingtonia robusta*), are located on properties directly adjacent to the site on the western and northern border of the project site.

3.6 - Jurisdictional Waters and Wetlands

An assessment of potentially jurisdictional features was conducted as part of the literature review and field survey. No wetlands or other hydrological features that meet criteria as waters of the United States were observed within the proposed project site or overall survey area based on preliminary research using a blue line map (please refer to Exhibit 6). Irrigation lines were observed on-site along the western border of the project site to sustain the ornamental plantings located in the western lot next to the site.



Source: ESRI Aerial Imagery.



Exhibit 7 Plant Communities

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SECTION 4: SENSITIVE BIOLOGICAL RESOURCES

The following section discusses the existing site conditions and potential for special-status biological resources to occur within the project site.

4.1 - Special-status Plant Species

The Special-status Plant Species Table (Appendix B.1) identifies special-status plant species that have been recorded to occur within Redlands topographic quadrangle (USGS, 1986), as recorded by the CNDDDB and CNPSEI (CDFW 2018; CNPS 2018) databases. The table also includes the species' status, required habitat, and potential to occur within the project site. Based on field observations by an FCS biologist in conjunction with the habitat quality, vegetation, and soils present on-site, FCS was able to conclude that all special-status plant species have been determined unlikely to occur on-site and have a very low potential to occur in the future. Thus, no special status plant species are included in the impact analysis and recommendation section of this document. In order to justify their exclusion from further discussion, all eight special status plant species have been included in the table.

4.2 - Special-status Wildlife Species

The Special-status Wildlife Species Table (Appendix B.2) identifies federal and State listed threatened and/or endangered wildlife species, and State Species of Special Concern that have been recorded in the CNDDDB (CDFW 2018) as occurring within the Redlands topographic quadrangle (USGS, 1986). The table also includes the species' status, required habitat, and potential to occur within the project site. Of the 17 species listed in the special-status species table, one species has the potential to occur on-site based on habitat characteristics. This species includes the Stephen's kangaroo rat (*Dipodomys stephensii*). As the majority of the project site is disturbed and lacking native vegetation types and communities, it was determined during the field survey that the majority of special-status wildlife species are not likely to occur, primarily based on absence of suitable habitat. Consequently, it was determined that the Stephen's kangaroo rat had a low potential to occur, due to marginal suitable habitat on-site (Exhibit 5).

4.2.1 - Threatened or Endangered Species

Occurrences were recorded within a 3-mile radius of the project site for six threatened and/or endangered species. These species include the least Bell's vireo, San Bernardino kangaroo rat, coastal California gnatcatcher, western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Southern California Steelhead Distinct Population Segment (DPS), and Stephen's kangaroo rat.

4.2.2 - California Species of Special Concern

California Species of Special Concern do not have legal protection under FESA or CESA, but they are recognized as sensitive by CDFW, and therefore require an independent assessment under the CEQA process to determine if project-related impacts are significant. Special-status species are known to occur within 3 miles of the project site (see Appendix B.2).

The literature search identified 12 species of special concern that were recorded within a 3-mile radius. These species include the Least Bell's vireo, San Bernardino kangaroo rat, two-striped garter snake (*Thamnophis hammondi*), Southern California legless lizard (*Anniella stebbinsi*), red-diamond rattlesnake (*Crotalus ruber*), Santa Ana speckled dace (*Rhinichthys osculus* ssp. 3), western spadefoot (*Spea hammondi*), San Diego desert woodrat (*Neotoma lepida intermedia*), San Bernardino kangaroo rat, the pocketed free-tailed bat (*Nyctinomops femorosaccus*), yellow warbler (*Setophaga petechia*), and the coastal California gnatcatcher. Numerous burrows were observed on-site during the field survey. However, there were no sightings of ground squirrels or any indication that burrowing owls occupy such burrows on-site.

4.3 - Nesting Birds

The project site does not have trees or shrubs and therefore would not provide tree or shrub nesting habitat, nor is it likely to provide nesting habitat for common ground nesting birds protected under the Migratory Bird Treaty Act (MBTA), and other special-status birds. Therefore, the potential for impacts to occur to resident and migratory species during project construction is unlikely. However, the ornamental trees along the western and northern project boundaries in the adjacent lots provide suitable nesting habitat for species of birds protected under the MBTA as well as species listed as California Species of Special Concern.

While it was determined that the project site has potential suitable habitat for California ground squirrel, none of the burrows on-site were found to have any indication of burrowing owl (whitewash, feathers, or castings). However, because the burrows exist, the potential for burrowing owl to occupy the site also exists. FCS advises that construction activities that occur during the nesting season (generally February 1 to August 31) could disturb nesting sites for birds protected by the MBTA and Fish and Game Code (FGC). No action is necessary if no active nests are found or if construction occurs during the non-breeding season (generally September 1 through February 1).

Implementation of the following avoidance and minimization measures agreed to as part of implementation of the project would reduce impacts to nesting birds:

- If an active nest is located during pre-construction surveys, USFWS and/or CDFW (as appropriate) shall be notified regarding the status of the nest. Construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the agencies deem disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 100 feet around an active raptor nest and a 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.
- A qualified biologist shall delineate the buffer using Environmentally Sensitive Area fencing, pin flags, and or yellow caution tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently.

4.4 - Wildlife Movement Corridors

No wildlife movement corridors are present on-site or in the surrounding area. The urban context of the project site coupled with the dense surrounding development precludes significant wildlife movement corridors.

4.5 - Jurisdictional Waters and Wetlands

An assessment of potential jurisdictional features was conducted as part of the literature review followed by a focused assessment of the project site. The project site does not contain any wetlands or other areas designated as waters of the United States and no further studies or regulatory permitting would be required. Therefore, the project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA. Lastly, because no jurisdictional features or riparian habitats are within project boundaries, these issues are not addressed in the impact analysis and recommendations section of this document.

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SECTION 5: REGULATORY FRAMEWORK

This section provides an overview of the laws and regulations that influence biological resources for this project site.

5.1 - Federal Endangered Species Act

The USFWS has jurisdiction over species listed as threatened or endangered under the FESA. Section 9 of FESA protects listed species from “take,” which is broadly defined as actions taken to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” FESA protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the FESA for all terrestrial species. The first pathway, Section 10(a) incidental take permit, applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under the FESA. The second pathway, Section 7 consultation, applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

5.2 - Migratory Bird Treaty Act

The MBTA implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the FGC.

All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC], § 703, et seq.) and California statute (FGC § 3503.5). The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are also afforded additional protection under the Bald and Golden Eagle Protection Act, amended in 1973 (16 USC, § 669, et seq.).

5.3 - Bald and Golden Eagle Protection Act

With few exceptions, this act (16 USC § 668–668d) prohibits take of bald eagles and golden eagles. Unlike the MBTA, which defines “take” to mean only direct killing or taking of birds or their body parts, eggs, and nests, the Bald and Golden Eagle Protection Act defines take in a manner similar to FESA as including “pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing,” with “disturb” further defined (50 CFR § 22.3) as “to agitate or bother a Bald or Golden Eagle to a degree that causes, or is likely to cause, based on the best scientific information available; (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

Therefore, the requirements for guarding against impacts to eagles generally are far more stringent than those required by the MBTA alone.

5.4 - Executive Order 13112—Invasive Species

Executive Order (EO) 13112 directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. As part of the proposed action, the USFWS and United States Army Corps of Engineers (USACE) would issue permits and therefore would be responsible for ensuring that the proposed action complies with EO 13112 and does not contribute to the spread of invasive species.

5.5 - Clean Water Act Section 404

The USACE and the United States Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA). Waters of the United States include wetlands, lakes, and rivers, streams, and their tributaries. Wetlands that fall under the jurisdiction of the USACE (referred to as jurisdictional wetlands) are defined as areas “inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Areas not considered jurisdictional waters include, for example, non-tidal drainage and irrigation ditches excavated on dry land; artificially irrigated or created bodies such as small ponds, lakes or swimming pools; and water-filled depressions (33 CFR 328.3; 40 CFR 230.3).

Project proponents must obtain a permit from the USACE for all discharges of fill material into waters of the United States, including jurisdictional wetlands, before proceeding with a proposed action. If wetlands are jurisdictional and could be filled as part of the project, the USACE may issue either an individual permit or a general permit. Individual permits are prepared on a project-specific basis for projects that are expected to have adverse effects on the aquatic environment. General permits are pre-authorized permits issued to cover similar activities that are expected to cause only minimal individual and cumulative adverse environmental effects.

A Section 404 permit may not be required if the project avoids the discharge of any fill material into waters of the United States, including wetlands. If the project cannot be designed to avoid the discharge of fill or excavating in waters of the United States, including wetlands, a Section 404 permit must be obtained.

5.6 - Clean Water Act Section 401

The CWA requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the

discharge will comply with the applicable effluent limitations and water quality standards. The appropriate Regional Water Quality Control Board (RWQCB) regulates Section 401 requirements.

5.7 - California Fish and Game Code

Under the CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC 2070). Sections 2050 through 2098 of the FGC outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the FGC prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for state-listed species. CDFW maintains a list of "candidate species," which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (FGC § 1900, et seq.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by CDFW). An exception to this prohibition in the Native Plant Protection Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give that State agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. (FGC Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.") Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

CDFW also maintains lists of "Species of Special Concern" that serve as species "watch lists." The CDFW has identified many Species of Special Concern. Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA Guidelines and thereby warrant specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA Guidelines. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS's Lists 1A, 1B, and 2 would typically be considered under CEQA.

Sections 3500 to 5500 of the FGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Section 3503.5 of the FGC, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any

such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. “Take” of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

Section 1602 of the FGC requires any entity to notify CDFW before beginning any activity that “may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake” or “deposit debris, waste, or other materials that could pass into any river, stream, or lake.” “River, stream, or lake” includes waters that are episodic and perennial; and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

5.8 - California Porter-Cologne Water Quality Control Act

The RWQCB has regulatory authority over wetlands and waterways under both the CWA and the State of California’s Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications under Section 401 of the CWA in conjunction with permits issued by the USACE under Section 404 of the CWA. When the RWQCB issues Section 401 certifications, it simultaneously issues general Waste Discharge Requirements for the project under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the USACE (e.g., isolated wetlands, vernal pools, seasonal streams, intermittent streams, channels that lack a nexus to navigable waters, or stream banks above the ordinary high water mark) are regulated by the RWQCB under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of USACE jurisdiction may require the issuance of either individual or general waste discharge requirements.

5.9 - Local Ordinances

If deemed applicable, the project will have to abide by the goals of the Redlands 2035 General Plan Biological Resources policies. These include:

- **Policy 6-P7:** Protect environmentally sensitive lands wildlife habitats, and rare, threatened or endangered plant and animal communities.
- **Policy 6-P8:** Minimize disruption of wildlife and valued habitat throughout the Planning Area and emphasize that open space is for more than just human use, but also serves as habitat for biological resources.

SECTION 6: IMPACT ANALYSIS AND RECOMMENDATIONS

The following discussion addresses potential impacts to special-status biological resources resulting from the proposed project and recommends mitigation measures as part of the projects design where appropriate to minimize those impacts to a level of “less than significant” under CEQA Guidelines.

6.1 - Special-status Plant Species and Communities

As previously mentioned, the project site and survey area do not contain suitable habitat for special-status plants, or vegetation communities within the project site. Therefore, the presence of special-status plants and vegetation communities on-site is unlikely, and no further studies are necessary, and no mitigation measures are required.

6.2 - Special-status Wildlife Species

The project site and survey area contains marginally suitable habitat for one special-status wildlife species and unsuitable habitat for the remaining species listed. Therefore, the presence of special-status wildlife is not likely to occur on-site or within the survey area, and no further studies are necessary. No mitigation measures are required.

6.3 - Nesting Birds

If construction will occur during nesting bird season, February 1 to August 31, then a preconstruction nesting bird survey should be conducted prior to the start of construction activities to ensure that ground-nesting birds, particularly burrowing owl, are not utilizing the site.

6.4 - Wildlife Movement Corridors

6.4.1 - Potential Constraints to Development Due to Local Ordinances

The proposed project site contains disturbed land, and is immediately surrounded by roads and development. The project site has a low potential to be utilized by regional wildlife as a movement corridor.

6.4.2 - Trees

There are no trees on the project site. While there are ornamental trees associated with development in the 500-foot buffer area, the project does not propose removal of these trees. Therefore, the project would not conflict with any local ordinances or policies regarding tree removal.

6.5 - Jurisdictional Waters and Wetlands

Because of the absence of jurisdictional features on the project site or survey area, Clean Water Act Sections 401 and 404 permit applications will not be required to be submitted to the RWQCB and USACE, respectively.

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SECTION 7: CERTIFICATION

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

Date: December 14, 2018 Signed:



Vanessa Welsh, Biologist
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

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**Appendix A:
Site Photographs**

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Photograph 1: View from the southwest corner looking north, showing the ornamental trees located on the lots to the north and west of the site.



Photograph 2: View from the northeast corner looking west across the site, showing the commercial/industrial land use to the west of the site.



Photograph 3: View from the southeast corner looking west showing a portion of the site in addition to the West Park Avenue roadway that runs along the southern boundary and surrounding commercial/industrial uses.

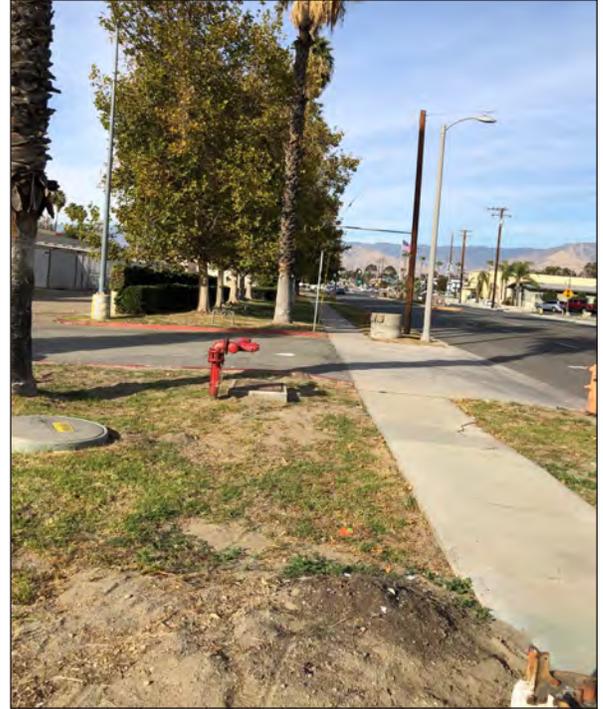


Photograph 4: View from the southeast corner looking northwest across the site showing some of the K-mart retail center to the north of the project site and adjacent lot to the west of the project site.

Source: FirstCarbon Solutions, 2018.



Photograph 5: View from the southwest corner looking west down West Park Avenue, showing the vacant lot to the south west of the site and the adjacent commercial/industrial property to the west.



Photograph 6: View from the northeast corner looking north along Alabama Street towards the intersection of Alabama Street and Redlands Boulevard and retail center to the north east.



Photograph 7: View from the eastern boundary of the project site, looking east to the vacant lot across Alabama Street.



Photograph 8: View from the southeast corner looking southeast to the intersection of West Park Avenue and Alabama Street and commercial buildings located south of the project site.

Source: FirstCarbon Solutions, 2018.

**Appendix B:
Special-Status Species Tables**

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B.1 - Special-status Plant Species Table

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Table 1: Special-status Plant Species Potentially Occurring within the Project

Scientific Name Common Name	Regulatory Status Federal ¹ /State ² /CNPS ³			Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	FE	SE	1B.1			
<i>Arenaria paludicola</i> marsh sandwort	FE	SE	1B.1	Marshes and swamps. Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3–170 meters.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of marshes and swamps on-site.	No
<i>Berberis nevini</i> Nevin’s barberry	FE	SE	1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, N-facing slopes or in low grade sandy washes. 290–1575 meters.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of chaparral and woodland habitat on-site.	No
<i>Chloropyron maritimum</i> <i>ssp. maritimum</i> salt marsh bird’s-beak	FE	SE	1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0–10 meters.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of marshes and swamps on-site.	No
<i>Eriastrum densifolium ssp. sanctorum</i> Santa Ana River woollystar	FE	SE	1B.1	Dicot perennial herb found in chaparral and coastal scrub habitat. Prefers sandy soils on river floodplains or terraced fluvial deposits. Bloom period: May-September 180–700 meters.	Unlikely to Occur: no suitable habitat is present within the project site. No rivers or coastal scrub habitat present on-site.	No
<i>Dodecahema leptoceras</i> slender-horned spineflower	FE	SE	1B.1	Annual Herb found in chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates include Encelia, Dalea, Lepidospartum, etc. Bloom period: April–June 200–765 meters.	Unlikely to Occur: no suitable habitat is present within the project site. No chaparral or woodland habitat on-site.	No
<i>Nasturtium gambelii</i> Gambel’s water cress	FE	ST	1B.1	Dicot perennial herb found in marshes and swamps. Prefers freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Blooming period: April–October 5–330 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of marshes and swamps on-site.	No

Table 1 (cont.): Special-status Plant Species Potentially Occurring within the Project

Scientific Name Common Name	Regulatory Status Federal ¹ /State ² /CNPS ³			Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	FE	SE	1B.1			
<i>Sidalcea pedata</i> bird-foot checkerbloom	FE	SE	1B.1	Prefers meadows and seeps, pebble plains. Vernal mesic sites in meadows or pebble plains. Pavement plain, wetland. 1840–2305 meters.	Unlikely to occur: lack of wetlands and vernal pools on the project site preclude presence.	No
<i>Brodiaea filifolia</i> thread-leaved brodiaea	FT	SE	1B.1	Monocot perennial herb (bulb) found in chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools. This species is usually associated with annual grassland and vernal pools; often found surrounded by shrubland habitats and occurs in opening on clay soils. Bloom period: March–June 15–1020 meters.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of chaparral and woodland habitat on-site.	No
Code Designations						
¹ Federal Status: 2015 USFWS Listing		² State Status: 2015 CDFW Listing			³ CNPS: 2015 CNPS-California Rare Plant Ranks (CRPR)	
FE = Listed as endangered under the Endangered Species Act FT = Listed as threatened under the Endangered Species Act FC = Candidate for listing (threatened or endangered) under Endangered Species Act FD = Delisted in accordance with the Endangered Species Act — = Not federally listed		SE = Listed as endangered under the California Endangered Species Act ST = Listed as threatened under the California Endangered Species Act SSC = Species of Special Concern as identified by CDFW CFP = Listed as fully protected under FGC CR = Species identified as rare by CDFW — = Not state listed			1A = Plants species that presumed extinct in California. 1B = Plant species that are rare, threatened, or endangered in California and elsewhere. List 2 = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. Blooming period: Months in parentheses are uncommon.	
⁴ Habitat description: Habitat description adapted from CNDDDB (CDFW 2015) and CNPS online inventory (CNPS 2015)						

B.2 - Special-status Wildlife Species Table

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Table 2: Special-status Wildlife Species Potentially Occurring within the Project

Scientific Name Common Name	Regulatory Status		Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²			
Birds					
<i>Vireo bellii pusillus</i> least Bell's vireo	—	SSC/SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Unlikely to Occur: Lack of riparian habitat within site boundaries. No suitable nesting habitat is present within the project boundaries. High level of disturbance at site precludes presence.	No
<i>Polioptila californica californica</i> coastal California gnatcatcher	FT	SSC	An obligate, permanent resident of coastal sage scrub below 2500 feet in Southern California. Requires low, coastal sage scrub in arid washes, on mesas, and slopes. Not all areas classified as coastal sage scrub are occupied.	Unlikely to Occur: no suitable habitat is present within the project site due to lack of coastal sage scrub habitat	No
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	FE	SE	Riparian woodlands in Southern California.	Unlikely to Occur: Lack of riparian habitat within site boundaries. No suitable nesting habitat is present within the project boundaries.	No
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	FT MBTA	SE	Nests in riparian forest along the broad lower flood-bottoms of larger river systems. Found in riparian jungles of willow, often mixed with cottonwoods; understory consists of blackberry, nettles, and wild grape.	Unlikely to Occur: no suitable habitat is present within the Project. Lack of riparian habitat on-site.	No
<i>Icteria virens</i> yellow-breasted chat	—	SSC	A summer resident; inhabits riparian thickets of willow and other bushy tangles near watercourses. Nests in low, dense riparian habitat consisting of willow, blackberry, and wild grape. Forages and nests within 10 feet of ground level.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of riparian area on-site.	No
<i>Setophaga petechia</i> yellow warbler	—	SSC	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Unlikely to Occur: no suitable habitat is present within the Project. Lack of woodland habitat or riparian area.	No

Table 2 (cont.): Special-status Wildlife Species Potentially Occurring within the Project

Scientific Name Common Name	Regulatory Status		Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²			
Mammals					
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	—	SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of woodland habitat on-site.	No
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	FE	SSC	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains.	Unlikely to Occur: no suitable habitat is present within the project, due to the lack of scrub vegetation on-site, high level of disturbance, and evidence of past fill efforts.	No
<i>Dipodomys stephensii</i> Stephens' kangaroo rat	FE	ST	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Low Potential to Occur: Marginal suitable habitat on-site. High level of disturbance on-site resulting in a low potential to occur.	Yes
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	—	SSC	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	Unlikely to Occur: no suitable habitat is present within the project site. No suitable habitat due to lack of rock outcrops and rocky cliffs	No
Amphibians					
<i>Rana muscosa</i> southern mountain yellow-legged frog	FE	SE	Always encountered within a few feet of water. Tadpoles may require 2–4 years to complete their aquatic development.	Unlikely to Occur: Lack of perennial water within site boundaries. No suitable habitat or breeding areas are present within the project boundaries.	No
<i>Spea hammondi</i> western spadefoot	—	SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Unlikely to Occur: no suitable habitat is present within the project site. Lack of aquatic features on-site.	No

Table 2 (cont.): Special-status Wildlife Species Potentially Occurring within the Project

Scientific Name Common Name	Regulatory Status		Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²			
Fish					
<i>Oncorhynchus mykiss</i> steelhead—southern California DPS	FE	—	Southern California steelhead likely have greater physiological tolerances to warmer water and more variable conditions. Aquatic habitats and south coast flowing waters. Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	Unlikely to Occur: lack of aquatic features on-site precludes presence.	No
<i>Rhinichthys osculus</i> ssp. 3 Santa Ana speckled dace	—	SSC	Requires permanent flowing streams with summer water temperatures of 17–20 C. Usually inhabits shallow cobble and gravel riffles.	Unlikely to Occur: no suitable habitat is present within the Project. No aquatic features found on-site.	No
Reptiles					
<i>Crotalus ruber</i> red-diamond rattlesnake	—	SSC	Found in chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas with dense vegetation. Requires rodent burrows, cracks in rocks, or surface cover objects. Often found in disturbed areas.	Unlikely to Occur: no suitable habitat is present within the project site. Lack of dense vegetation within site boundaries	No
<i>Thamnophis hammondi</i> two-striped garter snake	—	SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 feet elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Unlikely to Occur: no suitable habitat is present within the project site. No riparian areas or streams on-site.	No
<i>Anniella stebbinsi</i> southern California legless lizard	—	SSC	Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans.	Unlikely to Occur: no suitable habitat is present within the project site. Lack of coastal sand dunes and soils with high moisture content.	No

Table 2 (cont.): Special-status Wildlife Species Potentially Occurring within the Project

Scientific Name Common Name	Regulatory Status		Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²			
Code Designations					
¹ Federal Status: 2015 USFWS Listing			² State Status: 2015 CDFW Listing		
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the FESA. FT = Listed as threatened under the FESA. FC = Candidate for listing (threatened or endangered) under FESA. FD = Delisted in accordance with the FESA. FPD = Federally Proposed to be Delisted. MBTA = protected by the Migratory Bird Treaty Act — = Not federally listed			SE = Listed as endangered under the CESA. ST = Listed as threatened under the CESA. SSC = Species of Special Concern as identified by the CDFW. CT = Candidate for listing as threatened under CESA CFP = Listed as fully protected under FGC. CR = Rare in California. FGC = Protected by FGC 3503.5 — = Not state listed		
³ Habitat description: Habitat description adapted from CNDDDB (CDFW 2015a).					

Appendix C: Literature Review

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C.1 - CNDDDB Inventory Results

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Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad IS (Redlands (3411712))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
Busck's gallmoth <i>Carolella busckana</i>	IILEM2X090	None	None	G1G3	SH	
California glossy snake <i>Arizona elegans occidentalis</i>	ARADB01017	None	None	G5T2	S2	SSC
California horned lark <i>Eremophila alpestris actia</i>	ABPAT02011	None	None	G5T4Q	S4	WL
California satintail <i>Imperata brevifolia</i>	PMPOA3D020	None	None	G4	S3	2B.1
coast horned lizard <i>Phrynosoma blainvillii</i>	ARACF12100	None	None	G3G4	S3S4	SSC
coastal California gnatcatcher <i>Poliopitila californica californica</i>	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	ARACJ02143	None	None	G5T5	S3	SSC
Cooper's hawk <i>Accipiter cooperii</i>	ABNKC12040	None	None	G5	S4	WL
Crotch bumble bee <i>Bombus crotchii</i>	IIHYM24480	None	None	G3G4	S1S2	
least Bell's vireo <i>Vireo bellii pusillus</i>	ABPBW01114	Endangered	Endangered	G5T2	S2	
loggerhead shrike <i>Lanius ludovicianus</i>	ABPBR01030	None	None	G4	S4	SSC
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	AMAFD01041	None	None	G5T1T2	S1S2	SSC
marsh sandwort <i>Arenaria paludicola</i>	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
Nevin's barberry <i>Berberis nevinii</i>	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	AMAFD05031	None	None	G5T3T4	S3S4	SSC
orange-throated whiptail <i>Aspidoscelis hyperythra</i>	ARACJ02060	None	None	G5	S2S3	WL
pallid bat <i>Antrozous pallidus</i>	AMACC10010	None	None	G5	S3	SSC
Parish's bush-mallow <i>Malacothamnus parishii</i>	PDMAL0Q0C0	None	None	GXQ	SX	1A



Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Parish's gooseberry <i>Ribes divaricatum</i> var. <i>parishii</i>	PDGRO020F3	None	None	G5TX	SX	1A
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	PDPGN040J2	None	None	G3T2	S2	1B.1
Peruvian dodder <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	PDCUS01111	None	None	G5T4T5	SH	2B.2
Plummer's mariposa-lily <i>Calochortus plummerae</i>	PMLIL0D150	None	None	G4	S4	4.2
pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	AMACD04010	None	None	G4	S3	SSC
red-diamond rattlesnake <i>Crotalus ruber</i>	ARADE02090	None	None	G4	S3	SSC
Riversidian Alluvial Fan Sage Scrub <i>Riversidian Alluvial Fan Sage Scrub</i>	CTT32720CA	None	None	G1	S1.1	
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	PDBRA1M114	None	None	G5T3	S3	4.3
salt marsh bird's-beak <i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	AMAFD03143	Endangered	None	G5T1	S1	SSC
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	AMAFF08041	None	None	G5T3T4	S3S4	SSC
Santa Ana River woollystar <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	PDPLM03035	Endangered	Endangered	G4T1	S1	1B.1
Santa Ana speckled dace <i>Rhinichthys osculus</i> ssp. 3	AFCJB3705K	None	None	G5T1	S1	SSC
slender-horned spineflower <i>Dodecahema leptoceras</i>	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
southern California legless lizard <i>Anniella stebbinsi</i>	ARACC01060	None	None	G3	S3	SSC
southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	ABPBX91091	None	None	G5T3	S3	WL
Southern Coast Live Oak Riparian Forest <i>Southern Coast Live Oak Riparian Forest</i>	CTT61310CA	None	None	G4	S4	
southern mountain yellow-legged frog <i>Rana muscosa</i>	AAABH01330	Endangered	Endangered	G1	S1	WL
Southern Sycamore Alder Riparian Woodland <i>Southern Sycamore Alder Riparian Woodland</i>	CTT62400CA	None	None	G4	S4	
southwestern willow flycatcher <i>Empidonax traillii extimus</i>	ABPAE33043	Endangered	Endangered	G5T2	S1	



Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
steelhead - southern California DPS <i>Oncorhynchus mykiss irideus pop. 10</i>	AFCHA0209J	Endangered	None	G5T1Q	S1	
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	AMAFD03100	Endangered	Threatened	G2	S2	
two-striped gartersnake <i>Thamnophis hammondi</i>	ARADB36160	None	None	G4	S3S4	SSC
western mastiff bat <i>Eumops perotis californicus</i>	AMACD02011	None	None	G5T4	S3S4	SSC
western spadefoot <i>Spea hammondi</i>	AAABF02020	None	None	G3	S3	SSC
western yellow bat <i>Lasiurus xanthinus</i>	AMACC05070	None	None	G5	S3	SSC
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
yellow warbler <i>Setophaga petechia</i>	ABPBX03010	None	None	G5	S3S4	SSC
yellow-breasted chat <i>Icteria virens</i>	ABPBX24010	None	None	G5	S3	SSC

Record Count: 50

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C.2 - CNPS Inventory Results

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Plant List

Inventory of Rare and Endangered Plants

8 matches found. [Click on scientific name for details](#)

Search Criteria

California Rare Plant Rank is one of [1B, 2B], FESA is one of [Endangered, Threatened], CESA is one of [Endangered, Threatened, Rare], Found in Quads 3411723, 3411722, 3411721, 3411713, 3411712, 3411711, 3311783 3311782 and 3311781;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Arenaria paludicola	marsh sandwort	Caryophyllaceae	perennial stoloniferous herb	May-Aug	1B.1	S1	G1
Berberis nevinii	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	1B.1	S1	G1
Brodiaea filifolia	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	1B.1	S2	G2
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct (Nov)	1B.2	S1	G4?T1
Dodecagema leptoceras	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Polemoniaceae	perennial herb	Apr-Sep	1B.1	S1	G4T1
Nasturtium gambelii	Gambel's water cress	Brassicaceae	perennial rhizomatous herb	Apr-Oct	1B.1	S1	G1
Sidalcea pedata	bird-foot checkerbloom	Malvaceae	perennial herb	May-Aug	1B.1	S1	G1

Suggested Citation

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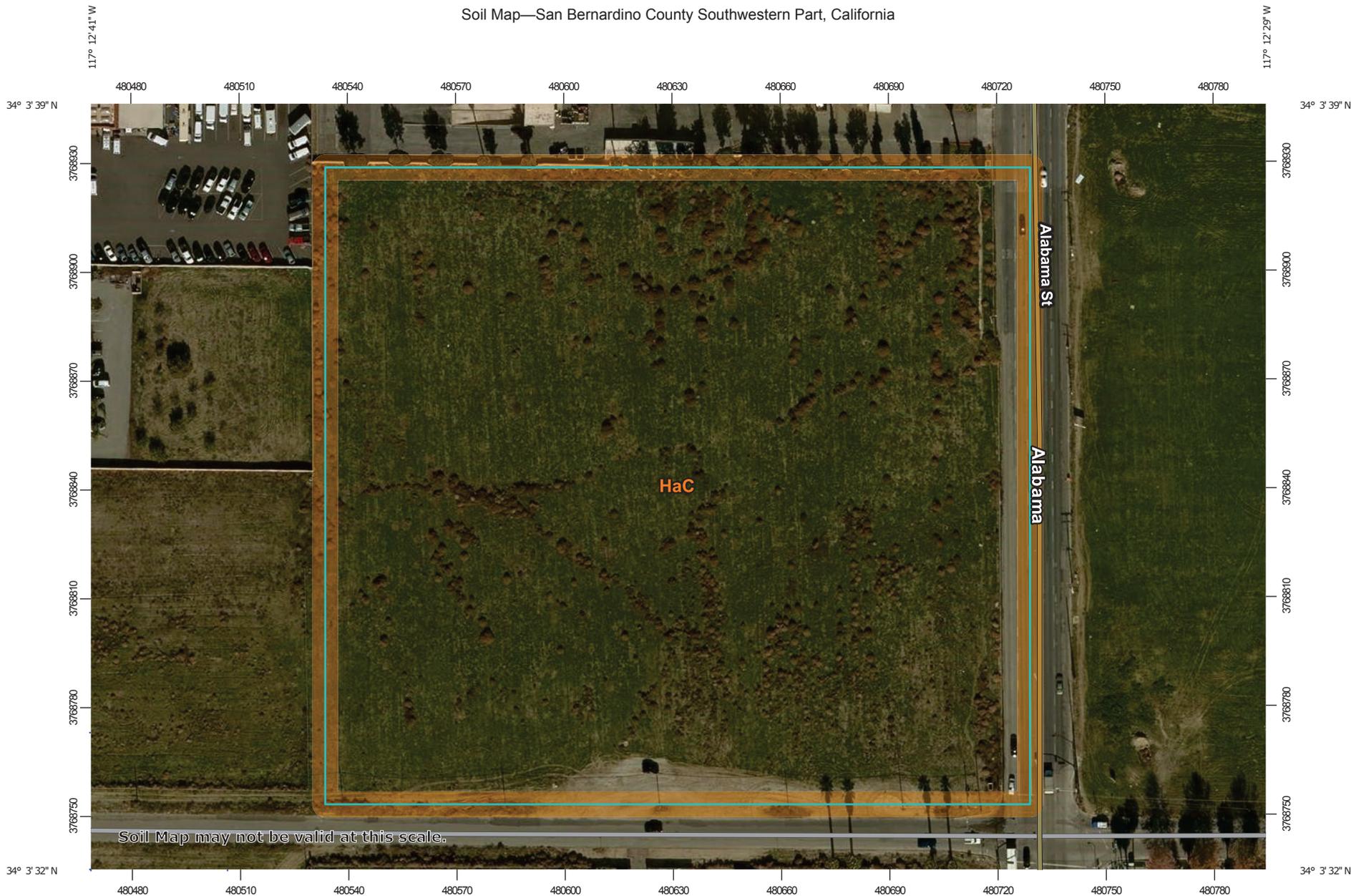
rareplants@cnps.org

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C.3 - Soil Search Results

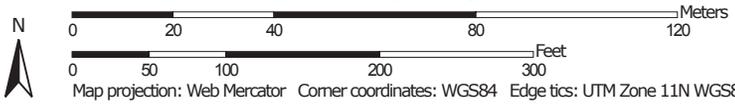
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Soil Map—San Bernardino County Southwestern Part, California



Soil Map may not be valid at this scale.

Map Scale: 1:1,490 if printed on A landscape (11" x 8.5") sheet.



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: San Bernardino County Southwestern Part, California
Survey Area Data: Version 10, Sep 12, 2018

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

Date(s) aerial images were photographed: Jan 5, 2015—Jan 18, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background 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
HaC	Hanford coarse sandy loam, 2 to 9 percent slopes	8.5	100.0%
Totals for Area of Interest		8.5	100.0%

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