

Biological Resources Assessment Report

EMWD - Belle Terre SP No. 382, PA24 Water Tank Project Site
Unincorporated Riverside County, California

Final Report



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INTRODUCTION

The following biological resources report describes a detailed assessment of potential sensitive natural resources located within and immediately adjacent to the Eastern Municipal Water District (EMWD) Belle Terre Specific Plan No. 382, Planning Area 24 Water Tank Project Site. Specifically, the report has been prepared to support the development and adoption of a California Environmental Quality Act (CEQA) Mitigated Negative Declaration (MND). As discussed below, the assessment includes a thorough literature review, site reconnaissance characterizing baseline conditions (including floral and faunal and dominant vegetation communities), focused sensitive species surveys, impact analysis, and proposed mitigation measures.

PROJECT LOCATION/DESCRIPTION

The proposed 4.70-acre Project Site is located north of Fields Drive and east of the San Diego Canal in the community of French Valley in unincorporated Riverside County, California. The Project Site is specifically located within Planning Area 24 of the Belle Terre Specific Plan No. 382 Substantial Conformance No. 1 (SP382S1) approved by the County of Riverside Board of Supervisors in December 2019. The Project Site is located within a portion of existing assessor parcel number (APN) 472-170-021 (73.0-acres); specifically Parcel 24 (4.7-acres) of Tentative Parcel Map No. 37592 (TPM 37592), and within Section 27, Township 6 South, Range 2 West of the San Bernardino Baseline Meridian Map as shown in Figure 1, *Regional Location Map*, and Figure 2, *Project Site Map*. TPM 37592 was also approved by the Riverside County Board of Supervisors in December 2019 which subdivides APN 472-170-021, creating two separate parcels; Parcel 24 (4.7-acres) and Parcel 17 (68.3-acres).

The proposed 3.02-acre action (impact area) within the Project Site includes construction of a 1.79 million gallon (MG) potable water storage tank and associated infrastructure that will provide potable water service to the Belle Terre community as planned by SP382S1. The proposed tank will have an effective tank storage volume of 1.47 MG and sit at an elevation of 1,590 feet above mean sea level with a nominal tank diameter of 86 feet, nominal height of 40 feet, and the highest point on the tank roof will be 46 feet from the ground. Additionally, a free-standing approximately 40-foot communication antenna tower will be constructed on the site just southwest of the tank.

An 18-inch diameter water pipeline will be constructed to connect the proposed tank to the nearest point of connection in Fields Drive for a length of approximately 1,070 feet. That point of connection will be installed by other implementing projects of SP382S1. An 18-inch diameter overflow pipeline will be provided to drain overflow tank water to a proposed detention basin located at the entrance of the proposed access road. Both pipelines will be located underneath the proposed access road.

The Project also includes a detention basin that will capture the stormwater runoff generated from the paved areas of the site, as well as overflows from the tank. The basin will have a holding capacity of approximately 3,700 cubic feet (CF). The detention basin will also provide water quality treatment to the onsite runoff through the mechanisms of infiltration and evapo-transpiration. The basin will be equipped with a restrictive outlet that will release flow slowly over a rip-rap apron to sheet flow over

Fields Drive. An emergency concrete spillway will also be included. Any runoff beyond the capacity of the basin will sheet flow over Fields Drive into the existing natural wash south of Fields Drive, which is outside the Project area. The Project will also include a concrete-lined flat bottom ditch along the cut slope to collect runoff from the cut slope to drain to Fields Drive and flow via sheet flow to the natural wash. Fields Drive will be concrete-capped where runoff will flow.

PROJECT BACKGROUND

The proposed action within Planning Area 24 was reviewed concurrently with the Belle Terre Specific Plan No. 382 for consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) by the following agencies:

- Riverside County Environmental Programs Division – HANS 2082.
- MSHCP Regional Conservation Authority (RCA) – JPR 14-02-06-01.
- Wildlife Agencies, United States Fish and Wildlife Service and California Department of Fish and Wildlife.

A consistency determination was issued by the RCA for the Belle Terre Specific Plan No. 382 Project Site including the proposed Planning Area 24 action (water tank development) on May 12th, 2014. As outlined in the MSHCP consistency determination, a total of 106.85-acre (including 68.30 acres within APN 472-170-021) will be dedicated as conservation land to the Regional Conservation Authority. Therefore, the following report is based solely on the following documents including an updated site visit conducted on September 9th, 2020:

- Biological Resources Technical Report, Belle Terre Project Site, Unincorporated Riverside County California (Cadre Environmental 2014).
- MSHCP Determination of Biologically Equivalent or Superior Preservation/Consistency Analysis, Belle Terre Project Site, Unincorporated Riverside California (Cadre Environmental 2014).
- Addendum to General MSHCP Habitat Assessment and Regulatory Constraints Analysis for the 341.07-Acre Belle Terre Project Site, Unincorporated Western Riverside County, California Prepared by Cadre Environmental (Cadre Environmental 2013)
- RCA Joint Project Review (JPR) – Consistency Conclusion “The project is consistent with both the Criteria and other Plan requirements” (RCA May 12th, 2014).
- Biological Resources Technical Report, Belle Terre Project Site – Updated Report – Substantial Conformance to Belle Terre Specific Plan No 382, EIR No. 531 (Cadre Environmental 2019).



Figure 1 - Regional Location Map

*Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project*



not to scale

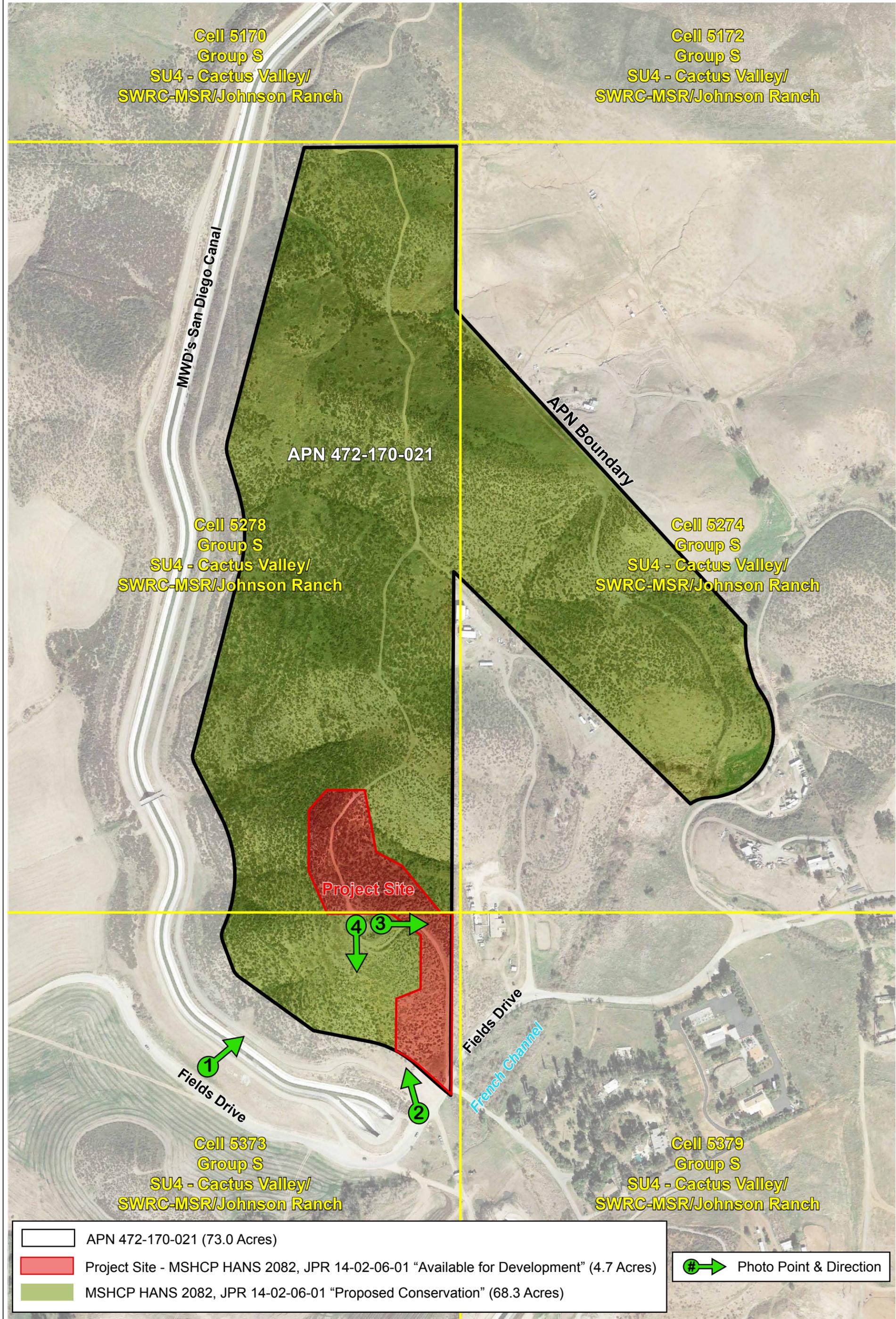


Figure 2 - Project Site Map
 Biological Resources Assessment Report
 EMWD Belle Terre SP No. 382, PA24 Water Tank Project

LITERATURE REVIEW

Existing biological resource conditions within and adjacent to the Project Site were initially investigated through review of pertinent scientific literature. Federal register listings, protocols, and species data provided by the United States Fish and Wildlife Service (USFWS) were also reviewed in conjunction with anticipated federally listed species potentially occurring within the region of the Project Site. The California Natural Diversity Database (CNDDDB) (CDFW 2019a), a California Department of Fish and Wildlife (CDFW) Natural Heritage Division species account database, was also reviewed for all pertinent information regarding the locations of known occurrences of sensitive species in the vicinity of the property. In addition, numerous regional floral and faunal field guides were utilized in the identification of species and suitable habitats. Combined, the reviewed sources provided an excellent baseline from which to inventory the biological resources potentially occurring in the region. Other CDFW reports and publications consulted include the following:

- Special Animals (CDFW 2019b);
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2019c);
- Endangered, Threatened, and Rare Plants of California (CDFW 2019d); and
- Special Vascular Plants and Bryophytes List (CDFW 2019e).

FIELD SURVEYS

An updated reconnaissance survey of the Project Site was conducted by Ruben Ramirez on September 9th, 2020 to ensure existing conditions have not changes since the initial RCA JPR consistency analysis was issued on May 12th, 2014 (Regional Conservation Authority 2014).

An initial reconnaissance survey of the Project Site was conducted by Ruben Ramirez (Cadre Environmental 2012a) during the spring of 2012 in order to characterize and identify potential sensitive plant and wildlife habitats, and to establish the accuracy of the data identified in the literature search. Geologic and soil maps were examined to identify local soil types that may support sensitive taxa. Aerial photograph, topographic maps, and vegetation and rare plant maps prepared for previous studies in the region were used to determine community types and other physical features that may support sensitive plants/wildlife, uncommon taxa, or rare communities that occur within the Project Site.

The MSHCP has determined that all of the sensitive species potentially occurring within the Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for narrow endemic plant, criteria area, and specific wildlife species if suitable habitat is documented onsite and/or if the property is located within a predetermined "Survey Area" (MSHCP 2004). Based on the initial MSHCP review of predetermined Survey Areas and habitat assessments for target species, focused surveys were conducted for the following seventeen (17) species.

- Davidson's saltscale (*Atriplex davidsonii*)
- Parish's brittlescale (*Atriplex parishii*)
- thread-leaved brodiaea (*Brodiaea filifolia*)
- smooth tarplant (*Centromadia pungens* ssp. *laevis*)
- round-leaved filaree (*Erodium macrophyllum*)
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)
- little mousetail (*Myosurus minimus* ssp. *apus*)
- Munz's onion (*Allium munzii*)
- San Diego ambrosia (*Ambrosia pumila*)
- many-stemmed dudleya (*Dudleya multicaulis*)
- spreading navarretia (*Navarretia fossalis*)
- California Orcutt grass (*Orcuttia californica*)
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)
- burrowing owl (*Athene cunicularia*)
- least Bell's vireo (*Vireo bellii pusillus*)
- southwestern willow flycatcher (*Empidonax traillii extimus*)
- western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)

Vegetation Communities/Habitat Classification Mapping

Natural community names and hierarchical structure follows the CDFW "List of California Terrestrial Natural Communities" and/or Holland (1986) classification systems, which have been refined and augmented where appropriate to better characterize the habitat types observed onsite when not addressed by the MSHCP classification system.

Floristic Plant Inventory

A general plant survey was conducted throughout the Project Site during the initial reconnaissance in a collective effort to identify all species occurring onsite.

All plants observed during the survey efforts were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). Scientific nomenclature and common names used in this report generally follow Roberts et al. (2004) or Baldwin et al. (2012) for updated taxonomy. Scientific names are included only at the first mention of a species; thereafter, common names alone are used.

Wildlife Resources Inventory

All animals identified during the reconnaissance survey by sight, call, tracks, scat, or other characteristic sign were recorded onto a 1:200 scale orthorectified color aerial photograph or documented using a global positioning system (GPS). In addition to species actually detected, expected use of the site by other wildlife was derived from the analysis of habitats on the site, combined with known habitat preferences of regionally occurring wildlife species.

Vertebrate taxonomy followed in this report is according to the Center for North American Herpetology (2020 for amphibians and reptiles), the American Ornithologists' Union (1988 and supplemental) for birds, and Baker et al. (2003) for mammals. Both common and scientific names are used during the first mention of a species; common names only are used in the remainder of the text.

Regional Connectivity/Wildlife Movement Corridors

The analysis of wildlife movement corridors associated with the Project Site and immediate vicinity is based on information compiled from literature, analysis of the aerial photograph and Digital Orthophoto Quarter Quads (DOQQ) data, and direct observations made in the field during the reconnaissance site visit.

A literature review was conducted that includes documents on island biogeography (studies of fragmented and isolated habitat "islands"), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were also reviewed. Use of field-verified digital DOQQ data, in conjunction with the Geographic Information System (GIS) database, allowed proper identification of regional vegetation communities and drainage features. This information was crucial to assessing the relationship of the Project Site to large open space areas in the immediate vicinity and was also evaluated in terms of connectivity and habitat linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated within the Project Site and the immediate vicinity.

MSHCP Criteria Area and Narrow Endemic Plant Surveys

The Project Site occurs partially within a predetermined MSHCP Survey Area for thirteen (13) criteria area and narrow endemic plant species (RCA GIS Data Downloads 2020). According to the MSHCP guidelines, focused surveys are required during the appropriate flowering season to document the presence/absence of these species if suitable habitat is present and if the property is located within a predetermined Survey Area (MSHCP 2004). Potential habitat is present on or immediately adjacent to the Project Site for several of these species in Riversidean sage scrub habitats. Habitat assessments and focused surveys were conducted for all thirteen (13) species which includes:

Criteria Area Plant Species:

- Davidson's saltscale (*Atriplex davidsonii*) [California Rare Plant Rank¹-CRPR 1B.2];
- Parish's brittlescale (*Atriplex parishii*) [CRPR 1B.1];
- thread-leaved brodiaea (*Brodiaea filifolia*) [Federal threatened, State endangered, CRPR 1B.1];

¹ In the spring of 2011, the California Native Plant Society (CNPS) officially changed the name "CNPS List" to "California Rare Plant Rank (CRPR)" (CNPS 2012), which is reflected in this report. However, the definitions of the ranks and the ranking system have not changed.

- smooth tarplant (*Centromadia pungens* ssp. *laevis*) [CRPR 1B.1];
- round-leaved filaree (*Erodium macrophyllum*) [CRPR 1B.1];
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) [CRPR 1B.1]; and
- little mousetail (*Myosurus minimus* ssp. *apus*) [CRPR 3.1].

Narrow Endemic Plant Species:

- Munz's onion (*Allium munzii*) [Federal endangered, State threatened, CRPR 1B.1];
- San Diego ambrosia (*Ambrosia pumila*) [Federal endangered, CRPR 1B.1];
- many-stemmed dudleya (*Dudleya multicaulis*) [CRPR 1B.2];
- spreading navarretia (*Navarretia fossalis*) [Federal threatened, CRPR 1B.1];
- California Orcutt grass (*Orcuttia californica*) [Federal endangered/State endangered, CRPR 1B.1]; and
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*) [CRPR 2.1].

Focused surveys for MSHCP criteria area and narrow endemic plants were conducted for all suitable habitat areas within and immediately adjacent to the Sensitive Plant Survey Areas. Each focused survey was conducted on foot according to MSHCP protocols and the USFWS, California Native Plant Society (CNPS), and CDFW survey guidelines. The project surveys were coordinated with the blooming periods of several reference populations to aid detection of rare plants in 2012.

Many annual and geophyte (corm or bulb-forming) perennial plant species may fail to germinate, grow, and/or bloom during sub-optimal rainfall years. Accordingly, plant surveys conducted during adverse weather conditions may not accurately document the presence/absence of special-status annual or geophyte-species that occur on a site. Therefore, it is important to review rainfall data for the time period when the focused surveys were conducted in order to show that the results of these surveys were not constrained by low precipitation for a region in any given year.

A site-specific survey program was developed to achieve the following goals: (1) characterize the vegetation associations; (2) prepare a detailed floristic compendium; (3) conduct focused surveys to document the distribution and abundance, or absence, of MSHCP criteria area or narrow endemic plant species at the site; and 4) prepare botanical resource maps showing the distribution of sensitive vegetation communities and the location of the MSHCP target species or other special-status plants observed onsite.

The project surveys also proposed to document other CNPS sensitive plants or species of local concern onsite, if present. The methodology and focus of the program is consistent with the MSHCP guidelines, but also conforms to scientific and technical standards listed by USFWS (1996), CNPS (2001), and California Department of Fish and Game (CDFG: 2009) for sensitive plant species surveys. Field surveys were coordinated with the blooming periods of many reference populations in order to determine whether the target species were identifiable at the time of the survey and therefore aid detection onsite.

Prior to conducting fieldwork, a thorough archival review was conducted using the following baseline resources:

- California Native Plant Society Inventory 8th Inventory Online (March 2012);
- California Natural Diversity Data Base for the USGS 7.5' Bachelor Mountain and Winchester Quadrangles (CNDDDB 2012);
- Consortium of California Herbaria (2012);
- Soil Survey of Western Riverside Area (Knecht 1971);
- Vegetation Alliances of Western Riverside County, California (Klein and Evens 2005);
- Distribution of Vernal Pools in Southern California and the San Jacinto Valley, and vernal alkali plains (Ferren et al. 1996a, 1996b, 1996c; Bauder and McMilian 1998; Keeler-Wolf et al. 1998, and others);
- U.S. Fish and Wildlife Service proposed rules, reports, and comment letters (USFWS 1994a, 1994b, 1995, 1996, 1998, 2004a, 2004b, 2005a, 2005b, 2006, 2009a, 2009b, 2011, 2012, and others);
- Vascular Flora of Western Riverside County (Roberts et al. 2004);
- Reports prepared by the RCA, Western Riverside County;
- Local consultant reports, including previous studies conducted for the Project Site and the immediate area (PSBS 2002, 2003; Helix 2005, 2007), and the immediate region (Caltrans 2007); and
- Articles in botanical journals such as *Madroño*, *Aliso*, *Fremontia*, and *Crossosoma*.

Floristic and focused plant surveys were conducted in order to identify all species occurring within and adjacent to the MSHCP criteria area and narrow endemic plant species survey area located within the Project Site. The project survey program is designed to locate, census, and map the target MSHCP plants, or other sensitive species, if present, observed onsite. Several reference populations were identified and visited in order to ensure detection during the time of the surveys. Additionally, an aerial photograph was inspected to help identify habitats that could be easily overlooked in the field. Physical features such as clay soil inclusions, rock outcrops, and saline-alkali soils were targeted in order to identify specific criteria area and narrow endemic rare plant habitats onsite.

Field notes were taken daily. These notes recorded the date, location, plant species observed, and general habitat characteristics of each area of the project and habitats examined that day. All plant species encountered during the field surveys were identified and recorded in the field notes, including any additional special status or sensitive plants occurring within or in close proximity to the Survey Area. Surveys were also performed in a manner consistent with the MSHCP and other applicable survey protocol requirements as outlined by USFWS (1996), CNPS (2001), Tibor (2001), and CDFG (2009).

Fieldwork was coordinated throughout the spring and summer blooming periods of local reference populations, site-specific habitat conditions, and vegetation-soil associations of the target species. Accordingly, six (6) focused surveys were conducted onsite, including March 31st, April 30th, May 27th, June 23rd, July 23rd, and August 24th, 2012. Also, several reference populations were visited in order to determine whether the

target species were identifiable at the time of the survey. The location of the reference population and date of visit are provided, where appropriate, in the species discussions listed below.

All portions of the Survey Area and adjacent lands were surveyed on foot by walking slowly and methodically across each habitat type. Scientific nomenclature and common names used in this report generally follow Roberts et al. (2004).

Fairy Shrimp

The Project Site was assessed to determine the presence/absence and extent of MSHCP vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a).

No evidence of vernal pools, seasonal depressions, seasonally inundated road ruts or other wetland features were recorded on the Project Site. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools became completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop.

Consistent with conditions documented onsite and as previously stated, the Project Site is characterized as Cajalco rocky fine sandy loam, Lodo rocky loam, and Yokohl loam, all types possessing well drained substrates (drainage class). No indication of clay substrates or hydric soils were documented within the Project Site.

A review of historic aerials was conducted to determine if inundated features were present during years of high rainfall when features would certainly be documented. Historic aerials taken in 2011 represent an ideal baseline during which known (previously documented) inundated vernal pools, seasonal depressions and road ruts can easily be seen. No sign or indication of inundation was documented within the Project Site during a review of historic aerials.

In summary, none of the conditions (i.e., no inundated depressions including road ruts, hydric soils, historic inundation, etc.) were observed or documented within the Project Site. No features are present that would support fairy shrimp. No standing water or other sign of areas that pond water was recorded.

MSHCP Burrowing Owl Surveys

In accordance with the MSHCP Burrowing Owl Survey Instructions (County of Riverside 2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. Step II is comprised of two parts, Part A: Focused Burrow Surveys and Part B: Focused Burrowing Owl Surveys. In addition to

complying with MSHCP survey guidelines, the protocol was augmented to ensure compliance with the CDFW updated Staff Report on Burrowing Owl Mitigation breeding season survey guidelines (CDFG 2012). Specifically, the guidelines incorporated into the MSHCP survey protocol included:

- Four (4) surveys with at least one (1) conducted between February 15th and April 15th, and a minimum of three (3) surveys spaced 3 weeks apart conducted between April 15th and July 15th, with at least one (1) survey after June 15th; and
- Survey transects spaced between 7 to 20 meters apart.

Each step is briefly outlined below, followed by the methodology and results of each survey conducted within the Project Site. All initial habitat assessment and focused surveys were conducted by Ruben Ramirez, Cadre Environmental.

Surveys were conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys were not conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. None of the surveys were conducted within five (5) days of measurable precipitation.

In addition to the MSHCP guidelines, field notes were taken daily. These notes recorded the date, location, animal species observed, and general habitat characteristics of each area and habitat examined that day.

Step I – Habitat Assessment

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Cadre Environmental (2012b) conducted the initial habitat assessment of the Belle Terre Specific Plan No. 382 study area on April 5th and 9th, 2012. Upon arrival at the site, and prior to initiating the assessment survey, Cadre Environmental used binoculars to scan all suitable habitats on and adjacent to the property, including perch locations, to ascertain owl presence.

All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles, or openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present the biologist should also walk the perimeter of the property, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the

buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars.

Results from the habitat assessment indicate that suitable foraging habitat and burrows were documented primarily within ephemeral drainages and isolated rock outcrops within the Belle Terre Specific Plan No. 382 survey area. Accordingly, if suitable habitat is documented onsite, both Step II surveys and the 30-day pre-construction surveys are required in order to comply with the MSHCP guidelines.

Step II – Locating Burrows and Burrowing Owls

A focused burrow survey that includes documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl was conducted as part of the MSHCP protocol, which is described below under Part A: Focused Burrow Survey. The MSHCP protocol indicates that no more than 100 acres should be surveyed per day/per biologist. Therefore, the Belle Terre Specific Plan No. 382 project was divided into four (4) survey areas including the Project Site.

Part A: Focused Burrow Survey

A systematic survey for burrows, including burrowing owl sign, was conducted by walking across all suitable habitats mapped within and adjacent to the Belle Terre Specific Plan No. 382 survey area. Pedestrian survey transects were spaced to allow 100% visual coverage of the ground surface. The distances between transect centerlines were no more than 20 meters (approximately 66 feet.) apart, and owing to the terrain, often much smaller. Transect routes were also adjusted to account for ridge lines and in general ground surface visibility.

All observations of suitable burrows or dens, natural or man-made, or sightings of burrowing owl, were recorded and mapped during the survey. As previously stated, burrows sufficiently sized to support burrowing owl were found scattered throughout the Project Site.

Since natural conditions that could potentially support burrowing owl were documented within the Burrowing Owl Survey Areas, then focused visual surveys were implemented as prescribed in Part B: Focused Burrowing Owl Surveys of the MSHCP guidelines throughout the property and buffer habitat.

Part B: Focused Burrowing Owl Surveys

Four (4) focused burrowing owl surveys (the first was conducted as part of the focused burrow survey – Step II, Part A) were conducted between April and June 2012 from one hour before sunrise to two hours after sunrise. During each visual survey, all potentially suitable burrow or structure entrances were investigated for signs of owl occupation, such as feathers, tracks, or pellets, and carefully observed to determine if burrowing owls utilize these features. All burrows were monitored at a short distance from the entrance, and at a location that would not interfere with potential owl behavior. In addition to monitoring potential burrow locations, all suitable habitats in each survey

area were walked along transects averaging 20 meters (approximately 66 feet) between centerlines. Weather conditions were conducive to a high level of bird activity onsite.

Also, all artificial owl structures located adjacent to the Colorado River Aqueduct (located offsite) were surveyed.

MSHCP Riparian/Riverine/Vernal Pool Resources

The Project Site was assessed to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a). No MSHCP Section 6.1.2 riparian, riverine or vernal pool resources are located within or adjacent to the Project Site as shown in Figure 3, Vegetation Communities Map.

MSHCP Riparian Bird Species

The Project Site was assessed to determine the presence/absence and extent of suitable habitat for MSHCP riparian bird species. No riparian scrub forest or woodland habitat representing suitable habitat for the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*) or western yellow-billed cuckoo (*Coccyzus americanus*) was documented within or adjacent to the Project Site as shown in Figure 3, Vegetation Communities Map.

Jurisdictional Delineation

The Project Site was assessed to determine the presence/absence of jurisdictional features regulated by the United States Army Corps of Engineers, California Department of Fish and Wildlife, and Santa Ana Regional Water Quality Control Board. No jurisdictional features are located within the Project Site as shown in Figure 3, Vegetation Communities Map.

SURROUNDING LAND USES/TOPOGRAPHY/SOILS

The 4.70-acre Project Site is dominated by Riversidean sage scrub which is described in this report and illustrated in Figure 3, *Vegetation Communities Map*, and Figures 4 and 5, *Project Site Photographs*.

Soils mapped by the Soil Conservation Service (SCS)² within the Project Site consist primarily of sandy and loam substrates (Knecht 1971, NRCS 1971, NRCS 1992). The Soil Survey of Western Riverside Area (Soil Survey Staff 2013) has the following soils mapped within the boundary of the property as illustrated in Figure 6, *Soils Association Map*:

- Cajalco rocky fine sandy loam (CbF2), 15 to 50 percent slopes, eroded
- Lodo rocky loam (LpF2), 25 to 50 percent slopes, eroded
- Yokohl loam (YbD2)

As stated by GLA:

Cajalco Rocky Fine Sandy Loam, 15 to 50 Percent Slopes, Eroded (CbF2)

The Cajalco series consists of well-drained soils developed in decomposing gabbro and other basic igneous rocks. These soils occur on uplands and elevations range from 900 to 2,700 feet. In a typical profile, the surface layer is yellowish-brown fine sandy loam at a depth of 18 to 24 inches before reaching partly weathered rock. Rock outcrops cover 2 to 10 percent of the surface. Runoff is rapid on this soil, and the hazard of erosion is high. The available water holding capacity is 2.0 to 3.0 inches. The root zone is 18 to 24 inches deep. Natural fertility is low. This soil is used for dry land pasture and range.

Lodo Rocky Loam, 25 to 50 Percent Slopes, Eroded (LpF2)

The Lodo series consists of somewhat excessively drained upland soils on slopes of 8 to 50 percent. These soils developed on metamorphosed fine-grained sandstone. Elevations range from 700 to 2,500 feet and the average annual rainfall ranges from 10 to 14 inches. Vegetation primarily consists of annual grasses, forbs, and chaparral. In a typical profile, the surface layer is brown gravelly loam averaging 8 inches thick. The underlying layer consists of brown shattered and weathered fine-grained metamorphosed sandstone. Depth to this sandstone varies from 8 to 15 inches. Rock outcrops typically occupy 10 to 20 percent of the soil surface. The Lodo soil has moderate permeability, while runoff is rapid and the hazard of erosion is high. Natural fertility is very low, as this soil is most often used for range.

² SCS is now known as the National Resource Conservation Service (NRCS).

Yokohl Loam, 8 to 15 Percent Slopes, Eroded (YbD2)

The Yokohl series consists of well-drained soils on old alluvial fans and terraces. These soils have slopes ranging from 2 to 25 percent and the soils developed in alluvium of predominantly igneous materials and underlain by a hardpan. Elevations range from 1,000 to 3,000 feet and the average annual rainfall ranges from 10 to 14 inches. The vegetation primarily consists of annual grasses, forbs, chamise, and salvia. In a typical profile, the surface layer is reddish-brown loam averaging 10 inches thick. This soil is typically used for dryland grain and pasture, and if irrigated, for citrus.

None of the soils within the project area are identified as hydric in the SCS's publication, Hydric Soils of the United States³; nor are any of these soils listed as hydric in the Soil Survey for Western Riverside County, California; however, inclusions supporting ponded areas associated with the Yokohl Series may be considered hydric if the soils are frequently ponded for a long duration, or very long duration, during the growing season, or if they are associated with depressions and are seasonally flooded or ponded. It is important to note that under the Arid West Supplement, the presence of mapped hydric soils is no longer dispositive for the presence of hydric soils. Rather, the presence of hydric soils must now be confirmed in the field.” (GLA Associates 2013a)

VEGETATION COMMUNITIES

Natural community names and hierarchical structure follows the CDFW “List of California Terrestrial Natural Communities” and/or Holland (1986) classification systems, which have been refined and augmented where appropriate to better characterize the habitat types observed onsite when not addressed by the MSHCP classification system.

Riversidean Sage Scrub and Riversidean Sage Scrub/Non-Native Grassland

The majority of the Project Site is dominated by Riversidean sage scrub habitat as illustrated in Figure 3, *Vegetation Communities Map*. Dominant species documented within these habitat types include California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), California matchweed (*Gutierrezia californica*), brittlebush (*Encelia farinosa*), California wishbone bush (*Mirabilis californica*), California everlasting (*Pseudognaphalium californicum*), and a scattered understory of non-native grasses including Mediterranean schismus (*Schismus barbatus*), wild oat grass (*Avena fatua*), slender wild oat (*Avena barbata*), ripgut grass (*Bromus diandrus*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

³ United States Department of Agriculture, Soil Conservation Service. 1991. Hydric Soils of the United States, 3rd Edition, Miscellaneous Publication Number 1491. (In cooperation with the National Technical Committee for Hydric Soils.)

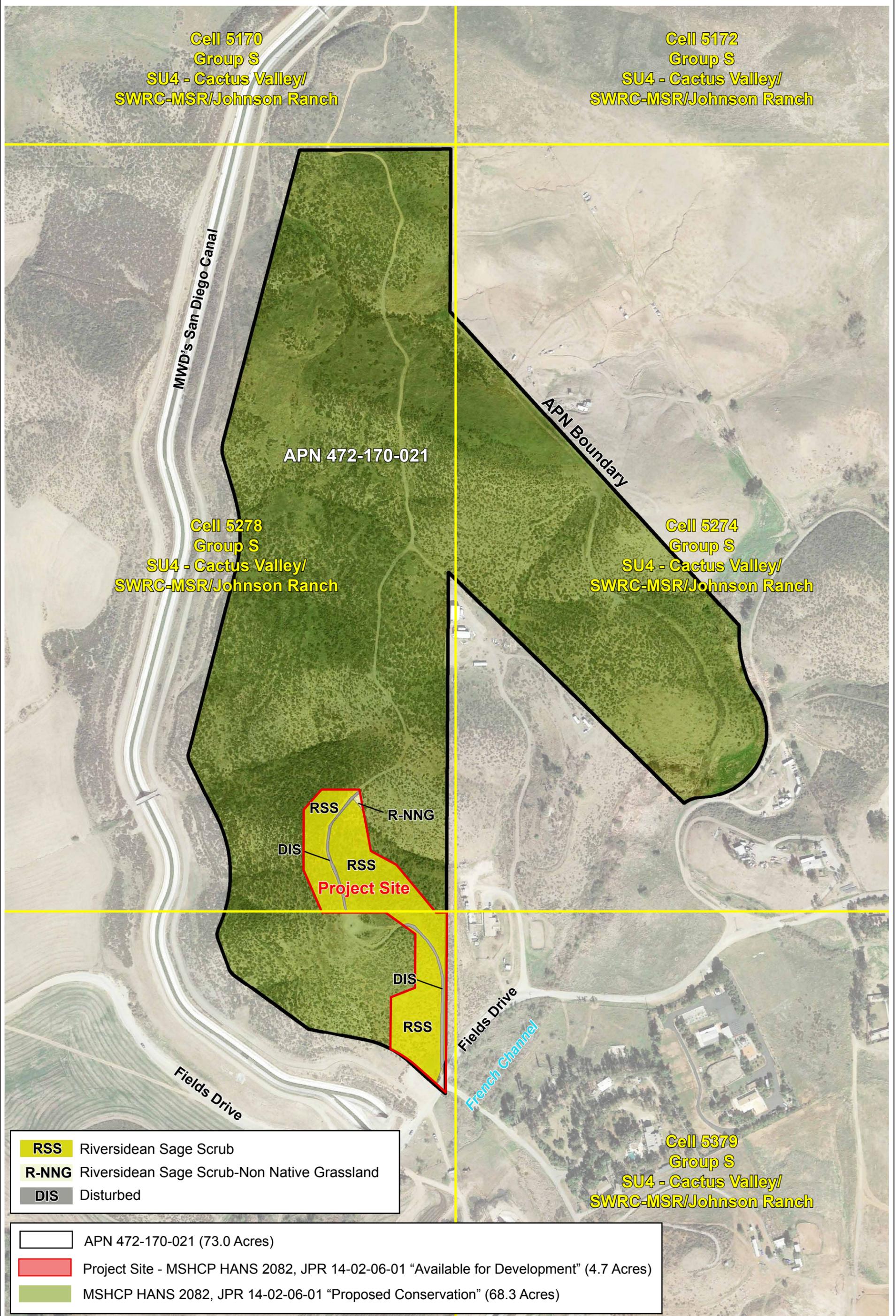


Figure 3 - Vegetation Communities Map
 Biological Resources Assessment Report
 EMWD Belle Terre SP No. 382, PA24 Water Tank Project



PHOTOGRAPH 1



PHOTOGRAPH 2

Refer to Figure 2 for Photographic Key

Figure 4 - Project Site Photographs

*Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project*



PHOTOGRAPH 3



PHOTOGRAPH 4

Refer to Figure 2 for Photographic Key

Figure 5 - Project Site Photographs

*Biological Resources Assessment Report
EMWD Belle Terre SP No. 382, PA24 Water Tank Project*



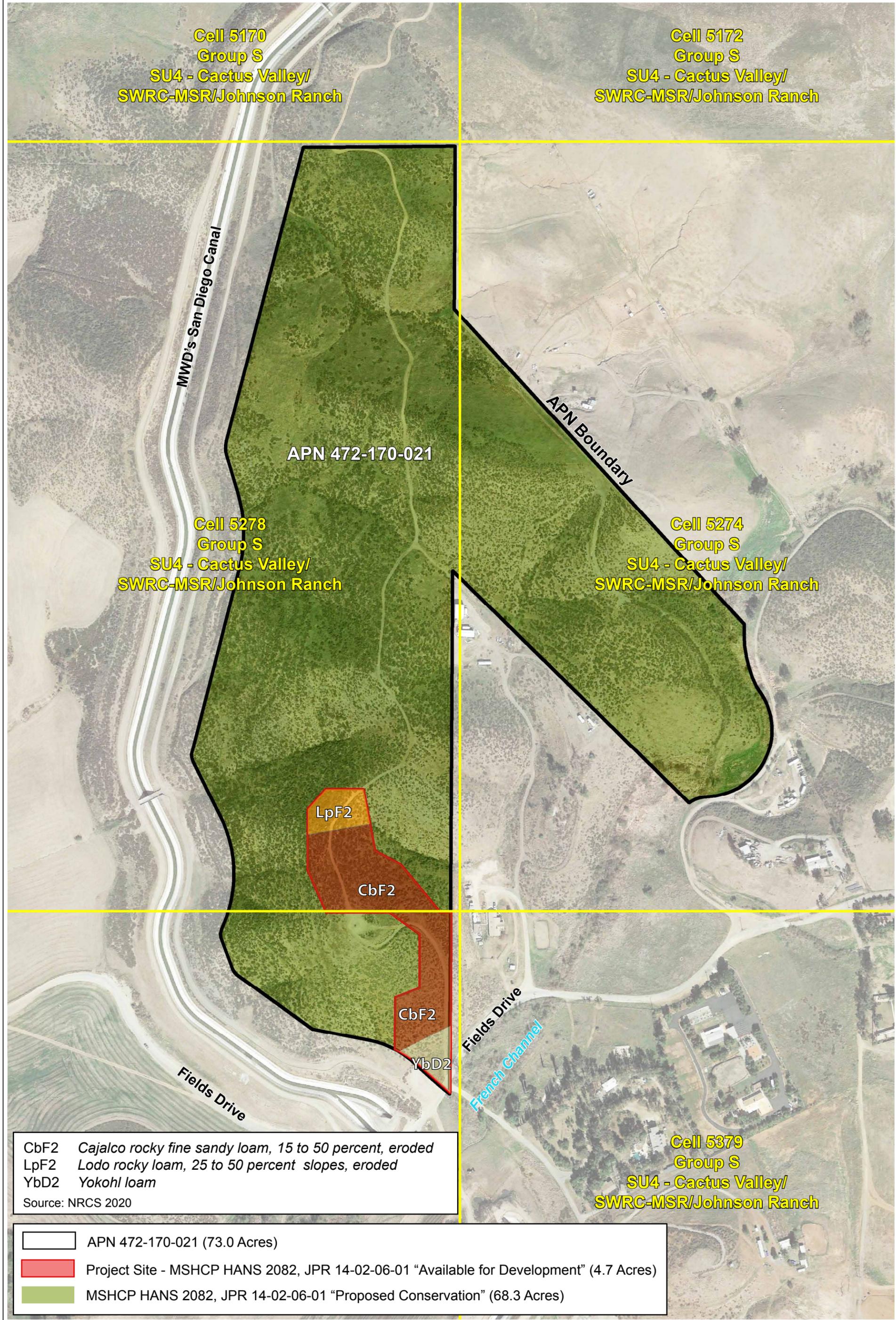


Figure 6 - Soils Association Map
 Biological Resources Assessment Report
 EMWD Belle Terre SP No. 382, PA24 Water Tank Project

Disturbed

Disturbed habitats include those regions of the Project Site generally devoid of vegetation and represented by the existing dirt access road.

Table 1 - Vegetation Communities Acreages

Vegetation Community	Project Site (ac)
Riversidean Sage Scrub	4.47
Disturbed (Existing Dirt Road)	0.21
Riversidean Sage Scrub/Non-Native Grassland	0.02
TOTAL	4.70

Source: Cadre Environmental 2020.

GENERAL PLANT & WILDLIFE SPECIES

A complete list of common plant and wildlife species documented onsite is included in Appendix A–Floral/Faunal Compendia.

JURISDICTIONAL RESOURCES

The Project Site was assessed to determine the presence/absence of jurisdictional features regulated by the United States Army Corps of Engineers, California Department of Fish and Wildlife, and Santa Ana Regional Water Quality Control Board. No jurisdictional features are located within the Project Site.

The Project Site was assessed to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a). No MSHCP Section 6.1.2 riparian, riverine or vernal pool resources are located within or adjacent to the Project Site.

SENSITIVE BIOLOGICAL RESOURCES

The following discussion describes the plant and wildlife species present, or potentially present within the property boundaries, that have been afforded special recognition by federal, state, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by state and/or federal resource management agencies, or both, as threatened or endangered, under provisions of the state and federal endangered species act. Vulnerable or "at-risk" species that are proposed for listing as threatened or endangered (and thereby for protected status) are categorized administratively as "candidates" by the USFWS. CDFW uses various terminology and classifications to describe vulnerable species. There are additional sensitive species classifications applicable in California. These are described below.

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. The CDFW, USFWS, and special groups like the CNPS maintain watch lists of such resources. For the purpose of this assessment sources used to determine the sensitive status of biological resources are:

Plants: USFWS (2019), CNDDDB (CDFW 2019a), CDFW (2019b), CNPS (2020), and Skinner and Pavlik (1994),

Wildlife: California Wildlife Habitat Relationships (2008), USFWS (2019), CNDDDB (CDFW 2019a), and CDFW (2019b).

Habitats: CNDDDB (CDFW 2019a).

FEDERAL PROTECTION AND CLASSIFICATIONS

The Federal Endangered Species Act of 1973 (FESA) defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range..." Threatened species are defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined as follows in Section 3(18) of the FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of a "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants. Recently, the USFWS instituted changes in the listing status of former candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing.

Former C2 species (for which the USFWS had insufficient evidence to warrant listing at this time) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are henceforth to be considered Federal Species of Concern. This term is employed in this document, but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For purposes of this assessment, the following acronyms are used for federal status species:

FE	Federal Endangered
FT	Federal Threatened
FPE	Federal Proposed Endangered
FPT	Federal Proposed Threatened
FC	Federal Candidate for Listing

The designation of critical habitat can also have a significant impact on the development of land designated as “*critical habitat*.” The FESA prohibits federal agencies from taking any action that will “*adversely modify or destroy*” critical habitat (16 U.S.C. § 1536(a)(2)). This provision of the FESA applies to the issuance of permits by federal agencies. Before approving an action affecting critical habitat, the federal agency is required to consult with the USFWS who then issues a biological opinion evaluating whether the action will “*adversely modify*” critical habitat. Thus, the designation of critical habitat effectively gives the USFWS extensive regulatory control over the development of land designated as critical habitat.

The Migratory Bird Treaty Act of 1918 (MBTA) makes it unlawful to “*take*” any migratory bird or part, nest, or egg of such bird listed in wildlife protection treaties between the United States and Great Britain, the Republic of Mexico, Japan, and the Union of Soviet States. For purposes of the MBTA, “*take*” is defined as to pursue, hunt, capture, kill, or possess or attempt to do the same.

The Bald Eagle and Golden Eagle Protection Act explicitly protects the bald eagle and golden eagle and imposes its own prohibition on any taking of these species. As defined in this act, take means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest or disturb. Current USFWS policy is not to refer the incidental take of bald eagles for prosecution under the Bald Eagle and Golden Eagle Protection Act (16 U.S.C. 668-668d).

STATE PROTECTION AND CLASSIFICATIONS

California's Endangered Species Act (CESA) defines an endangered species as “...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.” The State defines a threatened species as “...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 required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species.” Candidate species are defined as “...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.” Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of CESA addresses the taking of threatened or endangered species by stating “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided...” Under CESA, “take” is defined as “...hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Exceptions authorized by the state to allow “take” require “...permits or memorandums of understanding...” and can be authorized for “...endangered species, threatened species, or candidate species for scientific, educational, or management purposes.” Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. CSC (“special” animals and plants) listings include special status species, including all state and federal protected and candidate taxa, Bureau of Land Management (BLM) and US Forest Service (USFS) sensitive species, species considered to be declining or rare by the CNPS or National Audubon Society, and a selection of species which are considered to be under population stress but are not formally proposed for listing. This list is primarily a working document for the CDFW's CNDDDB project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For the purposes of this assessment, the following acronyms are used for State status species:

SE	State Endangered
ST	State Threatened
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SFP	State Fully Protected

SP	State Protected
SR	State Rare
CSC	California Species of Special Concern
CWL	California Watch List

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in the State. This organization has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by CDFW. The CNPS has developed five categories of rarity (CRPR):

CRPR 1A	Presumed extinct in California
CRPR 1B	Rare, threatened, or endangered in California and elsewhere
CRPR 2A	Plants presumed extirpated in California but common elsewhere
CRPR 2B	Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3	Plants about which we need more information – a review list
CRPR 4	Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat

As stated by the CNPS:

“Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B’s, 2’s, 4’s, and the majority of California Rare Plant Rank 3’s. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, 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 California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.” (CNPS 2010)

0.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

SENSITIVE HABITATS

As stated by CDFW:

“One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe’s Heritage Methodology, in which all alliances are listed with a G (global) and S (state) rank. For alliances with State ranks of S1-S3, all associations within them are also considered to be highly imperiled” (CDFW 2010)

No sensitive vegetation communities were documented within or adjacent to the Project Site.

SENSITIVE PLANTS

None of the thirteen (13) MSHCP criteria area or narrow endemic plant species were detected and/or are not expected to occur onsite due to a lack of suitable habitat (Rick Riefner Associates 2012).

No MSHCP covered, narrow endemic, or criteria area species were detected on or adjacent to the Project Site as listed in Table 2, *Sensitive Plant Species with Potential to Occur Onsite* (Cadre 2012b, Rick Riefner Associates 2012).

Table 2 - Sensitive Plant Species with Potential to Occur Onsite.

Species Name (Scientific Name)	Habitat Description	Comments
Status		
Munz’s onion (<i>Allium munzii</i>) FE/ST CRPR List 1B.1 MSHCP NEPSA CA Endemic	Munz’s onion is restricted to mesic clay soils in western Riverside County, California. It blooms from March to May. This species is found in southern needlegrass grassland, annual grassland, open coastal sage scrub, or occasionally, in cismontane juniper woodlands.	Munz’s onion was not observed during focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
San Diego ambrosia (<i>Ambrosia pumila</i>) FE CRPR List 1B.1 MSHCP NEPSA	San Diego ambrosia is known from Baja California, Mexico, and San Diego and Riverside counties in the United States. It blooms May to September. San Diego ambrosia occurs primarily on upper terraces of rivers and drainages as well as in open grasslands,	San Diego ambrosia was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.

Species Name <i>(Scientific Name)</i> Status	Habitat Description	Comments
	openings in coastal sage scrub, and occasionally in areas adjacent to vernal pools.	
Parish's brittlebush <i>(Atriplex parishi)</i> CRPR List 1B.1 MSHCP CAPSA	Parish's brittlebush is a small prostrate to decumbent annual, white scaly, and is often much less than eight inches in length. It blooms May to October. This species occurs on alkali or saline flats, alkali meadows, and in or along the margins of vernal pools or playa depressions.	Parish's brittlebush was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Davidson's saltscale <i>(Atriplex serenana var. davidsonii)</i> CRPR List 1B.2 MSHCP CAPSA	Davidson's saltscale is a decumbent to ascending annual that is sparsely scaly. It blooms April to October. It grows on coastal bluffs and alkaline alluvial terraces, and on alkali or saline flats in interior areas such as western Riverside County.	Davidson's saltscale was not observed on site during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Thread-leaved brodiaea <i>(Brodiaea filifolia)</i> FT/SE CRPR List 1B.1 MSHCP CAPSA CA Endemic	Thread-leaved brodiaea is a geophyte, which produces leaves and flower stalks that sprout from corms (underground bulb-like storage stems). Thread-leaved brodiaea blooms March to June. Thread-leaved brodiaea typically occurs on gentle hillsides, valleys, and floodplains in semi-alkaline flats of riparian areas, vernal pools, mesic southern needlegrass grassland, mixed native-annual grassland, and alkali grassland plant communities in association with clay, clay loam, or alkaline silty-clay soils.	Thread-leaved brodiaea was not observed on site during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Smooth Tarplant <i>(Centromadia pungens ssp. laevis)</i> CRPR 1B.1 MSHCP CAPSA	Smooth tarplant is an annual member of the sunflower family (Asteraceae) that occurs in vernal pools, alkali playas and scrub, alkali grasslands, riparian areas,	Smooth tarplant was not observed on site during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.

Species Name <i>(Scientific Name)</i> Status	Habitat Description	Comments
	along watercourses and disturbed sites. It blooms April to September.	
Multi-stemmed dudleya <i>(Dudleya multicaulis)</i> CRPR List 1B.2 MSHCP NEPSA	Many-stemmed dudleya is a succulent perennial in the stonecrop family. It blooms April to July. This species is known from several southern California counties, and typically occurs in dry, stony places on heavy soils in scrub and grassland habitats below 2,000 feet elevation. Many-stemmed dudleya is most often associated with clay soils in barren, rocky places, or thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands.	Many-stemmed dudleya was not observed during focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Round-leaved filaree <i>(Erodium macrophyllum)</i> CRPR List 2.1 MSHCP CAPSA CA Endemic	Round-stemmed filaree habitats include open areas in cismontane woodland and valley and foothill grasslands, which are often associated with heavy clay soils below 3,600 feet elevation.	Round-leaved filaree was not observed during focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Coulter's goldfields <i>(Lasthenia glabrata ssp. coulteri)</i> CRPR List 1B.1 MSHCP CAPSA	Coulter's goldfields is associated with low-lying alkali and saline habitats along the coast and inland valleys. The majority of the populations are associated with coastal salt marsh. In Riverside County, Coulter's goldfields primarily grow in highly alkaline, silty clays associated with the Traver-Domino-Willows soils, and usually in the wet areas in the alkali vernal plain community.	Coulter's goldfields was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
Little mousetail <i>(Myosurus minimus ssp. apus)</i> CRPR List 3.1 MSHCP CAPSA	Little mousetail is widespread in California. It occurs in alkaline vernal pools, and vernal alkali plains and grasslands, and blooms March to June.	Little mousetail was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection and suitable habitat.

Species Name <i>(Scientific Name)</i>	Habitat Description	Comments
Status Spreading navarretia <i>(Navarretia fossalis)</i> FT/SE CRPR List 1B.1 MSHCP NEPSA	Spreading navarretia is a member of the phlox family, and is found in vernal pools, chenopod scrub, edge of marshes, and playas on saline-alkali soils. It occasionally grows in ditches and depressions associated with degraded habitat or old stock ponds (Consortium 2012). Spreading navarretia is a small prostrate to occasionally erect annual. Spreading navarretia blooms April to June.	Spreading navarretia was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.
California Orcutt grass <i>(Orcuttia californica)</i> FE/SE CRPR List 1B.1 MSHCP NEPSA	California Orcutt grass is a small, unique grass that occurs primarily in vernal pool habitats. In southern California, it is known from Orange (recently reported occurrence), Los Angeles, Riverside, Ventura, and San Diego Counties, and continues south into Baja California, Mexico. California Orcutt grass blooms April to August. In Riverside County, this species is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools such as Skunk Hollow, at Upper Salt Creek near Hemet, Menifee and elsewhere.	California Orcutt grass was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection and suitable habitat.
Wright's trichocoronis <i>(Trichocoronis wrightii var. wrightii)</i> CRPR List 2.1 MSHCP NEPSA	The historic known range of Wright's trichocoronis includes the Great Valley of central California, western Riverside County, and south Texas and adjacent northeast Mexico. This plant grows in meadows and seeps, marshes, riparian scrub, and vernal pools. Wright's trichocoronis blooms May to September.	Wright's trichocoronis was not observed onsite during the focused surveys conducted in 2012. This species is not expected within the Project Site due to lack of detection.

Source: Cadre Environmental 2013a, 2013b.

SENSITIVE WILDLIFE

Nine (9) target MSHCP planning species were detected within the region of the Project Site during the focused 2012 survey program as well as previous survey efforts as summarized below. The remaining eleven (11) MSHCP planning species were not detected onsite and are either expected to occur onsite based on the presence of suitable habitat or are not expected to occur onsite due to a lack of suitable habitat as presented in Table 3, *Sensitive Wildlife Species with Potential to Occur Onsite*.

The following discussion is presented in two (2) parts:

1. MSHCP Planning Species detected in the vicinity of the Project Site;
2. MSHCP and sensitive species that can be excluded from the Project Site based on the negative results of the 2012 surveys or may potentially occur onsite based on the presence of suitable habitat.

MSHCP Planning Species Documented within Vicinity of the Project Site

Bell's sage sparrow (*Amphispiza belli belli*) – CWL. Bell's sage sparrow is an uncommon to fairly common but localized resident breeder in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains (MSHCP 2004). The species was documented within the Riversidean sage scrub habitat located within the vicinity of the Project Site. The species is expected to occur onsite.

Coastal California gnatcatcher (*Polioptila californica californica*) – FT, CSC. The coastal California gnatcatcher is a non-migratory bird species that primarily occurs within sage scrub habitats in coastal southern California dominated by California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*). Six (6) pair of coastal California gnatcatchers were detected within the vicinity of the Project Site during the 2012 survey efforts. The species is expected to occur onsite.

Grasshopper sparrow (*Ammodramus savannarum*) – CSC. The grasshopper sparrow generally prefers moderately open grasslands and prairies with patchy bare ground (MSHCP 2004). The species was documented within the Riversidean sage scrub habitat located within the vicinity of the Project Site. The species is expected to occur onsite.

Least Bell's vireo (*Vireo bellii pusillus*) FE/SE. Least Bell's vireo resides in riparian habitats with a well-defined understory including southern willow scrub, mule fat, and riparian forest/woodland habitats. Two (2) pair of least Bell's vireo and a single male were detected within the riparian forest located offsite within French Channel located south of the Project Site during the 2012 focused surveys. The species is not expected to occur onsite based on a lack of suitable riparian scrub, forest of woodland habitat within or immediately adjacent to the Project Site.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) – CWL. Southern California rufous-crowned sparrow is a non-migratory bird species that primarily occurs within sage scrub and grassland habitats and to a lesser extent

chaparral sub-associations (Unitt 2004). This species generally breeds on the ground within grassland and scrub communities in the western and central regions of California. The species was documented within the Riversidean sage scrub habitat located within the vicinity of the Project Site. The species is expected to occur onsite.

Tree Swallow (*Tachycineta bicolor*)-. Suitable habitat is provided for the tree swallow by the riparian forest and woodland up through the lodgepole pine belt for breeding habitats. It frequents valley foothill and montane riparian habitats below 2,700 meters (9,000 feet) for breeding within its range. (MSHCP 2004). The species was documented foraging within the riparian forest located within offsite French Channel located south of the Project Site during the 2012 focused surveys. The species is not expected to occur onsite based on a lack of suitable riparian scrub, forest of woodland habitat within or immediately adjacent to the Project Site.

Turkey vulture (*Cathartes aura*). The focus of this planning effort is on the nesting of the turkey vulture. There are two recorded nest sites within the Southwest Area Plan: Bernasconi Hills near Lake Perris and Rawson Canyon near Lake Skinner (MSHCP 2004). Although no nesting was documented onsite, the species was commonly observed within the vicinity of the Project Site and is expected to be present.

White-tailed kite (*Elanus leucurus*) – SFP. The white-tailed kite is found in riparian, oak woodlands adjacent to large open spaces including grasslands, wetlands, savannahs and agricultural fields. This non-migratory bird species occurs throughout the lower elevations of California and commonly nests in coast live oaks (Unitt 2004). The species was documented foraging onsite as well as perching within the riparian forest habitat located offsite within French Channel located south of the Project Site. The species may occasional forage onsite.

Bobcat (*Lynx rufus*). The bobcat requires large expanses of relatively undisturbed brushy and rocky habitats near springs or other perennial water sources. The species was uncommonly documented within the vicinity of the Project Site and is expected to occasionally forage onsite.

Additional MSHCP covered species documented within the vicinity of the Project Site during the 2012 survey efforts including previous surveys conducted by PSBS (2002):

- San Diego horned lizard (*Phrynosoma coronatum blainvilleii*) – CSC
- Belding's orange-throated whiptail (*Aspidoscelis hyperythra*) – CSC
- Coastal western whiptail (*Aspidoscelis tigris stejnegeri*)
- Loggerhead shrike (*Lanius ludovicianus*) – CSC
- Cooper's hawk (*Accipiter cooperi*) - CWL
- Downy woodpecker (*Picoides pubescens*)
- Yellow-breasted chat (*Icteria virens*) – CSC
- California horned lark (*Eremophila alpestris actia*) – CWL
- Yellow warbler (*Setophaga petechia*) – CSC
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) – CSC
- Coyote (*Canis latrans*)
- Long-tailed weasel (*Mustela frenata*)

As previously stated, The Western Riverside County MSHCP has determined that all of the sensitive species potentially occurring within the Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004).

A comprehensive assessment of sensitive species known to occur within the region and the potential for occurrence within the Project Site is presented in Table 3, *Sensitive Wildlife Species with Potential to Occur Onsite*.

Table 3 - Sensitive Wildlife Species with Potential to Occur Onsite

Species Name (Scientific Name)	Habitat Description	Comments
Status		
INVERTEBRATES		
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>) FT MSHCP Covered Species	Vernal pool fairy shrimp is restricted to seasonal vernal pools (Eng, Belk, and Eriksen 1990; USFWS 1994a). The vernal pool fairy shrimp prefers cool-water pools that have low to moderate dissolved solids, are unpredictable, and often short lived (Eriksen and Belk 1999, MSHCP 2004).	Not expected to occur onsite based on a lack of vernal pool, seasonal depression, and historic evidence of inundation within the Project Site.
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>) FE MSHCP Covered Species	Riverside fairy shrimp is restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions (Eng, Belk, and Eriksen 1990,). Riverside fairy shrimp prefer warm-water pools that have low to moderate dissolved solids, are less predictable, and remained filled for extended periods of time (Eriksen and Belk 1999, MSHCP 2004).	Not expected to occur onsite based on a lack of vernal pool, seasonal depression, and historic evidence of inundation within the Project Site.
Quino checkerspot butterfly (<i>Euphydras editha quino</i>) FE MSHCP Covered Species	Quino checkerspot butterfly (QCB) is restricted to low elevation meadow habitats or clearings usually characterized by clay or cryptogamic deposits,	Not expected to occur onsite based on lack of detection during focused USFWS protocol surveys (PSBS 2003).

Species Name (Scientific Name)	Habitat Description	Comments
Status		
	inhabited by host plants including <i>Plantago erecta</i> , <i>Plantago patagonica</i> , <i>Castilleja exserta</i> , and <i>Cordylanthus rigidus</i> . Adult QCB often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops. (MSHCP 2004)	
AMPHIBIANS		
Western spadefoot (<i>Spea hammondi</i>) CSC MSHCP Covered Species	The western spadefoot population is patchily but widely distributed throughout the Riverside Lowlands and San Jacinto Foothills Bioregions. Primary habitat for this species includes suitable breeding habitat below 1500 meters (i.e., vernal pools or other standing water that is free of exotic species) with secondary habitats including adjacent chaparral, sage scrub, grassland, and alluvial scrub habitats. (MSHCP 2004)	Suitable habitat for the western spadefoot was documented within the Riversidean sage scrub and non-native grasslands. This species has a moderate to low potential to occur onsite.
REPTILES		
Western pond turtle (<i>Actinemys marmorata</i>) CSC MSHCP Covered Species	The western pond turtle 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 (Rathbun <i>et al.</i> , 1992; Holland, 1994). Pools are the preferred habitat within streams (Bury, 1972, MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.

Species Name <i>(Scientific Name)</i>	Habitat Description	Comments
Status Red-diamond rattlesnake <i>(Crotalus ruber)</i> CSC MSHCP Covered Species	The northern red-diamond rattlesnake is often found in areas with dense vegetation especially chaparral and sage scrub up to 1,520 meters in elevation. (MSHCP 2004)	Suitable habitat for the Northern red-diamond rattlesnake was documented within the Riversidean sage scrub habitat. This species has a moderate to low potential to occur onsite.
Coast patch-nosed snake <i>(Salvadora hexalepis virgultea)</i> CSC MSHCP Covered Species	The coast patch-nosed snake prefers brushy coastal sage scrub/ chaparral habitats.	Suitable habitat for the coast patch-nosed snake was documented within the Riversidean sage scrub habitat. This species has a moderate to low potential to occur onsite.
Northern three-lined boa (coastal rosy boa) <i>(Lichanura orcutti)</i> MSHCP Covered Species	The northern three-lined boa prefers rocky habitats within coastal sage scrub and chaparral habitats.	No suitable habitat for the coastal rosy boa was documented within the Riversidean sage scrub habitat. This species is not expected to occur onsite.
BIRDS		
White-faced ibis <i>(Plegadis chihi)</i> CSC MSHCP Covered Species	The white-faced ibis is sparsely distributed throughout the Riverside Lowlands Bioregions of the MSHCP Plan Area within its suitable habitat. It occurs at some of the areas of freshwater marsh habitat but is only documented for breeding at two locations: Prado Basin and Mystic Lake/San Jacinto Wildlife Area. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Northern Harrier <i>(Circus cyaneus)</i> CSC MSHCP Covered Species	The northern harrier frequents open wetlands, wet and lightly grazed pastures, old fields, dry uplands, upland prairies, mesic grasslands, drained marshlands, croplands, shrub-steppe, meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands and is seldom found in wooded areas (Bent 1937;	Suitable foraging habitat for wintering birds is present throughout the Project Site. This species is expected to occasionally forage onsite.

Species Name <i>(Scientific Name)</i> Status	Habitat Description	Comments
	MacWhirter and Bildstein 1996). It uses tall grasses and forbs in wetlands, or at wetland/field borders for cover; it roosts on the ground (Bent 1937, MSHCP 2004)	
Sharp-shinned hawk <i>(Accipiter striatus)</i> CWL MSHCP Covered Species	For the purpose of the conservation analysis, potential habitat for the sharp-shinned hawk includes montane coniferous forest for potential breeding areas (none have been documented) and riparian scrub, woodland, and forest habitat, oak woodland and forest, chaparral, coastal sage scrub, desert scrub, and Riversidean alluvial fan sage scrub for foraging. (MSHCP 2004)	Not expected to breed onsite. This species may infrequently forage onsite during migration.
Swainson's hawk <i>(Buteo swainsoni)</i> ST MSHCP Covered Species	This rare migrant no longer nests in southern California where it historically bred along riparian woodlands and foraged within adjacent grasslands (Unitt 2004).	This species may infrequently forage onsite during migration.
Ferruginous hawk <i>(Buteo regalis)</i> CSC MSHCP Covered Species	Range-wide, within California, ferruginous hawks winter in open terrain and grasslands of plains and foothills (Grinnell and Miller 1944). Within southern California, including the Plan Area, ferruginous hawks typically winter in open fields, grasslands, and agricultural areas (Garrett and Dunn 1981, MSHCP 2004)	This species may infrequently forage onsite during migration.

Species Name <i>(Scientific Name)</i>	Habitat Description	Comments
Status Golden eagle <i>(Aquila chrysaetos)</i> CWL, SFP MSHCP Covered Species	Within southern California, the species prefers grasslands, brushlands (coastal sage scrub and chaparral), deserts, oak savannas, open coniferous forests, and montane valleys (Garrett and Dunn 1981, MSHCP 2004)	This species may infrequently forage onsite.
Merlin <i>(Falco columbarius)</i> CWL MSHCP Covered Species	The merlin has a sparse and widespread distribution throughout the MSHCP Plan Area within almost every habitat that occurs within the Plan Area. It occurs within the Plan Area as a transient in the spring and fall and may occasionally winter within the area. It does not require specific conditions or locations for nesting because it does not nest in the region. (MSHCP 2004)	This species may infrequently forage onsite during migration.
Prairie falcon <i>(Falco mexicanus)</i> CWL MSHCP Covered Species	Habitat use of the prairie falcon includes annual grasslands to alpine meadows. The prairie falcon is associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields during the winter season, and desert scrub areas, all typically dry environments of western North American where there are cliffs or bluffs for nest sites (Brown and Amadon 1968, MSHCP 2004)	This species may infrequently forage within the Project Site.
American peregrine falcon <i>(Falco peregrinus anatum)</i> SFP MSHCP Covered Species	Throughout the species' range, peregrine falcons are found in a large variety of open habitats, including tundra, marshes, seacoasts, savannahs and high mountains (AOU 1998, MSHCP 2004)	This species may infrequently forage onsite.

Species Name <i>(Scientific Name)</i>	Habitat Description	Comments
Status Western yellow-billed cuckoo <i>(Coccyzus americanus occidentalis)</i> SE MSHCP Covered Species	Although the preferred habitat, riparian scrub and forest, is well distributed at scattered locations within the Plan Area in the Riverside Lowland Bioregions, the western yellow-billed cuckoo apparently no longer inhabits much of this habitat. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Mountain plover (wintering) <i>(Charadrius montanus)</i> FPT/CSC MSHCP Covered Species	The mountain plover is narrowly distributed at relatively few locations within the Plan Area in suitable habitat. The mountain plover uses playas and vernal pool, grassland, and some agriculture habitats during the winter in the Plan Area. Although playa and vernal pool habitat is well identified for the Plan Area, it encompasses a relatively small portion. The remaining habitats, grassland and agriculture land, are well distributed within the Plan Area but the mountain plover uses only a small portion of what is available. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Burrowing owl <i>(Athene cunicularia)</i> CSC MSHCP Covered Species	The burrowing owl uses predominantly open land, including grassland, agriculture (e.g., dry-land farming and grazing areas), playa, and sparse coastal sage scrub and desert scrub habitats. Some breeding burrowing owls are year-round residents and additional individuals from the north may winter throughout the MSHCP Area Plan. (MSHCP 2004)	Not expected to occur onsite based on lack of detection during focused surveys (Cadre Environmental 2012b).

Species Name <i>(Scientific Name)</i>	Habitat Description	Comments
Status Southwestern willow flycatcher <i>(Empidonax traillii extimus)</i> FE/SE MSHCP Covered Species	The southwestern willow flycatcher is narrowly distributed at few locations within the Plan Area. Although the preferred habitat, riparian woodland and select other forests, is well distributed within all bioregions and spread over the entire Plan Area, few current locations for the willow flycatcher have been documented. (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
Cactus wren <i>(Campylorhynchus brunneicapillus)</i> CSC MSHCP Covered Species	The cactus wren is closely associated with three species of cacti and occurs almost exclusively in thickets of cholla (<i>Opuntia prolifera</i>) and prickly pear (<i>Opuntia littoralis</i> and <i>Opuntia oricola</i>) dominated stands of coastal sage scrub below 457 meters in elevation on mesas and lower slopes of the coast ranges (Proudfoot <i>et al.</i> 2000). (MSHCP 2004)	Not expected to occur onsite based on a lack of suitable habitat.
MAMMALS		
Los Angeles pocket mouse <i>(Perognathus longimembris brevinasus)</i> CSC MSHCP Covered Species	The Los Angeles pocket mouse appears to be limited to sparsely vegetated habitat areas in patches of fine sandy soils associated with washes or of aeolian (windblown) origin, such as dunes. (MSHCP 2004)	Low potential to occur onsite within the sparsely vegetated regions of Riversidean sage scrub where suitable soils have also been recorded.
Northwestern San Diego pocket mouse <i>(Chaetodipus fallax fallax)</i> CSC MSHCP Covered Species	The northwestern San Diego pocket mouse occurs throughout the Plan Area in coastal sage scrub (including Diegan and Riversidean upland sage scrubs and alluvial fan sage scrub), sage scrub/grassland ecotones, chaparral, and desert	Moderate to low potential to occur onsite within the sparsely vegetated regions of Riversidean sage scrub where suitable soils have been recorded.

Species Name <i>(Scientific Name)</i> Status	Habitat Description	Comments
	scrubs at all elevations up to 6,000 feet. (MSHCP 2004)	
Stephens' kangaroo rat <i>(Dipodomys stephensi)</i> FE/ST MSHCP Covered Species	The Stephens' kangaroo rat is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50 percent during the summer (e.g., Bleich 1973; Bleich and Schwartz 1974; Grinnell 1933; Lackey 1967; O'Farrell 1990; Thomas 1973). (MSHCP 2004)	Moderate to low potential to occur onsite within the sparsely vegetated regions of Riversidean sage scrub where suitable soils and kangaroo rat sign have been recorded (PSBS 2002).
Dulzura kangaroo rat <i>(Dipodomys simulans)</i> MSHCP Covered Species	The Dulzura kangaroo rat occurs throughout the Plan Area in coastal sage scrub (including Diegan and Riversidean upland sage scrubs and alluvial fan sage scrub), sage scrub/grassland ecotones, chaparral, and desert scrubs at all elevations up to 2,600 feet. (MSHCP 2004)	This species is expected to occur onsite based on the presence of both suitable habitat and detection of kangaroo rat burrows.
San Diego desert woodrat <i>(Neotoma lepida intermedia)</i> CSC MSHCP Covered Species	The San Diego desert woodrat is found throughout the Plan Area in sage scrub and chaparral wherever there are rock outcrops, boulders, cactus patches and dense undergrowth. (MSHCP 2004)	This species has a low potential of occurrence onsite based on the lack of rock outcrops and dense undergrowth in the Riversidean sage scrub habitats.
Mountain lion <i>(Puma concolor)</i> MSHCP Covered Species	Mountain lions use rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitats. (MSHCP 2004)	This species may infrequently utilize the Project Site for foraging.

Source: PSBS 2002, Cadre Environmental 2012b. 2020.

The USFWS has designated the Project Site as “Excluded Essential Habitat” for the coastal California gnatcatcher. The designated region is essential to the protection of the species but excluded from Critical Habitat designation based on the development of the Western Riverside County MSHCP. A total of 68.30 acres of APN 472-170-021 within which the 4.70-acre Project Site is located has been designated as “Proposed Conservation” – HANS 2082, JPR 14-02-06-01.

REGIONAL CONNECTIVITY/WILDLIFE MOVEMENT CORRIDORS

Overview

Wildlife corridors link areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed “demes”) linked together via a system of corridors is termed a “metapopulation.” The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population’s genetic variability is generally associated with an increase in a population’s health.

Corridors mitigate the effects of habitat fragmentation by:

- (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;
- (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and
- (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983; Fahrig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as “wildlife corridor”, “travel route”, “habitat linkage”, and

“wildlife crossing” to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Travel Route: A landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

Wildlife Corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species.

Wildlife Crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often “choke points” along a movement corridor.

Wildlife Movement within Project Site

The Project Site is located north of MHSCP proposed constrained Linkage 18 and the proposed action would not adversely affect wildlife movement within French Valley Creek. Because the Project Site is almost completely surrounded by MSHCP “Proposed Conservation” lands, all Urban/Wildlands Interface guidelines presented in Section 6.1.4 will be implemented as discussed below.

REGIONAL AND REGULATORY SETTING

The following section has been based on previous results of focused MSHCP surveys, jurisdictional delineation, project design and continued coordination with the County EPD, RCA and regulatory agencies on meeting all MSHCP and regulatory objectives for the respective MSHCP Criteria Areas and resources documented onsite.

LOCAL

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

The proposed Project Site is located completely within the MSHCP, which is a comprehensive multi-jurisdictional effort that includes western Riverside County and eighteen (18) cities. Rather than addressing sensitive species on an individual basis, the MSHCP focuses on conservation of 146 species, including those listed at the federal and state levels and those that could become listed in the future. The MSHCP proposed a reserve system of approximate 500,000 acres, of which 347,000 acres are currently within public ownership and 153,000 acres will need to be assembled from lands currently in private ownership. The MSHCP allows the County and other permittees to issue take permits for listed species so that applicants do not need to receive endangered species incidental take authorization from the USFWS and CDFW.

On June 7th, 2003, the County Board of Supervisors adopted the MSHCP, certified the Environmental Impact Report/Environmental Impact Statement, and authorized the Chairman to sign the Implementing Agreement with the respective wildlife agencies. The Incidental Take Permit was issued by the wildlife agencies on June 22nd, 2004.

MSHCP Reserve Design & Criteria Area Objectives

Regions of the MSHCP have been organized into Area Plans that generally coincide with logical political boundaries, including city limits or long-standing unincorporated communities. The Project Site is located within the Southwest Area Plan and partially within two (2) Criteria Area Cells. Specifically, the Project Site is located within Cell 5278 Group S, and 5373 Group S – SU4 Cactus Valley/SWRC-MSR/Johnson Ranch as shown in Figure 2, *Project Site Map*.

Southwest Area Plan - Cell Group S

As stated by the MSHCP, conservation within the Southwest Area Plan Cell Group S will contribute to the assembly of Proposed Extension of Existing Core 7, Proposed Constrained Linkage 17 and Proposed Constrained Linkage 18 including focus on the conservation on chaparral, coastal sage scrub, grassland, riparian scrub, woodland, and forest habitats. (MSHCP 2004). Conservation within the Cell Group S - SU4 Cactus Valley/SWRC-MSR/Johnson Ranch will range from 65% - 75% of the Cell Group focusing in the eastern portion of the Cell Group. As summarized below, the Project Site is located primarily (with the exception of 8.62 acres located within independent Cell 5279) within the extreme western region of Cell Group S where no conservation

goals have been established. The MSHCP has targeted conservation within Cell Group S to the eastern region.

Cell 5278 S - SU4 Cactus Valley/SWRC-MSR/Johnson Ranch

The proposed action was reviewed for consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) by the following agencies:

- Riverside County Environmental Programs Division – HANS 2082
- MSHCP Regional Conservation Authority (RCA) – JPR 14-02-06-01
- Wildlife Agencies, United States Fish and Wildlife Service and California Department of Fish and Wildlife

A consistency determination was issued by the RCA for the Belle Terre Specific Plan No. 382, Planning Area 24 project including the proposed action (water tank development) on May 12th, 2014. As outlined in the MSHCP consistency determination, a total of 106.85-acres (including 68.30 acres within APN 472-170-021) will be dedicated as conservation land to the Regional Conservation Authority.

Cell 5373 S - SU4 Cactus Valley/SWRC-MSR/Johnson Ranch

The proposed action was reviewed for consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) by the following agencies:

- Riverside County Environmental Programs Division – HANS 2082
- MSHCP Regional Conservation Authority (RCA) – JPR 14-02-06-01
- Wildlife Agencies, United States Fish and Wildlife Service and California Department of Fish and Wildlife

A consistency determination was issued by the RCA for the Belle Terre Specific Plan No. 382, Planning Area 24 project including the proposed action (water tank development) on May 12th, 2014. As outlined in the MSHCP consistency determination, a total of 106.85-acres (including 68.30 acres within APN 472-170-021) will be dedicated as conservation land to the Regional Conservation Authority.

MSHCP Sensitive Species Surveys

None of the thirteen (13) MSHCP criteria area or narrow endemic plant species were detected and/or are not expected to occur onsite due to a lack of suitable habitat (Rick Riefner Associates 2012). The project is consistent with MSHCP Section 6.3.2.

Portions of the Project Site occur within a predetermined Survey Area for the burrowing owl. Based on the presence of suitable habitat documented during the habitat assessment within and adjacent to the Project Site, focused surveys were conducted during the spring of 2012. No burrowing owls were detected within or adjacent to the Project Site. At a minimum, a 30-day preconstruction survey will be conducted immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The project is consistent with MSHCP Section 6.3.2.

The Project Site is not located within an MSHCP Amphibian or Mammal Species Survey Area; therefore, no surveys were required (RCA GIS Data Downloads 2020). The project is consistent with MSHCP Section 6.3.2.

Regulated activities within inland streams, wetlands and riparian areas in Western Riverside County, California fall under the jurisdiction of the MSHCP. The MSHCP requires, among other things, assessments for riparian/riverine and vernal pool resources. As projects are proposed within the MSHCP Plan Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas, and vernal pools are required, as currently mandated by CEQA, using available information augmented by project-specific mapping provided to and reviewed by the permittee's biologist(s). Riparian/riverine areas and vernal pools are defined for this section as follows in accordance with Section 6.1.2, Vol. I, of the Final MSHCP Plan:

“Riparian/Riverine Areas are lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.” (MSHCP 2004)

It is assumed the first part of the definition defines riparian habitat, and the second part defines riverine areas. Vernal pools are defined as:

“...seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season”. (MSHCP 2004)

The Project Site was assessed to determine the presence/absence and extent of MSHCP riparian, riverine and vernal pool resources in accordance with the RCIP definition (Section 6.1.2, Volume I, Final MSHCP) in March 2012 (Cadre Environmental 2012a). No MSHCP Section 6.1.2 riparian, riverine or vernal pool resources are located within or adjacent to the Project Site. The project is consistent with MSHCP Section 6.1.2.

The fuels management guidelines presented in Section 6.4 of the MSHCP are intended to address brush management activities around new development within or adjacent to MSHCP Conservation Areas. The final project design will ensure that no fuel modification will extend into adjacent or proposed open space conservation lands. The project is consistent with MSHCP Section 6.4.

Stephens' Kangaroo Rat Habitat Conservation Plan

The Project Site is located completely within the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan (HCP) Fee Area which is administered by the Riverside County Habitat Conservation Agency (RCHCA). The SKR Fee is established at \$500 per acre.

County of Riverside General Plan – Open Space and Conservation

As outlined below, the County of Riverside General Plan Land Use Element (Chapter 3) and Multipurpose Open Space Element (Chapter 5) Goals and Policies for the preservation and protection of critical open space and natural resources have been incorporated into the project design and mitigation approach.

Land Use Element – Chapter 3

Open Space, Habitat & Natural Resource Preservation

“LU 8.1 Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, and scenic and recreational values.

LU 8.2 Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and Federal and State regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.

LU 8.3 Incorporate open space, community greenbelt separators, and recreational amenities into Community Development areas in order to enhance recreational opportunities and community aesthetics and improve the quality of life.

LU 8.4 Allow development clustering and/or density transfers in order to preserve open space, natural resources, and/or biologically sensitive resources.

LU 8.5 In conjunction with the CEQA review process, evaluate the potential for residential projects not located within existing parks and recreation districts or County Service Areas (CSAs) that provide for neighborhood and community park development and maintenance to be annexed to such districts or CSAs, and require such annexation where appropriate and feasible.”

Open Space Area Plan Land Use Designations

“LU 18.1 Require that structures be designed to maintain the environmental character in which they are located.

LU 18.2 Cooperate with the California Department of Fish and Game (CDFG), United States Fish and Wildlife Service (USFWS), and any other

appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats.”

Watercourse Overlay

“LU 29.1 Require that proposed projects on properties containing the Watercourse Overlay be reviewed for compliance with habitat, endangered species, flood control, and applicable area plan-specific design standards.”

Multipurpose Open Space Element - Chapter 5

Floodplain and Riparian Area Management

“OS 5.1 Substantially alter floodways or implement other channelization only as a last resort, and limit the alteration to: that necessary for the protection of public health and safety only after all other options are exhausted; essential public service projects where no other feasible construction method or alternative project location exists; or projects where the primary function is improvement of fish and wildlife habitat.

OS 5.2 If substantial modification to a floodway is proposed, design it to reduce adverse environmental effects to the maximum extent feasible, considering the following factors: stream scour; erosion protection and sedimentation; wildlife habitat and linkages; groundwater recharge capability; adjacent property; and design (a natural effect, examples could include soft riparian bottoms and gentle bank slopes, wide and shallow floodways, minimization of visible use of concrete, and landscaping with native plants to the maximum extent possible). A site specific hydrologic study may be required.

OS 5.3 Based upon site, specific study, all development shall be set back from the floodway boundary a distance adequate to address the following issues: public safety; erosion; riparian or wetland buffer; wildlife movement corridor or linkage; and slopes.

OS 5.4 Consider designating floodway setbacks for greenways, trails, and recreation opportunities on a case-by-case basis.

OS 5.5 New development shall preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses. Incentives shall be utilized to the maximum extent possible.

OS 5.6 Identify and, to the maximum extent possible, conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.

OS 5.7 Where land is prohibited from development due to its retention as natural floodways, floodplains and water courses, incentives should be available to the owner of the land including density transfer and other mechanisms as may be adopted. These incentives will be provided for the purpose of encouraging the preservation of natural water courses without creating undue hardship on the owner of properties following these policies.”

Wetlands

“OS 6.1 During the development review process, ensure compliance with the Clean Water Acts Section 404 in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands.

OS 6.2 Preserve buffer zones around wetlands where feasible and biologically appropriate. (AI 61).

OS 6.3 Consider wetlands for use as natural water treatment areas that will result in improvement of water quality.”

Western Riverside County MSHCP Program Description

“OS 17.1 Enforce the provisions of applicable MSHCP's, if adopted, when conducting review of development applications.

OS 17.2 Enforce the provisions of applicable MSHCP's, if adopted when developing transportation or other infrastructure projects that have been designated as covered activities in the applicable MSHCP

OS 17.3 Enforce the provisions of applicable MSHCP's, if adopted when conducting review of possible general plan amendments and/or zoning changes.

OS 17.4 Require the preparation of biological reports in compliance with Riverside County Planning Department Biological Report Guidelines for development related uses that require discretionary approval to assess the impacts of such development and provide mitigation for impacts to biological resources until such time as the CVAG MSHCP and/or Western Riverside County MSHCP are adopted or should one or both MSHCP's not be adopted.

OS 17.5 Establish baseline ratios for mitigating the impacts of development related uses to rare, threatened and endangered species and their associated habitats to be used until such time as the CVAG MSHCP and/or Western Riverside County MSHCP are adopted or should one or both MSHCP's not be adopted.

Environmentally Sensitive Lands

“OS 18.1 Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCP's, if adopted.

OS 18.2 Provide incentives to landowners that will encourage the protection of significant resources in the County beyond the preservation and/or conservation required to mitigate project impacts.”

Interagency meetings were conducted with the County of Riverside EPD, RCA, and wildlife/jurisdictional agencies to ensure that all project elements including proposed project elements and mitigation are consistent with the provisions and goals of the MSHCP and County of Riverside General Plan Update (RCIP 2008).

County of Riverside Municipal Code

Chapter 4.62, MSHCP Mitigation Fee

The County of Riverside's Municipal Code identifies land use categories, development standards, and other general provisions that ensure consistency between the County General Plan and proposed development projects. As stated by the County of Riverside, the following are provisions within the Counties Municipal Code that are relevant to the proposed project.

“Sec. 4.62.070 – Western Riverside County Multiple Species Habitat Conservation Plan mitigation fee. In order to assist in providing revenue to acquire and conserve lands necessary to implement the MSHCP, the Western Riverside County Multiple Species Habitat Conservation Plan mitigation fee shall be paid for each residential unit, development project or portion thereof to be constructed. Five categories of the fee are defined and include: (1) residential units, density less than 8.0 dwelling units per acre; (2) residential units, density between 8.1 and 14.0 dwelling units per acre; (3) residential, density greater than 14.1 dwelling units per acre; (4) commercial acreage; and (5) industrial acreage. Because there can be mixed traditional commercial, industrial and residential uses within the same project, for fee assessment purposes only, the commercial or industrial acreage fee shall be applied to the whole project based upon the existing underlying zoning classification of the property at the time of issuance of a building permit. Subject to an adjustment of the fee as set forth in Section 4.62.160 of this chapter, the following fee shall be paid for each development project within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan fee area:“

- 1. Residential, density less than 8.0 dwelling units per acre \$1,651 per dwelling unit;*

2. Residential, density between 8.1 and 14.0 dwelling units per acre \$1.057 per dwelling unit;
3. Residential, density greater than 14.1 dwelling units per acre \$859 per dwelling unit;
4. Commercial \$5,620 per acre;
5. Industrial \$5,620 per acre.

Sec. 4.62.090 – Imposition of Fees. Notwithstanding any provision of Ordinance No. 457 to the contrary, no building permit shall be issued for any residential unit or development project except upon the condition that the Western Riverside County Multiple Species Habitat Conservation Plan fee required by this chapter be paid.

Sec. 4.62.100 Payment of Fees. The fee shall be paid as follows:

- *The fee shall be paid in full at the time a certificate of occupancy is issued for the residential unit or development project or upon final inspection, whichever occurs first. No final inspection shall be made, and no certificate of occupancy shall be issued, prior to full payment of the Western Riverside County MSHCP Fee. However, this section shall not be construed to prevent payment of the fee prior to the issuance of an occupancy permit or final inspection.*
- *A fee shall be assessed one time per lot or parcel except in cases of changes in land use. The fee required to be paid when there is a change in land use shall be reduced by the amount of any previously paid fee for that property. No refunds shall be provided for changes in land use to a lower fee category. It shall be the responsibility of the applicant to provide documentation of any previously paid fee.*
- *The fee for commercial and industrial development projects shall be paid in its entirety for the project area and shall not be prorated. The fee required to be paid shall be the fee in effect at the time of payment.*
- *There shall be no deferment of the fee beyond final inspection or issuance of certificate(s) of occupancy.*
- *Notwithstanding any other written requirements to the contrary, the fee shall be paid whether or not the development project is subject to city conditions of approval imposing the requirement to pay the fee.*
- *If all or part of the development project is sold prior to payment of the fee, the project shall continue to be subject to the requirement to pay the fee as provided herein.*

- *For development projects which the city does not require a final inspection or issuance of a certificate of occupancy, the fee shall be paid prior to any use or occupancy.*
- *For purposes of this chapter, congregate care residential facilities and recreational vehicle parks shall pay the commercial acreage fee.”*

Chapter 4.64, Stephens’ Kangaroo Rat Mitigation Fee

“4.64.060 Stephens’ Kangaroo Rat Mitigation fee. All applicants for development permits within the boundaries of the fee assessment area who cannot satisfy mitigation requirements through on-site mitigation as determined through the environmental review process shall pay a mitigation fee of five hundred dollars (\$500.00) per gross acre of the parcels proposed for development. However, for single-family residential development, wherein all lots within the development are greater than one-half acre in size, a mitigation fee of two hundred twenty-five dollars (\$250.00) per residential unit shall be paid; and for agricultural development which requires a development permit excluding the construction of single-family residences in connection with the agricultural development, a mitigation fee of one hundred dollars (\$100.00) or one percent of the valuation of the buildings to be constructed whichever is greater shall be paid, provided that at no time shall such fee exceed the amount required to be paid if a fee of five hundred dollars (\$500.00) per gross acre were applied to the parcel proposed for agricultural development. The determination of value or valuation of an agricultural building shall be made by the building official.”

“4.64.070 Imposition of fee. No development permit for real property located within the boundaries of the fee assessment area shall be issued or approved except upon the condition that on-site mitigation will be provided as determined through the environmental review process or the mitigation fee required by this chapter be paid, and it is determined that the development will not jeopardize the implementation of a habitat conservation plan for the Stephens' Kangaroo Rat.”

“4.64.080 Payment of fee. The mitigation fee shall be paid upon issuance of a grading permit or a certificate of occupancy or upon final inspection, whichever occurs first. Payment of the mitigation fee shall satisfy county conditions of approval previously placed on development permits with regard to impact mitigation for the Stephens' Kangaroo Rat which have not been previously satisfied and no further review and approval pursuant to the provisions of this chapter shall be required..... The total number of surface acres of land within each phase shall be determined through a physical survey prepared by a licensed surveyor or registered civil engineer.”

FEDERAL

Federal Endangered Species Act

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the FESA of 1973, allowing participating jurisdictions to authorize "take" of plant and wildlife species. The MSHCP has been issued under this Section and provides incidental take for all covered species.

STATE

California Endangered Species Act

The CESA is similar to FESA in that it contains a process for listing of species regulating potential impacts to listed species. Section 2081 of the CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The MSHCP serves as an HCP pursuant the Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001, allowing participating jurisdictions to authorize "take" of plant and wildlife species.

As stated by CDFW:

“On June 22, 2004, the Department issued NCCP Approval and Take Authorization for the Western Riverside County MSCHP per Section 2800 et seq. of the California Fish and Game Code. The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit.” (CDFG 2004)

Native Plant Protection Act

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The CESA follows the NPPA and covers both plants and wildlife determined to be threatened with extinction or endangered. Plants listed as rare under the NPPA are designated as threatened under the CESA.

ENVIRONMENTAL IMPACTS

The following sections include an analysis of the direct impacts, indirect impacts, and cumulative effects of the proposed action on sensitive biological resources. This analysis characterizes the project related activities that are anticipated to adversely impact the species, and when feasible, quantifies such impacts. Direct effects are defined as actions that may cause an immediate effect on the species or its habitat, including the effects of interrelated actions and interdependent actions. Indirect effects are caused by or result from the proposed actions, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the proposed action.

Cumulative impacts refer to incremental, individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor but may be collectively significant. Cumulative effects include future tribal, local, or private actions that are reasonably certain to occur in the proposal vicinity considered in this report. A cumulative impact to biological resources may occur if a project has the potential to collectively degrade the quality of the environment, substantially reduce the habitat of wildlife species or cause a population to drop below self-sustaining levels, thereby threatening to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal species.

THRESHOLD OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance criteria which mirror the policy statement contained in the CEQA at Section 21001 (c) of the Public Resources Code. This section reflects that the legislature has established it to be the policy of the state to:

“Prevent the elimination of fish and wildlife species due to man’s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities...”

The following definitions apply to the significance criteria for biological resources:

- “*Endangered*” means that the species is listed as endangered under state or federal law.
- “*Threatened*” means that the species is listed as threatened under state or federal law.
- “*Rare*” means that the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.
- “*Region*” refers to the area within southern California that is within the range of the individual species.

- “*Sensitive habitat*” refers to habitat for plants and animals (1) which plays a special role in perpetuating species utilizing the habitat on the property, and (2) without which there would be substantial danger that the population of that species would drop below self-perpetuating levels.
- “*Substantial effect*” means significance loss or harm of a magnitude which, based on current scientific data and knowledge, (1) would cause a species or a native plant or animal community to drop below self-perpetuating levels on a statewide or regional basis or (2) would cause a species to become threatened or endangered.

Impacts to biological resources may result in a significant adverse impact if one or more of the following conditions would result from implementation of the proposed project.

- Have a substantial adverse effect, either directly or through habitat modification, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or Title 50, Code of Federal Regulations (Sections 17.11 or 17.12).
- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and meets the definition of Section 15380 (b), (c), or (d) of the CEQA Guidelines.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident migratory wildlife corridors or impede the use of native nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state conservation plan.

Also, the determination of impacts has been made according to the federal definition of “*take*”. FESA prohibits the “*taking*” of a member of an endangered or threatened wildlife species or removing, damaging, or destroying a listed plant species by any person (including private individuals and private or government entities). FESA defines “*take*” as “*to harass, harm, pursue, hunt, shoot, would, kill, trap, capture or collect*” an endangered or threatened species, or to attempt to engage in these activities.

DIRECT IMPACTS

Vegetation Communities

A total of 3.02 acres of onsite vegetation communities will be directly impacted as a result of project implementation as summarized in Table 4, *Vegetation Community Impacts*, and illustrated on Figure 7, *Vegetation Communities Impact Map*. Direct impacts to disturbed habitats would not result in significant impacts. However, impacts to 2.89 acres of Riversidean sage scrub habitat associations would be considered a significant impact. Impacts to all vegetation communities located within the Project Site will be mitigated to a level of less than significant by implementing Biological Mitigation and Avoidance Measures (BIO-MM1, BIO-MM2, and BIO-MM5)

Table 4 - Vegetation Community Impacts

Vegetation Community	Permanent Impacts (ac)	Open Space (ac)	Project Site (ac)
Riversidean Sage Scrub	2.89	1.58	4.47
Disturbed (Existing Dirt Road)	0.13	0.08	0.21
Riversidean Sage Scrub/Non-Native Grassland	0.00	0.02	0.02
TOTAL	3.02	1.68	4.70

Source: Cadre Environmental 2020.

Jurisdictional Resources

The Project Site was assessed to determine the presence/absence of jurisdictional features regulated by the United States Army Corps of Engineers, CDFW, and Santa Ana Regional Water Quality Control Board. No jurisdictional features are located within the Project Site. No mitigation is proposed.

Sensitive Plants

The proposed project would not impact any federal/state threatened or endangered plant species. None of the thirteen (13) MSHCP criteria area or narrow endemic plant species were detected and/or are not expected to occur onsite due to a lack of detection and/or suitable habitat (Rick Riefner Associates 2012). No mitigation is proposed.

Sensitive Wildlife

Nine (9) target MSHCP planning species including the federally endangered (least Bell's vireo) and federally threatened (coastal California gnatcatcher) were detected within the vicinity of the Project Site during focused 2012 survey programs as well as previous survey efforts. The federally endangered Stephens' kangaroo rat is also infrequently expected to occur onsite as previously described and outlined below.

Bell's sage sparrow – CWL. This species is expected to occur within the onsite Riversidean sage scrub habitat. Approximately 3-acre of Riversidean sage scrub habitat associations will be impacted.

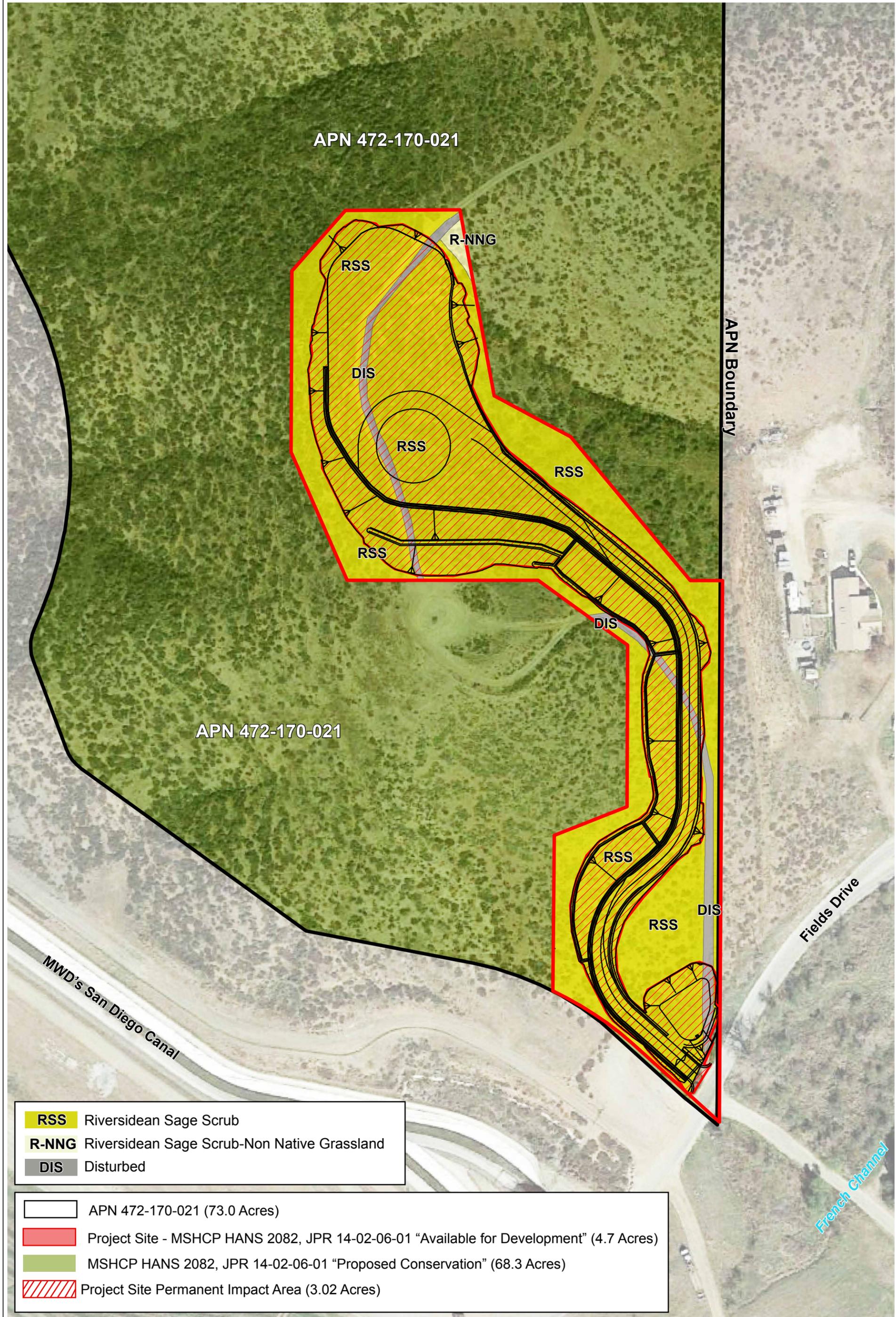


Figure 7 - Vegetation Communities Impact Map
 Biological Resources Assessment Report
 EMWD Belle Terre SP No. 382, PA24 Water Tank Project

Coastal California gnatcatcher – FT, CSC. Six (6) pair of coastal California gnatcatchers were detected within the vicinity of the Project Site during the 2012 survey efforts. Approximately 3-acre of suitable habitat, Riversidean sage scrub will be impacted.

Grasshopper sparrow – CSC. This species is expected to occur within the onsite Riversidean sage scrub habitat. Approximately 3-acre of Riversidean sage scrub habitat associations will be impacted.

Least Bell's vireo FE/SE. Two (2) pairs of least Bell's vireo and a single male were detected within the riparian forest habitat (French Valley Creek) located south of the Project Site. The proposed action will not result in direct and/or indirect impacts to the species.

Southern California rufous-crowned sparrow – CWL. This species is expected to occur within the onsite Riversidean sage scrub habitat. Approximately 3-acre of Riversidean sage scrub habitat associations will be impacted.

Tree Swallow. This species was documented foraging within the riparian forest habitat located south of the Project Site within French Valley Creek. The proposed action will not result in direct and/or indirect impacts to the species.

Turkey vulture. Although no nesting was documented onsite, this species was commonly observed within the vicinity of the Project Site.

White-tailed kite – SFP. This species was documented foraging within the vicinity of the Project Site as well as perching within the riparian forest habitat that is located south of the Project Site. The proposed action will not result in direct and/or indirect impacts to the species.

Bobcat. This species was uncommonly documented within the vicinity of the Project Site and is expected to occasionally forage onsite. The proposed action will not result in direct and/or indirect impacts to the species.

Additional MSHCP covered species incidentally documented within the vicinity of the Project Site include:

- Western spadefoot - CSC
- Red-diamond rattlesnake – CSC
- Coast patch-nosed snake - CSC
- San Diego horned lizard – CSC
- Belding's orangethroat whiptail – CSC
- Coastal western whiptail – MSHCP Covered Species
- Loggerhead shrike – CSC
- Northern Harrier – CSC
- Sharp-shinned hawk - CWL
- Cooper's hawk - CWL
- Downy woodpecker

- Yellow-breasted chat – CSC
- California horned lark – CWL
- Yellow warbler – CSC
- San Diego black-tailed jackrabbit – CSC
- Coyote – MSHCP Covered Species
- Northwestern San Diego pocket mouse – CSC
- Stephens' kangaroo rat – FE/ST
Dulzura kangaroo rat – MSHCP Covered Species
- San Diego desert woodrat - CSC
- Long-tailed weasel – MSHCP Covered Species
- Mountain lion – MSHCP Covered Species

Impacts to thirty-one (31) sensitive wildlife species (including three (3) federally listed species) documented or potentially expected to occur within the 2.89-acres of native vegetation communities modified as a result of project initiation represents a significant impact. Impacts to sensitive wildlife species would be reduced to less than significant with the implementation of Biological Mitigation and Avoidance Measures BIO-MM1 to BIO-MM5.

Implementation of the proposed project would not result in direct impacts to raptor nesting habitat. However, the Project Site possess vegetation expected to potentially provide nesting habitat for migratory birds protected under the CDFG Codes. Measures for potential direct/indirect impacts to common and sensitive nesting bird species will require compliance with the CDFG Code Section 3503. Construction outside the nesting season (between September 1st and February 15th) does not require preconstruction nesting bird surveys. However, if construction is proposed between February 16th and August 31st, a qualified biologist will conduct a preconstruction nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site. Loss of an active nest would be considered a potentially significant impact. Impacts to potential nesting birds would be reduced to less than significant with the implementation of Biological Mitigation and Avoidance Measure (BIO-MM4).

County of Riverside General Plan – Open Space and Conservation

Interagency meetings have been conducted with the County of Riverside EPD, RCA, and wildlife/jurisdictional agencies to ensure that all project elements including proposed project elements and mitigation are consistent with the provisions and goals of the MSHCP and County of Riverside General Plan Update (RCIP 2008).

County of Riverside Municipal Code

Implementation of the proposed project will be consistent with all provision of the County of Riverside Municipal Codes and objectives of the MSHCP and SKR Mitigation Fees following implementation of Biological Mitigation and Avoidance Measures BIO-MM1 and BIO-MM2.

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

As documented in the previous section, implementation of the proposed project will be consistent with all provisions, guidelines and objectives of the MSHCP following implementation of Biological Mitigation and Avoidance Measures BIO-MM1 to BIO-MM5.

INDIRECT IMPACTS

The Urban/Wildlands Interface guidelines presented in Section 6.1.4 of the MSHCP address indirect effects associated with locating residential developments in proximity to an MSHCP Conservation Area. Although the action does not propose “residential development”, the Project Site is located adjacent to MSHCP “Proposed Conservation” land and Urban/Wildlands Interface guidelines will be implemented as Conditions of Approval for the 4.70-acre Project Site. Compliance with all the following MSHCP Urban/Wildlands Interface guidelines will ensure that the proposed project will not result in significant indirect impacts to downstream resources.

Water Quality/Hydrology

The project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in WDRs and a National Pollutant Discharge Elimination System (NPDES) permits. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable Best Management Practices (BMPs) during construction activities and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before entering into any stream course or offsite conservation areas.

Toxics

Storm water treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm downstream biological or aquatic resources. In order to mitigate for the potential effects of these toxics, the project will incorporate structural BMPs, as required in association with compliance with WDRs and the NPDES permit system, in order to reduce the level of toxins introduced into the drainage system and the surrounding areas.

The Project also includes a detention basin. This detention basin will capture the stormwater runoff generated from the paved areas of the site, as well as overflows from the tank. The basin will have a holding capacity of approximately 3,700 cubic feet (CF). The detention basin will provide water quality treatment to the onsite runoff through the mechanisms of infiltration and evapo-transpiration. The basin will be equipped with a restrictive outlet that will release flow slowly over a rip-rap apron to sheet flow over Fields Drive. An emergency concrete spillway will also be included. Any runoff beyond the capacity of the basin will sheet flow over Fields Drive into the existing natural wash south of Fields Drive, which is outside the Project area. The Project will also include a concrete-lined flat bottom ditch along the cut slope to collect runoff from the cut slope to

drain to Fields Drive and flow via sheet flow to the natural wash. Fields Drive will be concrete-capped where runoff will flow. no significant impacts are anticipated.

Lighting

Night lighting associated with the proposed development that is adjacent to existing or proposed Conservation Areas would be directed away to reduce potential indirect impacts to wildlife species. No significant impacts are anticipated.

Noise

Because the proposed project development will not result in noise levels that exceed residential, commercial or mixed use noise standards established for Riverside County, wildlife within proposed open space habitats will not be subject to noise that exceeds these established standards. Short-term construction-related noise impacts will be reduced by the implementation of the following:

- During all Project Site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project Site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project Site during all project construction.
- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by Riverside County staff.
- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

No significant impacts are anticipated.

Invasive Species

Any proposed landscape plan for the Project Site shall avoid the use of invasive species for the portions of the development adjacent to the open space areas. Invasive plants that should be avoided are included in Table 6-2 of the MSHCP, *Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area*. No significant impacts are anticipated.

The above measures would serve to minimize adverse project effects on conservation configurations and would minimize management challenges that can arise during development located adjacent to open space and/or conservation habitat. The project

design and BMPs incorporated into the proposed project will address and minimize edge effects associated with the Urban/Wildlands interface.

All Urban/Wildlands Interface guidelines presented in Section 6.1.4 of the MSHCP are intended to address indirect effects associated with locating residential developments in proximity to an MSHCP Conservation Area will be implemented. Implementation of all Urban/Wildlands Interface guidelines will minimize adverse project indirect impacts and is consistent with MSHCP Section 6.1.4.

CUMULATIVE IMPACTS

The temporary direct and/or indirect impacts of the project would not result in significant cumulative impacts (CEQA Section 15310) to environmental resources within the region of the Project Site. Cumulative impacts refer to incremental effects of an individual project when assessed with the effects of past, current, and proposed projects. Although the project would result in the loss of 2.89 acres of scrub lands, the MSHCP was developed to address the comprehensive regional planning effort and anticipated growth in the County of Riverside. The proposed project has been designed and mitigated to remain in compliance with all MSHCP conservation goals and guidelines and therefore will not result in an adverse cumulative impact.

BIOLOGICAL MITIGATION & AVOIDANCE MEASURES

The following biological mitigation and avoidance measures address those adverse impacts determined to be potentially significant or are relevant to the protection of biological resources to the extent practicable as part of ensuring compliance and consistency with all MSHCP conservation goals and guidelines.

BIO-MM1 MSHCP Local Development Mitigation Fee

The project applicant shall pay MSHCP Local Development Mitigation Fees as established and implemented by the County of Riverside.

BIO-MM2 SKR Fee Area

The Project Site falls within the SKR Fee Area outlined in the Riverside County SKR HCP. The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside.

BIO-MM3 Burrowing Owl 30-Day Preconstruction Surveys

A 30-day burrowing owl preconstruction survey will be conducted immediately prior to the initiation of ground-disturbing construction to ensure protection for this species and compliance with the conservation goals as outlined in the MSHCP. The survey will be conducted in compliance with both MSHCP and CDFW guidelines (County of Riverside 2006, CDFG 2012). A report of the findings prepared by a qualified biologist shall be submitted to the County of Riverside prior to any permit or approval for ground disturbing activities.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1st to August 31st) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are complete or not initiated. In addition to monitoring breeding activity, if during the breeding season, a burrowing owl mitigation plan will be developed based on the County of Riverside Environmental Programs Division, CDFW and USFWS requirements for the active relocation of individuals to the Lake Mathews Preserve.

BIO-MM4 Nesting Bird CDFG Code Compliance

Potential direct/indirect impacts on common and MSHCP covered sensitive bird and raptor species will require compliance with CDFG Code Sections 3503, 3503.5, and 3513. Construction outside the nesting season (between September 16th and January 31st) do not require pre-removal nesting bird surveys. If construction is proposed between February 1st and September 15th, a qualified biologist must conduct a nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site.

The survey(s) would focus on identifying any bird or raptor nests that would be directly or indirectly affected by construction activities. If active nests are documented, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be deterred until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest setback zone shall be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted to the County of Riverside EPD for review and approval prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. Any nest permanently vacated for the season would not warrant protection pursuant to the CDFG Codes.

BIO-MM5 MSHCP Proposed Conservation Area (APN 472-170-021)

In the event the proposed action is initiated prior to issuance of a grading permit respective of the Belle Terre Specific Plan No. 382 project, the project applicant will provide the RCA with fee title/ownership and management responsibilities for 68.30-acres of MSHCP Proposed Conservation Area within APN 472-170-021 as illustrated in the updated proposed HANS 2082 designated by the County of Riverside EPD as illustrated on Figure 2, *Project Site Map*.

Implementation Biological Mitigation and Avoidance Measures BIO-MM1 through BIO-MM5 would reduce all potential significant unavoidable impacts on biological resources below a level of significance.

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Certification *“I hereby certify that the statements furnished above and in the attached exhibits present the 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.”*

Author:  Date: September 22nd, 2020

APPENDIX A

BELLE TERRE PROJECT – 2012 FLORAL/FAUNAL COMPENDIUM

(*) asterisk indicates a non-native species

ANGIOSPERMAE - FLOWERING PLANTS DICOTYLEDONES - DICOTS

AMARANTHACEAE - AMARANTH FAMILY (including CHENOPODIACEAE - GOOSEFOOT FAMILY)

- **Amaranthus albus* L. TUMBLING PIGWEED.
- **Amaranthus retroflexus* L. ROUGH PIGWEED.
- **Atriplex semibaccata* R. Br. AUSTRALIAN SALTBUCH.
- Atriplex serenana* Nelson var. *serenana* BRACKETED SALTSCALE.
- **Atriplex suberecta* I. Verd. SERRATE-LEAVED SALTBUCH.
- **Bassia hyssopifolia* (Pallas) Kuntze FIVE-HOOK BASSIA.
- **Chenopodium album* L. LAMB'S QUARTERS.
- **Chenopodium ambrosioides* L. MEXICAN-TEA.
- **Chenopodium murale* L. NETTLE-LEAVED GOOSEFOOT.
- **Salsola australis* R. Br. SOUTHERN THISTLE.

ANACARDIACEAE - SUMAC FAMILY

- **Schinus molle* L. PERUVIAN PEPPER TREE.

APIACEAE (UMBELLIFERAE) - CARROT FAMILY

- **Apium graveolens* L. COMMON CELERY.
- Lomatium utriculatum* (Nutt.) J. Coulter & Rose. COMMON LOMATIUM.

ASTERACEAE (COMPOSITAE) - SUNFLOWER FAMILY

- Ambrosia psilostachya* DC. var. *californica* (Rydb.) Blake WESTERN RAGWEED.
- Artemisia californica* Less. COASTAL SAGEBRUSH.
- Artemisia douglasiana* Besser DOUGLAS' or CALIFORNIA MUGWORT.
- Artemisia dracunculoides* L. DRAGON SAGEWORT or TARRAGON.
- Aster subulatus* Michx. var. *ligulatus* Shinners [*A. exilis* Ell.] SLENDER ASTER.
- Baccharis pilularis* DC. subsp. *consanguinea* (DC.) C.B. Wolf. COYOTE BRUSH or CHAPARRAL BROOM.
- Baccharis emoryi* A. Gray EMORY'S BACCHARIS.
- Baccharis salicifolia* (Ruiz Lopez & Pavon) Pers. [*B. glutinosa* Pers.] MULE FAT.
- **Centaurea melitensis* L. TOCALOTE.
- **Chamomilla suaveolens* (Pursh) Rydb. [*Matricaria matricarioides* (Less.) Porter] COMMON PINEAPPLE WEED.
- **Cirsium vulgare* (Savi) Ten. BULL THISTLE.
- Conyza canadensis* (L.) Cronq. COMMON HORSEWEED.
- **Conyza floribunda* Kunth. ASTHMAWEED.
- Corethrogyne filaginifolia* var. *virgata* (Benth.) A. Gray [*Lessingia f.* (Hook. & Arn.) M.A. Lane var. *filaginifolia*] VIRGATE SAND ASTER.

Deinandra fasciculata (DC.) E. Greene [*Hemizonia fasciculata* (DC.) Torr. & A. Gray, *H. ramosissima* Benth.] FASCICLED TARPLANT.

Deinandra paniculata (A. Gray) Davids. & Moxley [*Hemizonia p.* A. Gray] PANICULATE TARPLANT.

Ericameria palmeri (Hall) Hall var. *pachylepis* (Hall) Nesom [*Haplopappus palmeri* A. Gray subsp. *pachylepis* Hall] GRASSLAND GOLDENBUSH.

**Filago gallica* L. NARROW-LEAVED FILAGO.

**Gnaphalium luteo-album* L. WEEDY CUDWEED.

Gutierrezia californica (DC.) Torr. & A. Gray [*G. bracteata* Abrams] CALIFORNIA MATCHWEED.

Helianthus annuus L. [*H. a.* subsp. *lenticularis* (Douglas) Ckll.] WESTERN SUNFLOWER.

Heterotheca grandiflora Nutt. TELEGRAPH WEED.

**Hypochaeris glabra* L. SMOOTH CAT'S EAR.

**Lactuca serriola* L. PRICKLY or WILD LETTUCE.

Pluchea odorata (L.) Cass. [*P. purpurascens* (Sw.) DC.] SALT MARSH FLEABANE.

**Senecio vulgaris* L. COMMON GROUNDSEL.

**Sonchus oleraceus* L. COMMON SOW-THISTLE.

Stephanomeria exigua Nutt. subsp. *deanei* (Macbr.) Gottlieb [*S. e.* var. *deanei* Macbr.] DEAN'S WREATH-PLANT.

Stylocline gnaphaloides Nutt. EVERLASTING NEST-STRAW.

**Silybum marianum* (L.) Gaertn. MILK THISTLE.

Xanthium strumarium L. var. *canadense* (Mill.) Torr. & A. Gray COCKLEBUR.

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii (Lehm.) Nelson & J.F. Macbr. var. *intermedia* (Fischer & C. Meyer) Ganders [*A. intermedia* Fischer & C. Meyer] COMMON FIDDLENECK.

Heliotropium curassavicum L. subsp. *oculatum* (Heller) Thorne [*H. c.* var. *o.* (Heller) I.M. Johnston] SALT or ALKALI HELIOTROPE.

BRASSICACEAE (CRUCIFERAE) - MUSTARD FAMILY

**Capsella bursa-pastoris* (L.) Medikus SHEPHERD'S PURSE.

**Coronopus didymus* (L.) Smith [*Lepidium d.* (L.) Smith] LESSER WORT-CRESS.

**Hirschfeldia incana* (L.) Lagr.-Fossat SHORTPOD or SUMMER MUSTARD.

**Lepidium latifolium* L. BROAD-LEAVED PEPPERGRASS.

Lepidium nitidum Torr. & A. Gray var. *nitidum* SHINING PEPPERGRASS.

**Raphanus sativus* L. WILD RADISH.

Rorippa nasturtium-aquaticum (L.) Hayek [*Nasturtium officinale* R. Br.] WHITE WATER-CRESS.

**Sisymbrium irio* L. LONDON ROCKET.

CACTACEAE - CACTUS FAMILY

**Opuntia ficus-indica* (L.) Miller INDIAN FIG.

CARYOPHYLLACEAE - PINK FAMILY

- **Polycarpon tetraphyllum* (L.) L. FOUR-LEAVED POLYCARP.
- **Silene gallica* L. WINDMILL PINK or COMMON CATCHFLY.
- **Spergularia bocconeii* (Scheele) Merino BOCCONE'S SAND SPURRY.

CONVOLVULACEAE - MORNING-GLORY FAMILY

- **Convolvulus arvensis* L. FIELD BINDWEED.

CRASSULACEAE - STONECROP FAMILY

- Crassula connata* (Ruiz Lopez & Pavon) Berger [*C. erecta* (Hook. & Arn.) Berger] SAND PIGMY-STONECROP.
- Dudleya lanceolata* (Nutt.) Britton & Rose LANCE-LEAVED, COASTAL DUDLEYA or LIVE-FOREVER.

CUCURBITACEAE - GOURD FAMILY

- Cucurbita foetidissima* Kunth CALABAZILLA.

EUPHORBIACEAE - SPURGE FAMILY

- Euphorbia albomarginata* Torr. & A. Gray [*Chamaesyce a.* (Torr. & A. Gray) Small] RATTLESNAKE SPURGE.
- Euphorbia polycarpa* Benth. var. *polycarpa* [*Chamaesyce polycarpa* (Benth.) Millsp.] GOLONDRINA or SMALL-SEED SANDMAT.

FABACEAE (LEGUMINOSAE) - PEA FAMILY

- Lotus scoparius* (Nutt.) Ottley DEERWEED.
- Lotus strigosus* (Nutt.) E. Greene var. *strigosus* STRIGOSE LOTUS.
- Lotus unifoliolatus* (Hook.) Benth. [*L. purshianus* (Benth.) Clements & E.G. Clements var. *p.*] SPANISH CLOVER.
- Lupinus succulentus* Koch ARROYO LUPINE.
- **Medicago polymorpha* L. BUR-CLOVER.
- **Melilotus alba* Medikus [*M. a.* Desr. of auth.] WHITE SWEET-CLOVER.
- **Melilotus indica* (L.) All. SOURCLOVER.
- **Trifolium hirtum* All. ROSE CLOVER.

GERANIACEAE - GERANIUM FAMILY

- **Erodium brachycarpum* (Godron) Thell. SHORT-FRUITED FILAREE
- **Erodium cicutarium* (L.) L'Her. RED-STEMMED FILAREE.

LAMIACEAE (LABIATAE) - MINT FAMILY

- Salvia apiana* Jepson WHITE SAGE.
- Salvia columbariae* Benth. CHIA.
- Stachys rigida* subsp. *rigida* [*S. ajugoides* Benth. var. *rigida* Jepson & Hoover, in part] RIGID HEDGE-NETTLE.

MALVACEAE - MALLOW FAMILY

Malacothamnus densiflorus (S. Watson) E. Greene MANY-FLOWERED BUSHMALLOW.

**Malva parviflora* L. CHEESEWEED.

Malvella leprosa (Ortega) Krapov. ALKALI-MALLOW.

MYRTACEAE - MYRTLE FAMILY

**Eucalyptus camaldulensis* Dehnh. RIVER RED GUM.

**Eucalyptus* sp. GUM.

NYCTAGINACEAE - FOUR-O'CLOCK FAMILY

Mirabilis laevis (Benth.) Curran [*M. californica* A. Gray] CALIFORNIA WISHBONE BUSH.

ONAGRACEAE - EVENING PRIMROSE FAMILY

Camissonia californica (Torr. & A. Gray) Raven CALIFORNIA FALSE-MUSTARD.

Clarkia purpurea (Curtis) Nelson & J.F. Macbr. subsp. *quadrivulnera* (Douglas) Harlan Lewis & M. Lewis FOUR-SPOT CLARKIA.

Epilobium ciliatum Raf. GREEN WILLOW-HERB.

PHRYMACEAE – HOPESEED AND MONKEYFLOWER FAMILY

Mimulus guttatus DC. SEEP MONKEY FLOWER.

PLANTAGINACEAE - PLANTAIN FAMILY

(including parts of SCROPHULARIACEAE - FIGWORT FAMILY)

Antirrhinum coulterianum Benth. WHITE SNAPDRAGON.

Plantago erecta E. Morris CALIFORNIA PLANTAIN.

**Plantago lanceolata* L. ENGLISH PLANTAIN or RIB-GRASS.

Veronica peregrina L. subsp. *xalapensis* (Kunth) Pennell MEXICAN SPEEDWELL.

POLEMONIACEAE - PHLOX FAMILY

Gilia angelensis V. Grant LOS ANGELES GILIA.

POLYGONACEAE - BUCKWHEAT FAMILY

Eriogonum fasciculatum subsp. *foliolosum* (Nutt.) Stokes INTERIOR CALIFORNIA BUCKWHEAT.

**Polygonum arenastrum* Boreau [incl. *P. aviculare* L., of Calif. refs.] COMMON KNOTWEED.

Polygonum lapathifolium L. WILLOW SMARTWEED.

**Rumex crispus* L. CURLY DOCK.

Rumex maritimus L. GOLDEN DOCK.

PORTULACACEAE - PURSLANE FAMILY

Calandrinia ciliata (Ruiz Lopez & Pavon) DC. [Incl. *C. c.* var. *menziesii* (Hook.) J.F. Macbr.] RED MAIDS.

**Portulaca oleracea* L. COMMON PURSLANE.

PRIMULACEAE - PRIMROSE FAMILY

**Anagallis arvensis* L. SCARLET PIMPERNEL.

PUNIACEAE – POMEGRANATE FAMILY

**Punica granatum* L. POMEGRANATE.

RANUNCULACEAE - CROWFOOT FAMILY

Delphinium parryi A. Gray subsp. *parryi* PARRY'S LARKSPUR.

RUBIACEAE - MADDER FAMILY

Galium angustifolium Nutt. subsp. *angustifolium* NARROW-LEAVED BEDSTRAW.

SALICACEAE - WILLOW FAMILY

Populus fremontii S. Watson subsp. *fremontii* WESTERN COTTONWOOD.

Salix laevigata Bebb RED WILLOW.

Salix lasiolepis Benth. var. *lasiolepis* ARROYO WILLOW.

SAURURACEAE - LIZARD-TAIL FAMILY

Anemopsis californica (Nutt.) Hook. & Arn. YERBA MANSA.

SAXIFRAGACEAE - SAXIFRAGE FAMILY

Jepsonia parryi (Torr.) Small COAST JEPSONIA.

SOLANACEAE - NIGHTSHADE FAMILY

Datura wrightii Regel [*D. meteloides* A. DC.] JIMSONWEED.

**Nicotiana glauca* Grah. TREE TOBACCO.

**Solanum americanum* Miller [*S. nodiflorum* Jacq.] WHITE NIGHTSHADE.

TAMARICACEAE - TAMARISK FAMILY

**Tamarix ramosissima* Ledeb. MEDITERRANEAN TAMARISK.

URTICACEAE - NETTLE FAMILY

Urtica dioica L. subsp. *holosericea* (Nutt.) Thorne [*U. holosericea* Nutt.] STINGING OR HOARY NETTLE.

VERBENACEAE - VERVAIN FAMILY

Verbena lasiostachys Link var. *lasiostachys* WESTERN VERBENA.

MONOCOTYLEDONES - MONOCOTS

CYPERACEAE - SEDGE FAMILY

Carex praegracilis W. Boott CLUSTERED FIELD SEDGE.

Cyperus eragrostis Lam. TALL UMBRELLA-SEDGE.

Eleocharis parishii Britton PARISH'S SPIKE-RUSH.

Scirpus maritimus L. ALKALI BULRUSH.

JUNCACEAE - RUSH FAMILY

Juncus arcticus var. *mexicanus* (Willd.) Traut. [*J. mexicanus* Willd.] MEXICAN RUSH.

Juncus bufonius L. var. *bufonius* COMMON TOAD RUSH.

POACEAE - GRASS FAMILY

**Avena fatua* L. WILD OAT.

**Bromus hordeaceus* L. [*B. mollis* L.] SOFT CHESS.

**Bromus diandrus* Roth COMMON RIPGUT GRASS.

**Bromus madritensis* subsp. *rubens* (L.) Husnot [*B. rubens* L.] FOXTAIL CHESS or RED BROME.

**Cynodon dactylon* (L.) Pers. BERMUDA GRASS.

Distichlis spicata (L.) E. Greene [Incl. *D. s.* subsp. *stricta* (Torr.) Thorne] SALT GRASS.

Elymus triticoides Buckl. [*Leymus t.* (Buckl.) Pilger] BEARDLESS WILD-RYE.

**Hordeum murinum* subsp. *leporinum* (Link) Arcangeli [*H. leporinum* Link] HARE BARLEY or FOXTAIL BARLEY.

**Hordeum vulgare* L. [Incl. *H. v.* var. *trifurcatum* (Schltdl.) Alef.] CULTIVATED BARLEY.

**Lamarckia aurea* (L.) Moench GOLDENTOP.

**Lolium perenne* L. [*Lolium multiflorum* Lam.] ENGLISH or PERENNIAL RYEGRASS.

Melica frutescens Scribner TALL MELIC GRASS.

**Poa annua* L. ANNUAL BLUEGRASS.

**Polypogon monspeliensis* (L.) Desf. ANNUAL BEARD GRASS.

**Schismus barbatus* (L.) Thell. MEDITERRANEAN SCHISMUS.

Stipa lepida A. Hitchc. [*Nassella l.* (A. Hitchc.) Barkworth] FOOTHILL NEEDLEGRASS.

Stipa pulchra A. Hitchc. [*Nassella p.* (A. Hitchc.) Barkworth] PURPLE NEEDLEGRASS.

**Vulpia myuros* (L.) K.C. Gmelin FOXTAIL FESCUE.

THEMIDACEAE - BRODIAEA FAMILY

Bloomeria crocea (Torr.) Cov. COMMON GOLDENSTAR.

Dichelostemma pulchellum (Salisb.) A.A. Heller var. *pulchellum* [*D. capitatum* Alph. Wood subsp. c.] BLUE-DICKS.

TYPHACEAE - CATTAIL FAMILY

Typha domingensis Pers. SOUTHERN CATTAIL.

REPTILES

Scientific Name

Common Name

Iguanidae

Iguanid Lizards

Sceloporus occidentalis biseriatus

Great Basin fence lizard

Uta stansburiana

side-blotched lizard

Colubridae

Colubrid Snakes

Pituophis cantenifer annectens

San Diego gopher snake

BIRDS

Scientific Name

Common Name

Anatidae

Waterfowl

Anas platyrhynchos

mallard

Cathartidae

New World Vultures

Cathartes aura

turkey vulture

Accipitridae

Hawks

SFP *Elanus leucurus*

white-tailed kite

CSC *Accipiter cooperii*

Cooper's hawk

Buteo lineatus

red-shouldered hawk

Buteo jamaicensis

red-tailed hawk

Falconidae

Falcons

Falco sparverius

American kestrel

Phasianidae

Pheasants and Quails

Callipepla californica

California quail

Charadriidae

Plovers

Charadrius vociferus

killdeer

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BIRDS

Scientific Name

Common Name

Columbidae

Pigeons and Doves

**Columba livia*

rock dove

**Streptopelia decaocto*

Eurasian-collared dove

Zenaida macroura

mourning dove

Cuculidae

Cuckoos and Roadrunners

Geococcyx californianus

greater roadrunner

Tytonidae

Barn Owls

Tyto alba

barn owl

Strigidae

True Owls

Bubo virginianus

great horned owl

Trochilidae

Hummingbirds

Archilochus alexandri

black-chinned hummingbird

Calypte anna

Anna's hummingbird

Calypte costae

Costa's hummingbird

Selasphorus rufus

rufous hummingbird

Selasphorus sasin

Allen's hummingbird

Picidae

Woodpeckers

Picoides nuttallii

Nuttall's woodpecker

Picoides pubescens

downy woodpecker

Colaptes auratus

northern flicker

Tyrannidae

Tyrant Flycatchers

Contopus sordidulus

western wood-pewee

FE/SE *Empidonax traillii* ssp.

willow flycatcher

Empidonax difficilis

Pacific-slope flycatcher

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BIRDS

Scientific Name

Sayornis nigricans

Sayornis saya

Myiarchus cinerascens

Tyrannus vociferans

Tyrannus verticalis

Hirundinidae

Hirundo rustica

Tachycineta bicolor

Tachycineta thalassina

Stelgidopteryx serripennis

Petrochelidon pyrrhonota

Corvidae

Aphelocoma californica

Corvus brachyrhynchos

Corvus corax

Aegithalidae

Psaltriparus minimus

Troglodytidae

Thryomanes bewickii

Troglodytes aedon

Sylviidae

Polioptila caerulea

Polioptila californica californica

Common Name

black phoebe

Say's phoebe

ash-throated flycatcher

Cassin's kingbird

western kingbird

Swallows

barn swallow

tree swallow

violet-green swallow

northern rough-winged swallow

cliff swallow

Jays and Crows

western scrub-jay

American crow

common raven

Bushtits

bushtit

Wrens

Bewick's wren

house wren

Old World Warblers, Gnatcatchers

blue-gray gnatcatcher

coastal California gnatcatcher

FT
CSC

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BIRDS

Scientific Name

Common Name

Turdidae

Thrushes

Catharus guttatus

hermit thrush

Sialia mexicana

western bluebird

Muscicapidae

Wrentits

Chamaea fasciata

wrentit

Mimidae

Thrashers

Mimus polyglottos

northern mockingbird

Toxostoma redivivum

California thrasher

Ptilonotidae

Silky Flycatchers

Phainopepla nitens

phainopepla

Sturnidae

Starlings

**Sturnus vulgaris*

European starling

Vireonidae

Vireos

FE
SE

Vireo bellii pusillus

least Bell's vireo

Vireo gilvus

warbling vireo

Parulidae

Wood Warblers

Vermivora celata

orange-crowned warbler

CSC

Setophaga petechia

yellow warbler

Dendroica coronata

yellow-rumped warbler

Dendroica townsendi

Townsend's warbler

Geothlypis trichas

common yellowthroat

Wilsonia pusilla

Wilson's warbler

CSC

Icteria virens

yellow-breasted chat

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BIRDS

Scientific Name

Common Name

Cardinalidae

Cardinals

Pheucticus melanocephalus

black-headed grosbeak

Guiraca caerulea

blue grosbeak

Emberizidae

Emberizids

Pipilo crissalis

California towhee

Pipilo maculatus

spotted towhee

csc

Aimophila ruficeps canescens

Southern California rufous-crowned sparrow

Spizella breweri

Brewer's sparrow

Chondestes grammacus

lark sparrow

Melospiza melodia

song sparrow

Zonotrichia leucophrys

white-crowned sparrow

Junco hyemalis

dark-eyed junco

Icteridae

Blackbirds

Agelaius phoeniceus

red-winged blackbird

Sturnella neglecta

western meadowlark

Euphagus cyanocephalus

Brewer's blackbird

Molothrus ater

brown-headed cowbird

Icterus bullockii

Bullock's oriole

Icterus cucullatus

hooded oriole

Fringillidae

Finches

Haemorhous mexicanus

house finch

Spinus psaltria

lesser goldfinch

Spinus tristis

American goldfinch

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BIRDS

Scientific Name

Common Name

Passeridae

Old World Sparrows

**Passer domesticus*

house sparrow

MAMMALS

Scientific Name

Common Name

Leporidae

Hares and Rabbits

csc *Lepus californicus bennettii*

San Diego black-tailed jackrabbit

Sylvilagus audubonii

desert cottontail

Sciuridae

Squirrels

Otospermophilus beecheyi

California ground squirrel

Geomyidae

Pocket Gophers

Thomomys bottae

Botta's pocket gopher

Canidae

Wolves and Foxes

Canis latrans

coyote

**Canis familiaris*

domestic dog

Procyonidae

Raccoons

Procyon lotor

raccoon

Mustelidae

Weasels, Skunks, and Otters

Mustela frenata

long-tailed weasel

Felidae

Cats

Felis (Lynx) rufus

bobcat

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