

Murrieta Hot Springs Road Widening Project

General Biological Resources Assessment

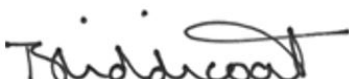
June 2, 2020 | SBO-01

Submitted to:

City of Murrieta
1 Town Square
Murrieta, CA 92562

Prepared for:

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Report Date: September 12, 2018; Revised June 2, 2020

Title: General Biological Resources Assessment for the Murrieta Hot Springs Road Widening Project

Project Location: The approximately 22.8-acre project site is located along Murrieta Hot Springs Road, from the intersection of Margarita Road to the intersection of Winchester Road in the City of Murrieta, Riverside County, California. The site is situated on the U.S. Geological survey (USGS) 7.5-minute Murrieta quadrangle map in portions of Sections 13, 14, 23, and 24, Township 7 South, Range 3 West.

Assessor Parcel Numbers: The project site mostly occurs within City Right-of-Way and immediately adjacent areas. Additionally, three off-site staging areas are included for this project. Assessor Parcel Numbers: 908-360-006, -017, -020, 913-150-016, -017, 913-160-040, -066, -075, -085, 913-172-013, 913-180-008, -009, -012, -029, -032, -033, -037, -038, -039, -040, -041, -085, -086, 913-191-009, -010, -017, -023, -026, 913-193-001, 913-350-013, -014, -015, -017, and -019.

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Murrieta, CA 92562

Principal Investigator: HELIX Environmental Planning, Inc.
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Report Summary: The approximate 22.8-acre project site and three potential off-site staging areas were surveyed for burrowing owl (*Athene cunicularia*) habitat, MSHCP Riparian/Riverine and Vernal Pool resources, rare plants, and jurisdictional features. The project is a Circulation Element of the City's adopted General Plan and is considered a Covered Activity under the MSHCP. No burrowing owl, MSHCP Riparian/Riverine areas or Vernal Pools, rare plants, or jurisdictional features were found within the project site or off-site staging areas.

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1.0 INTRODUCTION

The Murrieta Hot Springs Road Widening Project (project) is located in the City of Murrieta (City) in Riverside County (County), California. The purpose of this report is (1) to document the results of a biological resources technical study and, (2) analyze the potential impacts of the project pursuant to the requirements of the adopted Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP; Dudek and Associates [Dudek] 2003) and California Environmental Quality Act (CEQA).

1.1 PROJECT LOCATION

The approximate 26-acre project site is located along Murrieta Hot Springs Road, between the intersection of Margarita Road to the intersection of Winchester Road in the City of Murrieta (City), Riverside County, California (Figure 1, *Regional Location*). The site is situated on the U.S. Geological survey (USGS) 7.5-minute Murrieta quadrangle map within portions of Sections 13, 14, 23, and 24 of Township 7 South, Range 3 West (Figure 2, *USGS Topography*). The project site mostly occurs within the existing City Right-of-Way (ROW), but also includes areas immediately outside and along the ROW periphery. Existing commercial and residential development surrounds the majority of the project site. Undeveloped land occurs in two areas adjacent to the project site, both located south of Murrieta Hot Springs Road (Figure 3, *Aerial Photograph*).

The project also includes three potential off-site contractor mobilization (i.e., staging) areas, totaling approximately 3.2 acres. These off-site staging areas consist of a vacant lot between Del Haven Street and Winchester Road, the vacant lot adjacent to the southwest corner of the intersection of Via Princesa and Murrieta Hot Springs Road, and the vacant lot adjacent to the southwest corner of the intersection of Margarita Road and Murrieta Hot Springs Road (Figure 3).

The project site is located within the French Valley/Lower Sedco Hills subunit of the Southwest Area Plan of the MSHCP. The western terminus of the project site is within Criteria Cell 6182 (Figure 4, *MSHCP Criteria Map*). The MSHCP Criteria Cells have specific planning species and biological considerations. The project is also located within the boundaries of the Stephen's Kangaroo Rat Habitat Conservation Plan (SKRHCP) fee area, but is not located within a core reserve area (County of Riverside [County] 1996).

1.2 PROJECT DESCRIPTION

The proposed project is a public facility project and Circulation Element of the City's adopted General Plan (City of Murrieta 2011). Furthermore, the project is considered a Covered Road Maintenance Activity under the policies of the MSHCP (Dudek 2003). The project proposes to implement various improvements to Murrieta Hot Springs Road between Margarita Road and Winchester Road. The roadway would be widened from a four-lane roadway to a six-lane roadway between Via Princesa to Winchester Road. The project would also include other various road improvements along Murrieta Hot Springs Road, such as: installing bike lanes, a curbed median, lighting poles, curbs, gutters, storm drains, sidewalks, retaining walls, street signs, and crosswalks.

The project will also require off-site staging areas to accommodate construction equipment and materials. Although final staging areas have not been determined, three potential staging areas were evaluated for this report.

2.0 METHODS

Project site evaluation involved a literature review, vegetation mapping, a preliminary evaluation of potentially jurisdictional wetlands and waters, a Riparian/Riverine and Vernal Pool habitat assessment, a burrowing owl (BUOW; *Athene cunicularia*) habitat assessment and focused survey, a rare plants survey, and a general biological survey and habitat assessment for sensitive species to occur on the project site. The plant and animal species detected on the project site during field surveys are presented in Appendix A, *Plant Species Observed* and Appendix B, *Animal Species Observed or Detected*, respectively. Appendix C, *Site Photographs* contains representative photographs of the project site. Appendix D, *Explanation of Status Codes for Plant and Animal Species* contains definitions of plant and animal species designations used throughout this document.

2.1 NOMENCLATURE AND LITERATURE REVIEW

Nomenclature used in this report generally follows MSHCP conventions. Vegetation community classifications follow the MSHCP (Dudek 2003) vegetation community classifications, with additional vegetation community information taken from Oberbauer (2008) and Holland (1986). Latin names of plants follow Baldwin et al. (2012), and common names follow Hickman or the California Native Plant Society (CNPS; 2018). Sensitive plant and animal status is taken from the California Natural Diversity Database (CNDDDB) of the California Department of Fish and Wildlife (CDFW; 2018a, b, c, and d) and CNPS (2018). Fauna nomenclature follows Emmel and Emmel (1973) for butterflies, Taggart (2014) for amphibians and reptiles, American Ornithologists' Union (2017) for birds, and Baker et al. (2003) for mammals.

2.2 FIELD SURVEYS

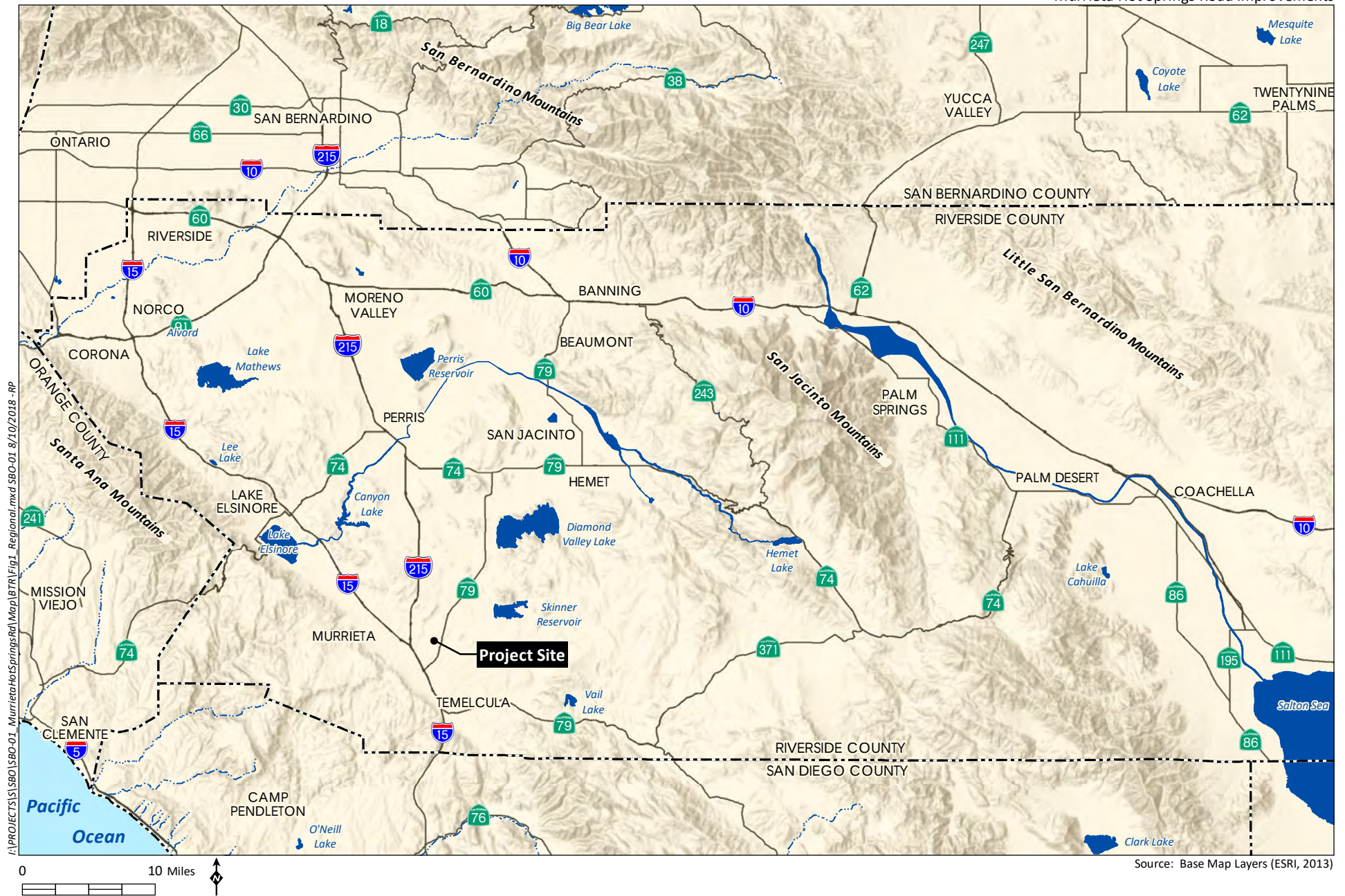
2.2.1 Vegetation and Land Cover Mapping

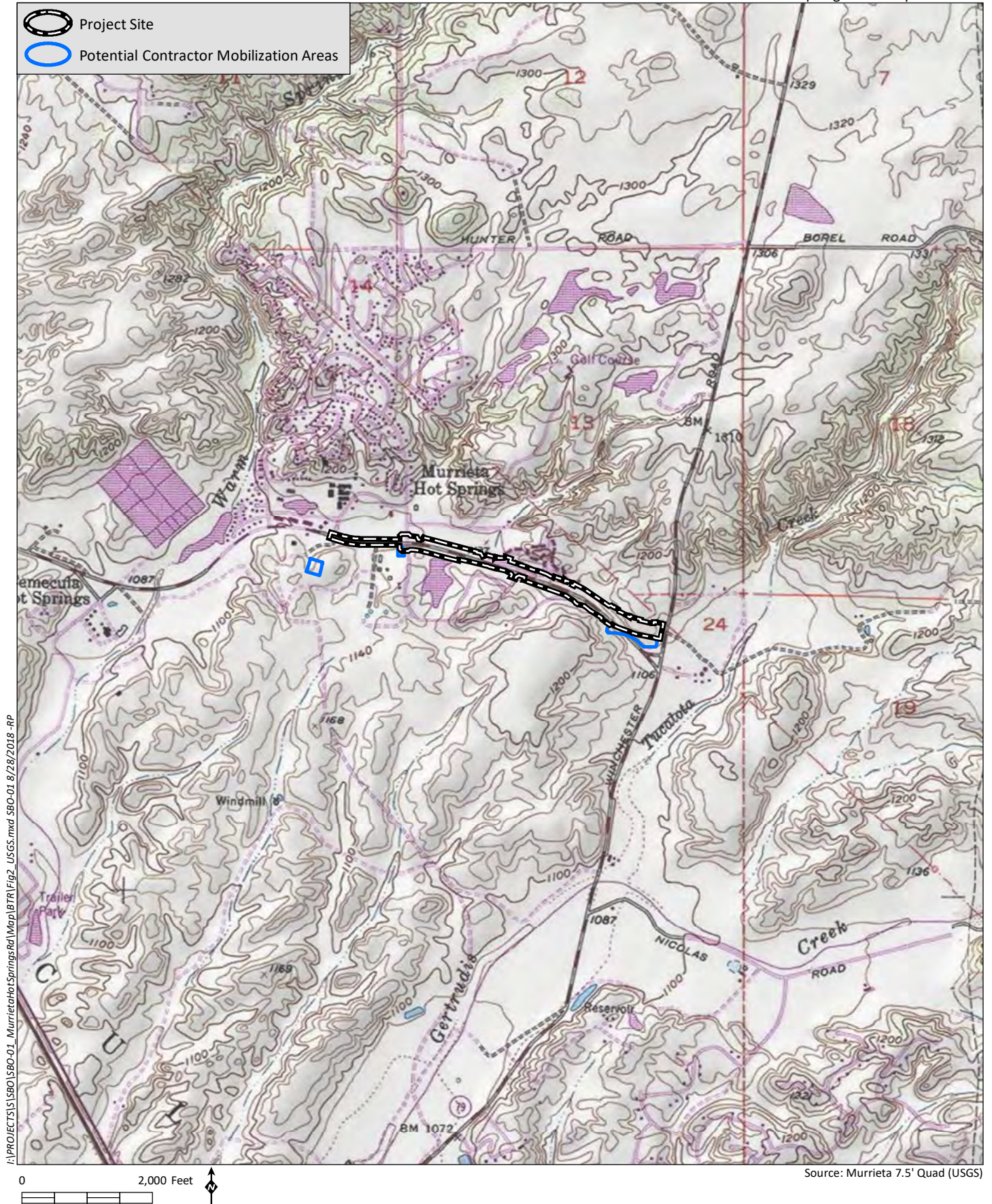
The vegetation and land cover for the project site and off-site staging areas was mapped by HELIX biologist Lauren Singleton on June 4, 2018. Mapping was performed directly in the field and on an aerial photograph (1-inch = 80-foot scale) map with an overlay of the proposed project. Mapping unit size was approximately 0.1 acre for uplands. For purposes of this biological assessment, the project site was defined by the proposed project footprint and an immediately surrounding buffer, which primarily included the existing City ROW and a few areas adjacent and along the ROW periphery (Figure 5, *Site Plan*).

2.2.2 Jurisdictional Assessment

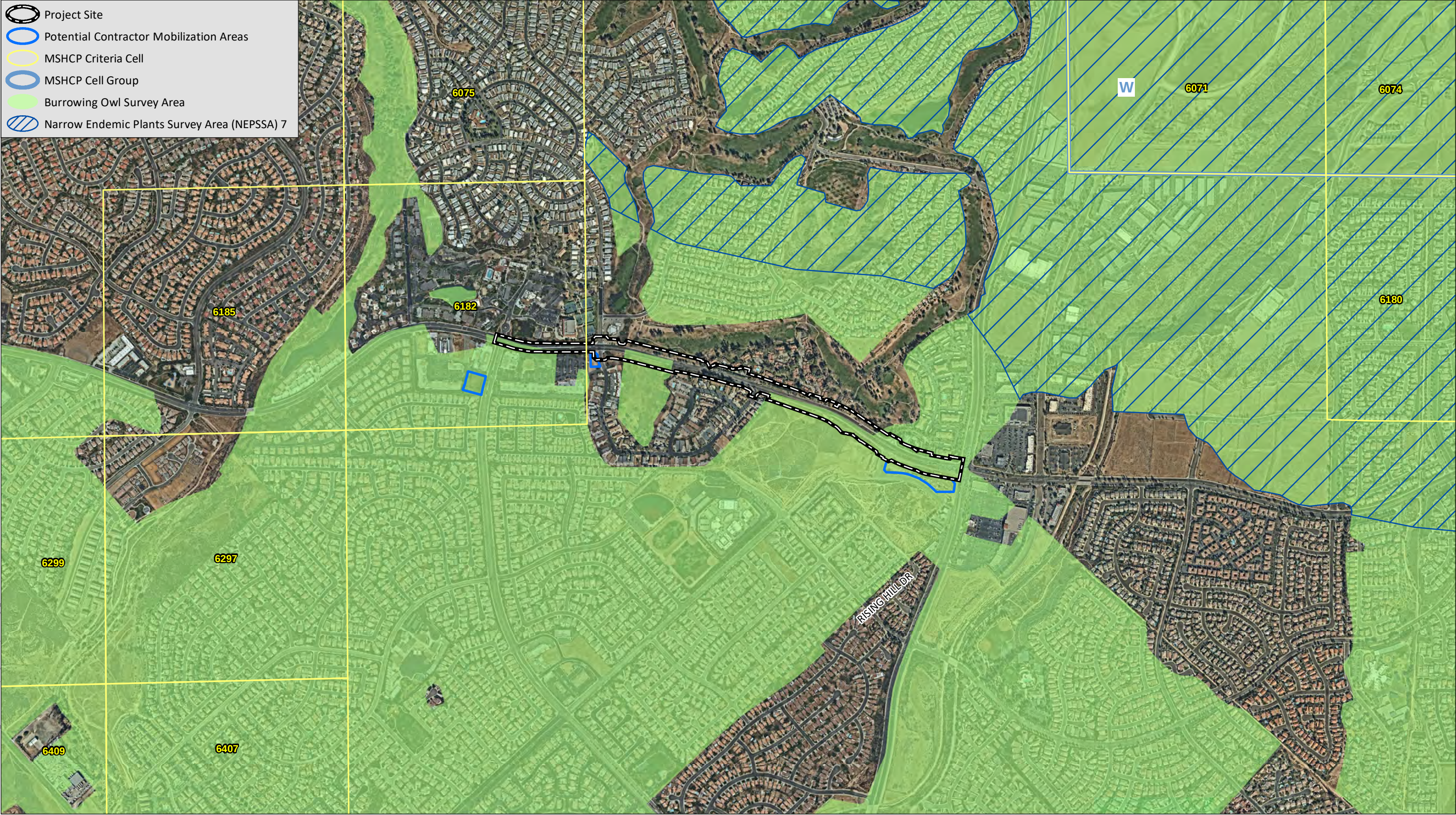
Prior to beginning fieldwork, aerial photographs (historical and current), topographic maps, and National Wetland Inventory data were reviewed to determine the location of potential jurisdictional areas that may be located on the project site. The site was traversed on foot and searched for the presence of bed and bank features, an ordinary high-water mark (OHWM), riverine drainage patterns, and riparian or wetland vegetation types.

A formal jurisdictional delineation was not conducted; however, the field survey included a preliminary jurisdictional assessment to determine the presence or absence of water and wetland resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant









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Source: Aerial (Nearmap, 2018)



to Section 404 of the federal Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and/or State Porter-Cologne Water Quality Control Act, and the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Department of Fish and Game Code (CFG Code).

2.2.3 Rare Plant Surveys

Rare plants investigated include those that are listed as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) or the CDFW not covered under the MSHCP; those afforded a California Rare Plant Rank (CRPR) of 1 through 4 by CNPS not covered under the MSHCP; and those that require additional surveys pursuant to the MSHCP (Dudek 2003).

Ms. Singleton conducted a spring rare plant survey on June 8, 2018 in accordance with published agency guidelines (CDFW 2009, CDFW 2000, and USFWS 2000) and during the appropriate flowering period to maximize the detection of those rare plant species with the potential occur on the project site. Suitable habitat observed on the project site was walked by foot and inspected for the presence of rare plant species. The off-site staging areas did not support suitable habitat for rare plant species.

2.2.4 Riparian/Riverine and Vernal Pool Habitat Assessment (MSHCP Section 6.1.2)

The MSHCP defines Riparian/Riverine habitat “as 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.” The MSHCP defines Vernal Pools 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” (Dudek 2003).

In accordance with the MSHCP, a Riparian/Riverine and Vernal Pool habitat assessment was conducted by Ms. Singleton on June 4, 2018. The assessment was conducted concurrently in the field with the vegetation mapping and jurisdictional assessment effort. The evaluation consisted of a directed search for field characteristics indicative of Riparian/Riverine or Vernal Pool habitats. Field indicators include presence of certain plant species, drainage courses, drainage patterns, ponded water, changes in soil character, changes in vegetation character, and deposits of water-borne debris. If Riparian/Riverine Areas and/or Vernal Pools are observed and project avoidance is not feasible, then a Determination of Biologically Equivalent Superior Preservation (DBESP) is required to quantify the impacts and establish mitigation.

Note that the MSHCP states that “areas demonstrating characteristics [of riparian/riverine habitat] which are artificially created are not included in these definitions” of riparian/riverine habitat. The identification of Riparian/Riverine and Vernal Pool habitats is based on potential for the habitat to support Riparian/Riverine and Vernal Pool Covered Species, which are identified in MSHCP Section 6.1.2. These species include least Bell’s vireo (LBVI; *Vireo bellii pusillus*) and a suite of other animals and plants outlined in Section 6.1.2 of the MSHCP. During the field survey, the site was evaluated for habitat that could support animals and/or plants identified by the MSHCP as Riparian/Riverine and Vernal Pool species.

2.2.4.1 Riparian/Riverine and Vernal Pool Plants

The MSHCP lists 23 sensitive plant species that have potential to occur in Riparian/Riverine and Vernal Pool habitats. These species are as follows:

- California black walnut (*Juglans californica* var. *californica*),
- Engelmann oak (*Quercus engelmannii*),
- Coulter's matilija poppy (*Romneya coulteri*),
- San Miguel savory (*Clinopodium chandleri*),
- spreading navarretia (*Navarretia fossalis*),
- graceful tarplant (*Holocarpha virgata* ssp. *elongata*),
- California Orcutt grass (*Orcuttia californica*),
- prostrate navarretia (*Navarretia prostrata*),
- San Diego button-celery (*Eryngium aristulatum* var. *parishii*),
- Orcutt's brodiaea (*Brodiaea orcuttii*),
- thread-leaved brodiaea (*Brodiaea filifolia*),
- Fish's milkwort (*Polygala cornuta* var. *fishiae*),
- lemon lily (*Lilium parryi*),
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*),
- ocellated Humboldt lily (*L. humboldtii* ssp. *ocellatum*),
- Mojave tarplant (*Deinandra mohavensis*),
- vernal barley (*Hordeum intercedens*),
- Parish's meadowfoam (*Limnanthes gracilis* var. *parishii*),
- slender-horned spineflower (*Dodecahema leptoceras*),
- Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*),
- Brand's phacelia (*Phacelia stellaris*),
- mud nama (*Nama stenocarpum*), and
- smooth tarplant (*Centromadia pungens* ssp. *laevis*).

Of these listed species above, seven species are recorded in CNDDDB within two miles of the project site, including California Orcutt grass, Orcutt's brodiaea, prostrate navarretia, San Diego button-celery, smooth tarplant, spreading navarretia, and vernal barley. These seven species are discussed further in Section 3.4.1 herein.

2.2.4.2 Riparian Birds

The project site and off-site staging areas were assessed for habitat that could support sensitive riparian bird species, such as LBVI, southwestern willow flycatcher (SWFL; *Empidonax traillii extimus*), and western yellow-billed cuckoo (YBCU; *Coccyzus americanus occidentalis*).

2.2.4.3 Invertebrates – Vernal Pool Branchiopods

There are three species of sensitive fairy shrimp that occur in western Riverside County, including Riverside fairy shrimp (*Streptocephalus woottoni*), Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and vernal pool fairy shrimp (*Branchinecta lynchi*). The project site and off-site staging areas were evaluated for suitable habitat, such as vernal pools or ephemeral ponds. Indicators of potential fairy shrimp habitat include, but are not limited to, mima-mound complexes, depressions, road ruts, algal/biotic crusts, and cracked soils.

2.2.4.4 Fish

The Santa Ana sucker (*Catostomus santaanae*) is the only fish shown in the list of MSHCP Riparian/Riverine species. The project site and off-site staging areas were searched for suitable aquatic habitat (i.e., perennial waterways) that could support this species.

2.2.4.5 Amphibians

The MSHCP includes three amphibians in the list of Riparian/Riverine species: arroyo toad (*Anaxyrus californicus*), mountain yellow-legged frog (*Rana muscosa*), and the California red-legged frog (*Rana aurora draytonii*). The project site and off-site staging areas were searched for suitable aquatic habitat (i.e., streams, ponds, reservoirs, etc.) that could support these species.

2.2.5 Narrow Endemic Plant Species Survey Area

The project site, including off-site staging areas, are not located within the Narrow Endemic Plant Species Survey Area (NEPSSA) prescribed in the MSHCP. Therefore, surveys for NEPSSA species are not required.

2.2.6 Criteria Area Species Survey Area

The project site, including off-site staging areas, are not located within a Criteria Area Species Survey Area (CASSA) prescribed in the MSHCP. Therefore, surveys applicable to CASSA are not required.

2.2.7 Amphibian Species Survey Area

The project site, including off-site staging areas, are not located within the Amphibian Species Survey Area prescribed in the MSHCP. Therefore, surveys for sensitive amphibian species (arroyo toad, California red-legged frog, and mountain yellow-legged frog) are not required.

2.2.8 Burrowing Owl Survey Area

The project site and off-site staging areas occur within a MSHCP Burrowing Owl Survey Area. Therefore, the MSHCP requires protocol surveys for burrowing owl if suitable habitat is present. In accordance with

the Burrowing Owl Survey Instructions for the Western Riverside MSHCP (County of Riverside 2006), Ms. Singleton conducted a Step I Burrowing Owl Habitat Assessment of the project site and off-site staging areas concurrently with the initial general habitat assessment on June 4, 2018. As required by the County's survey protocol, Step II Focused Burrow and Burrowing Owl surveys were conducted due to the presence of suitable habitat observed on the project site and off-site staging areas. Four focused surveys were conducted by Ms. Singleton between June 8 and August 17, 2018, following the County's survey protocol. Methods and results of these survey efforts are documented in a separate focused survey report (Appendix E, *Burrowing Owl Focused Survey Report*).

2.2.9 Mammal Species Survey Area

The project site, including the off-site staging areas, are not located within a Mammal Species Survey Area prescribed in the MSHCP. Therefore, surveys for sensitive small mammal species (Aguanga kangaroo rat [*Dipodomys merriami collinus*], Los Angeles pocket mouse [*Perognathus longimembris brevinasus*], and San Bernardino kangaroo rat [*Dipodomys merriami parvus*]) are not required.

3.0 RESULTS

This section addresses the results of research and fieldwork conducted as part of the biological resources technical study, including discussions on the existing conditions and sensitive biological resources that occur or have potential to occur on the project site or the off-site staging areas.

3.1 TOPOGRAPHY AND SOILS

The project site and off-site staging areas are mostly flat, although there are some gradual slopes to the west and east of the existing Murrieta Hot Springs Road ROW between Calle Del Lago and Delhaven Street. Elevations on the project site and off-site staging areas range from approximately 1,111 feet (339 meters) above mean sea level (AMSL) near the western end of the project site to a high of approximately 1,167 feet (356 meters) AMSL near the center of the project site.

The MSHCP lists nine sensitive soil types that occur within the Plan Area (Dudek 2003). None of the MSHCP sensitive soils occur on the project site or off-site staging areas. Six soil types are mapped within the project site/off-site staging areas: Grangeville fine sandy loam (0 to 2 percent slopes), Greenfield sandy loam (2 to 8 percent slopes), Hanford coarse sandy loam (2 to 8 percent slopes), Monserate sandy loam (15 to 25 percent slopes), and Ramona and Buren sandy loams (15 to 25 percent slopes). Additionally, Terrace escarpments is mapped in a very small portion of the eastern terminus of the site (U.S. Department of Agricultural 2018).

3.2 VEGETATION COMMUNITIES AND LAND COVER TYPES

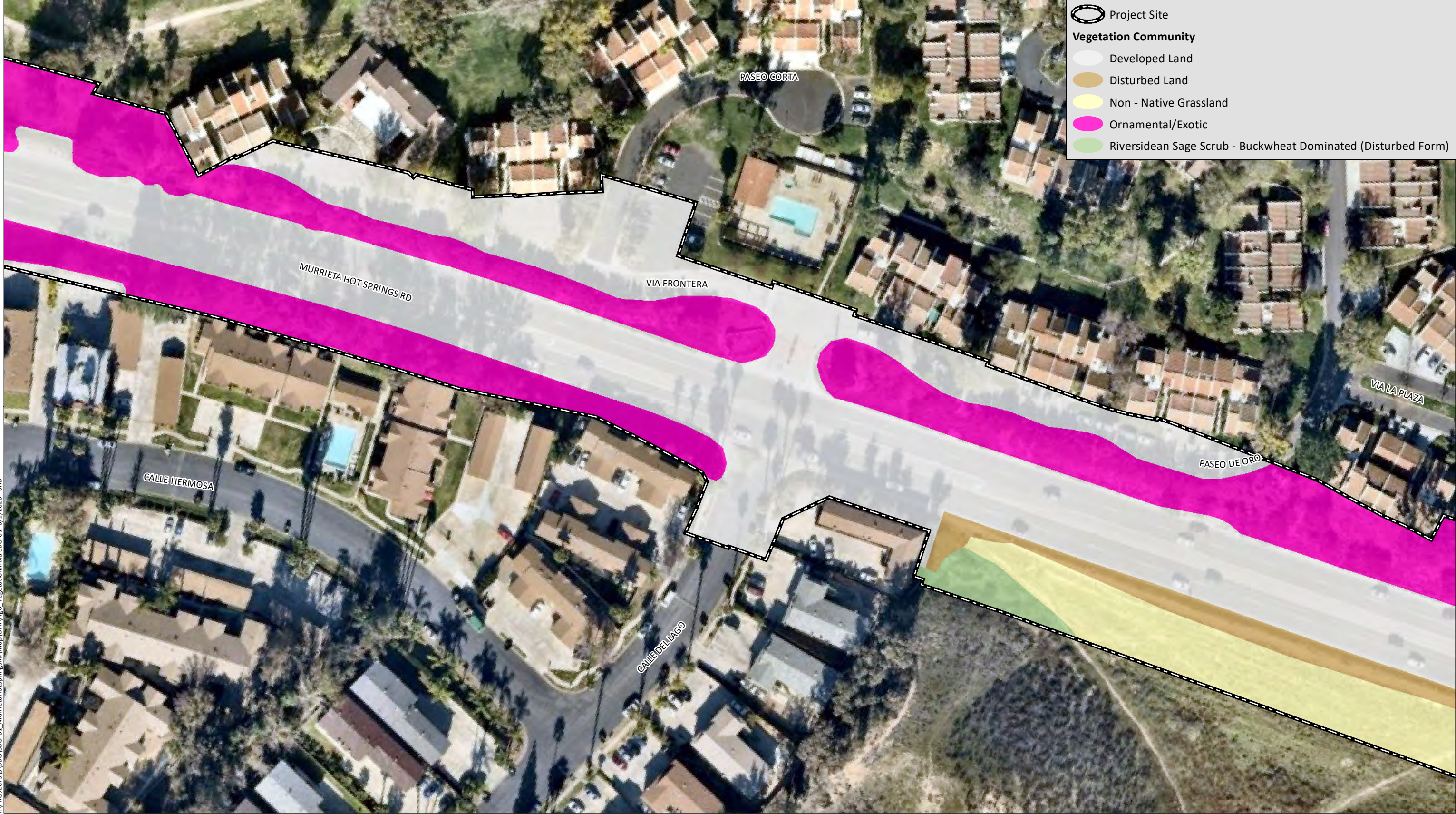
Five vegetation communities and land cover types were identified within the project site and off-site staging areas: developed land, disturbed land, non-native grassland, ornamental/exotic, and Riversidean sage scrub- buckwheat dominated (disturbed form). The acreages mapped within the project site and off-site staging areas are provided in Table 1, *Vegetation Communities and Land Cover Types* below and the corresponding spatial locations are presented on Figures 6a-f, *Vegetation and Land Use*.



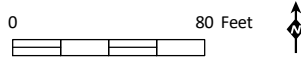


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Source: Aerial (Nearmap, 2020)





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Source: Aerial (Nearmap, 2020)



Table 1
VEGETATION COMMUNITIES AND LAND COVER TYPES*

Community/Type	On-Site (acres)	Off-Site¹ (acres)
Developed Land	12.3	0.0
Disturbed Land	4.6	2.2
Non-native Grassland	3.1	1.0
Ornamental/Exotic	5.0	0.0
Riversidean Sage Scrub – Buckwheat Dominated (Disturbed Form)	1.0	0.0
TOTAL	26	3.2

* Acreages rounded to nearest 0.1 acre, if less than shown as 0.0.

¹ Represents potential Project staging/mobilization areas.

3.2.1 Developed Land

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained.

The entire length of Murrieta Hot Springs Road is classified as developed. Additionally, developed areas included existing commercial and residential development. This land cover type makes up the majority (approximately 47 percent) of the project site. No developed areas were mapped within the off-site staging areas.

3.2.2 Disturbed Land

Disturbed land includes land cleared of vegetation (e.g., dirt roads), land dominated by non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat.

Disturbed land occurs along the edges of the current Murrieta Hot Springs Road alignment and is likely a result of pedestrian and vehicle traffic associated with surrounding residential and commercial development. Disturbed land was mapped on the two of the off-site staging areas. Disturbed land where mapped was mostly unvegetated, although a few non-native species associated with disturbance were observed, such as Russian thistle (*Salsola tragus*), redstem stork's bill (*Erodium cicutarium*), Mediterranean grass (*Schismus barbatus*), and nettle leaf goosefoot (*Chenopodium murale*).

3.2.3 Non-native Grassland

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. Characteristic species include oats (*Avena* spp.), brome grasses (*Bromus* spp.), Italian ryegrass (*Festuca perennis*), and mustards (*Brassica* spp.). Most of the annual introduced species within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. Intensive grazing and agricultural practices combined with severe droughts in California contributed to the successful invasion and establishment of these species and the replacement of native grasslands with annual-dominated non-native grasslands (Jackson 1985).

Non-native grassland was observed in patches throughout the project and the off-site area located along Margarita Road site. The most prevalent species observed was red brome (*Bromus madritensis* ssp. *rubens*). Other non-native grass species included Mediterranean grass, slender oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), and foxtail barley (*Hordeum murinum*). A few scattered native species were also observed with these areas, including Menzies' fiddleneck (*Amsinckia menziesii*), ragweed (*Ambrosia psilostachya*), and Jimson weed (*Datura wrightii*).

3.2.4 Ornamental/Exotic

Ornamental vegetation is characterized as stands of naturalized trees and shrubs (e.g., acacias [*Acacia* spp.], pepper trees [*Schinus* spp.]), many of which are also used in landscaping.

Ornamental vegetation was observed along the edges of the project site that were adjacent to commercial and residential development as well as within the golf course. Ornamental vegetation was not observed in the off-site staging areas. Ornamental species observed included Aleppo pine (*Pinus halepensis*), Peruvian pepper tree (*Schinus molle*), jacaranda (*Jacaranda mimosifolia*), Mexican fan palm (*Washingtonia robusta*), and red gum eucalyptus (*Eucalyptus camaldulensis*).

3.2.5 Riversidean Sage Scrub – Buckwheat Dominated (Disturbed Form)

Riversidean sage scrub -buckwheat dominated is a community that is sparsely vegetated with California buckwheat (*Eriogonum fasciculatum*) and other Riversidean sage scrub-associated species. Riversidean sage scrub vegetation typically occupies xeric sites such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. It is dominated by subshrubs with leaves that are deciduous during drought, an adaptation that allows the habitat to withstand the prolonged drought period in the summer and fall. Composition varies substantially depending on physical circumstances and the successional status of the vegetation community; however, this particular community is dominated by California buckwheat, and includes other scattered Riversidean sage scrub-associated species, such as California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), and several species of sage (*Salvia* spp.).

A small linear strip of Riversidean sage scrub-buckwheat dominated was observed in the southeastern portion of the project site, between Calle Del Lago and Delhaven Street. This vegetation community was not observed in the off-site staging areas. On-site, this community was mapped as the disturbed form due to the lack of native species cover (less than 50 percent) and predominance of red brome. In addition to California buckwheat, a few other Riversidean sage scrub-associated species were observed in this on-site community, such as deerweed (*Acmispon glaber*) and cudweed aster (*Corethrogyne filaginifolia*).

3.3 JURISDICTIONAL WETLANDS AND WATERS

The preliminary jurisdictional assessment conducted during the general biological survey revealed there are no potential jurisdictional wetlands or waters features within the project site or the off-site staging areas. A few concrete-lined features (i.e., v-ditches, concrete apron, and a trapezoidal ditch) were observed within the project site; however, were deemed non-jurisdictional because they are manmade features constructed in upland habitat (i.e., non-wetland), they convey storm water within uplands, and they do not represent historical/natural wetlands, waters, or drainages.

Specifically, these upland features on-site include:

- concrete v-ditches on the slopes located to the northwest and southwest of the intersection of Murrieta Hot Springs Road and Delhaven Street;
- a concrete apron located south of Murrieta Hot Springs Road, west of the intersection of Murrieta Hot Springs Road and Delhaven Street; and
- a concrete trapezoidal ditch located at the top of a knoll, east of the intersection of Murrieta Hot Springs Road and Via Princesa.

Potentially jurisdictional wetlands and waters features were observed adjacent to the project site, but are located outside of the project boundary and no further investigation was warranted.

3.4 RIPARIAN/RIVERINE AND VERNAL POOL HABITAT ASSESSMENT

The identification of Riparian/Riverine Areas is based on the potential for on-site habitat to support or contribute to downstream habitat that supports Species Associated with Riparian/Riverine Areas, as identified in MSHCP Section 6.1.2.

Results of the habitat assessment concluded neither Riparian/Riverine nor Vernal Pool habitats exist on the project site or the off-site staging areas. The manmade concrete-lined features (v-ditches, apron, and trapezoidal ditch) described in Section 3.3 above are do not meet the definition of MSHCP Riparian/Riverine since they (1) do not support habitat dominated by support trees, shrubs, persistent emergent vegetation, or emergent mosses or lichens; (2) do not accept flows from fresh water sources; and, (3) artificially created or constructed features are not considered riparian/riverine habitat or vernal pools.

Riparian/Riverine and Vernal Pool species identified by the MSHCP are discussed in detail below.

3.4.1 Riparian/Riverine Plants

Twenty-three plant species are identified in the MSHCP as potentially occurring in Riparian/Riverine and Vernal Pool habitats. None of the 23 species occur on the project site or off-site staging areas.

A number of the Riparian/Riverine and Vernal Pool plant species occur in habitats that do not occur on the project site (e.g., streambeds and vernal pools) or have distributions well outside of the project site. None of the 23 MSHCP Riparian/Riverine and Vernal pool plant species were observed on the project site or off-site staging areas during the field surveys site and none are expected to occur.

Two species (i.e., spreading navarretia and California Orcutt grass) have CNDDDB occurrence records within the project boundary. Spreading navarretia was recorded in 2001 in the southeastern portion of the project site within the Riversidean sage scrub-buckwheat dominated (disturbed) community. This area was carefully surveyed in the field and current and historic aerials were reviewed. No evidence of ponding or depressional areas that could support ponded water were observed in the field or on aerials of the project site and off-site staging areas. Spreading navarretia was not observed during any of the field surveys. The California Orcutt grass observation is a historical CNDDDB record from 1922 and 1941, in which this species was generally mapped over a large area in Murrieta. This record is classified as

extirpated by CNDDDB, and no suitable habitat for California Orcutt grass was observed within the project site or off-site staging areas.

3.4.2 Riparian Birds

The least Bell's vireo, southwestern willow flycatcher, and yellow-billed cuckoo are found in riparian vegetation, such as southern willow scrub, cottonwood forest, mule fat scrub, sycamore alluvial woodland, and arroyo willow riparian forest that typically feature dense cover. The project site and off-site staging areas were searched for riparian vegetation/habitat, but none was observed; thus, riparian birds are not expected on the project site or off-site staging areas. A few scattered willow (*Salix* sp.), mulefat (*Baccharis salicifolia*), and western sycamores (*Platanus racemosa*) were observed off-site to the south of the project site between and existing commercial complex and Murrieta Hot Springs Road, west of Via Princesa. Orientation, density, and location of these trees suggest they were planted in a windrow. These observed trees do not constitute riparian habitat that could support MSHCP riparian birds.

3.4.3 Invertebrates - Vernal Pool Branchiopods

Vernal pool fairy shrimp occurs throughout the Central Valley and in several disjunct populations in Riverside County. This species exists in vernal pools and other ephemeral basins often located in patches of grassland and agriculture interspersed in Diegan coastal sage scrub and chaparral. Riverside fairy shrimp occurs in Riverside, Orange, and San Diego counties, as well as in northern Baja California, Mexico. This species is typically found in deeper vernal pools and other ephemeral basins that hold water for long periods (30 or more days). Santa Rosa Plateau fairy shrimp are strictly limited to the Santa Rosa Plateau.

The project site and off-site staging areas were searched for the presence of vernal pools and vernal pool indicators. Clay soils typically associated with vernal pools are not present on the project site or off-site staging areas. No vernal pool or vernal pool indicator species were observed; thus, fairy shrimp are not expected to occur.

3.4.4 Fish

The Santa Ana sucker is restricted to the Santa Ana River watershed with year-round flows. This species generally lives in small shallow streams less than seven meters wide with various current strengths. They require permanent streams with a preferred gravel bottom. They prefer cool, clear water but can tolerate turbid waters. Habitat for this species is not present on-site or the off-site staging areas; thus, this species is not expected to occur.

3.4.5 Amphibians

Arroyo toad occur in streams that have breeding pools that are shallow with minimal current. Requirements also include sandy banks with area of minimal vegetative cover. Arroyo toad habitat does not occur on the project site or off-site staging areas. Mountain yellow-legged frog and California red-legged frog are not known to occur in the project site or off-site staging areas. The mountain yellow-legged frog occurs in mountain streams and is currently only known within Riverside County in the San Jacinto Mountains. The California red-legged frog is only known within Riverside County on the Santa Rosa Plateau. It requires deep water with adjacent uplands to move between breeding sites.

Habitat for these species does not occur on the project site or off-site staging areas; thus, none of the MSHCP sensitive amphibian species are expected to occur.

3.5 MULTIPLE SPECIES HABITAT CONSERVATION PLAN FOCUSED SURVEYS

3.5.1 Narrow Endemic Plant Species

The project site, including off-site staging areas are not within a NEPSSA.

3.5.2 Criteria Area Species

The project site, including off-site staging areas are not within a CASSA.

3.5.3 Amphibian Species

The project site, including off-site staging areas, are not located within the Amphibian Species Survey Area.

3.5.4 Burrowing Owl

Because the project site and off-site staging areas are within the survey area, burrowing owl surveys were performed. Burrowing owl surveys were conducted for the project and off-site staging areas in accordance with the County's protocol between June 8 and August 17, 2018, as described above in Section 2.2.6 of this report. No burrowing owls or burrowing owl signs were observed on the project site or off-site staging areas during the focused surveys (Appendix E, *Burrowing Owl Focused Survey Report*).

3.5.5 Mammal Species Survey

The project site, including the off-site staging areas are not within the Mammal Species Survey Area.

3.6 OTHER SENSITIVE SPECIES

A CNDDDB and USFWS sensitive species quarry within a two-mile radius of the project site and off-site staging areas was conducted along with an in-house database search for sensitive plants and animals that have potential to occur in the project vicinity. A list of plant and animal species observed or detected on-site during the field survey is included as Appendix A and B, respectively. Below are discussions of the sensitive plants and animals from the database search.

3.6.1 Sensitive Plants

Based on the database searches, a total of 23 sensitive plant species were analyzed for their potential to occur on the project site (Table 2, *Special-Status Plant Species Potential to Occur*). Of these 23 species evaluated, three plant species (chaparral sand-verbena [*Abronia villosa* var. *aurita*], Parry's spineflower [*Chorizanthe parryi* parryi] and mesa horkelia [*Horkelia cuneata* var. *puberula*]) were determined to have a low potential to occur on the project site based on the presence of mapped sandy soils and a small area of disturbed Riversidean sage scrub-buckwheat dominated community (Table 2). Parry's spineflower is a CRPR 1B.1 species and is conditionally covered under the MSHCP. Mesa horkelia is also

a CRPR 1B.1 species, but is not a MSHCP covered species. Neither species is listed as a federal or state endangered or threatened species. Since impacts to these species may not be fully covered under the MSHCP, rare plant surveys were conducted in June 2018 (see Section 2.2.3 above). These species were not observed during the rare plant surveys; thus, are not expected to occur on the project site.

Table 2
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand- verbena	--/-- CRPR 1B.1	Small annual herb. Occurs on sandy floodplains or flats in generally inland, arid areas of sage scrub and open chaparral. Flowering: March – August. Elevation: 0 – 5,250 feet. (0 – 1,600 meters).	Presumed Absent. The project site supports low-quality habitat based on the presence of sandy soils and a small area of disturbed RSS-buckwheat dominated community. This species was not observed during the rare plant survey.
<i>Allium munzii</i>	Munz's onion	FE/ST CRPR 1B.1 Conditionally Covered ²	Perennial herb (bulb). Grows on clay soils in openings within chaparral, foothill woodland, pinyon juniper woodland, and valley grassland communities. Flowering: April – May. Elevation: 1,150 – 3,510 feet (350 – 1,070 meters).	None. Appropriate clay soils and vegetation communities are not present on the project site or off-site staging areas.
<i>Ambrosia pumila</i>	San Diego ambrosia	FE/-- CRPR 1B.1 Conditionally Covered ²	Perennial herb (rhizomatous). Occurs in disturbed areas on floodplain terraces and vernal pool margins within chaparral, valley grassland, and coastal sage scrub communities. Flowering: April – July. Elevation: 100 – 2,000 feet (30 – 610 meters).	None. Vernal pool and floodplain habitat are not present on the project site or off-site staging areas.

Table 2 (cont.)
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Arctostaphylos rainbowensis</i>	rainbow manzanita	--/-- CRPR 1B.1 Conditionally Covered ³	Large conspicuous shrub. Southern mixed chaparral is preferred habitat with a relatively dense canopy from 6 to 8 feet. Flowering: January – February. Elevation: 490 – 2,600 feet (150 – 800 meters).	None. The project site or off-site staging areas do not support mixed chaparral habitat.
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	--/-- CRPR 1B.1 Covered	Perennial herb. Occurs in vernal moist grasslands, mima mound topography, and vernal pool periphery are preferred habitat. Occasionally will grow on streamside embankments in clay soils. Flowering: April – July. Elevation: 0 – 5,200 feet (0 – 1,600 meters).	None. The project site or off-site staging areas do not support vernal moist grasslands, mima mounds, or vernal pools.
<i>Brodiaea santarosae</i>	Santa Rosa Basalt brodiaea	--/-- CRPR 1B.2	Small perennial herb. Occurs in soils derived from Santa Rosa Basalt within grassland habitat. Flowering: May – June. Elevation: 1,900 – 3,400 feet (580 – 1,045 meters).	None. The project site or off-site staging areas do not support Santa Rosa Basalt. The project site is below the elevation range of this species.

**Table 2 (cont.)
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR**

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Calochortus weedii</i> var. <i>intermedius</i>	intermediate mariposa lily	--/-- CRPR 1B.2 Covered	Medium perennial herb. Occurs on dry, rocky slopes within openings in chaparral, coastal scrub, and grassland habitats. Flowering: June – July. Elevation: 0 – 2,200 feet. (0 – 680 meters).	None. The project site or off-site staging areas do not support rocky slopes.
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	--/-- CRPR 1B.1 Conditionally Covered ⁴	Annual herb. Grows in open, disturbed, poorly drained flats, depressions, and waterway banks and beds within shadscale shrub, alkali sink, and valley grassland communities. Flowers: April – September. Elevation: 165 – 2,885 feet (50 – 880 meters).	None. The project site or off-site staging areas do not support suitable mesic areas.
<i>Chorizanthe parryi</i>	Parry's spineflower	--/-- CRPR 1B.1 Conditionally Covered ³	Annual herb. Occurs in sandy or rocky openings within chaparral and coastal sage scrub. Flowering: May – June. Elevation: 950 – 3,775 feet (290 – 1,150 meters).	Presumed Absent. The project site supports suitable sandy habitat and a small area of disturbed RSS-buckwheat dominated community. This species was not observed during the rare plant survey.

Table 2 (cont.)
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Chorizanthe polygonoides longispina</i>	long-spined spineflower	--/-- CRPR 1B.2 Covered	Annual herb. Occurs on clay soils in meadows within chaparral, coastal sage scrub, and valley grassland communities. Flowering: April – June. Elevation: 360 – 5,280 feet (110 – 1,610 meters).	None. Appropriate clay and meadow habitat are not present on the project site or off-site staging areas.
<i>Clinopodium chandleri</i>	San Miguel savory	--/-- CRPR 1B.2 Conditionally Covered ²	Medium perennial herb. Occurs on Gabbro and metavolcanics soils in interior foothills, chaparral, and oak woodland. Flowering: March – July. Elevation: 0 – 3,600 feet (0 – 1,100 meters).	None. The project site or off-site staging areas do not support suitable gabbro/ metavolcanics soils or chaparral/oak woodland habitats.
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	--/-- CRPR 1B.2	Small annual herb. Commonly occurs in clay soils within coastal scrub. Flowering: February – June. Elevation: 65 – 900 feet (20 – 275 meters).	None. The project site or off-site staging areas do not support suitable clay soils.
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	FE/SE CRPR 1.B1 Covered	Small annual or perennial herb. Occurs in vernal pools or mima mound areas with vernal moist conditions are preferred habitat. Flowering: March – June. Elevation: 0 – 2,300 feet (0 – 705 meters).	None. The project site or off-site staging areas do not support vernal pools or mima mounds.

Table 2 (cont.)
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Hordeum intercedens</i>	vernal barley	--/-- CRPR 3.2 Covered	Small annual grass. Saline flats and depressions in grasslands or in vernal pool basins. Flowering: March – June. Elevation: 16 – 3,280 feet (5 – 1,000 meters).	None. The project site or off-site staging areas do not support saline flats, depressional areas, or vernal pool basins.
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	--/-- CRPR 1B.1	Medium perennial herb. Occurs in sandy or gravelly areas within chaparral, coastal sage scrub, and coastal mesas. Flowering: March – July. Elevation: 230 – 2,850 feet (70 – 870 meters).	Presumed Absent. The project site supports low-quality habitat based on the presence of sandy soils and a small area of disturbed RSS-buckwheat dominated community. This species was not observed during the rare plant survey.
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	--/-- CRPR 1B.2	Small annual grass-like herb. Occurs in mesic sandy soils within seeps, meadows, vernal pools, streams, and roadsides. Flowering: April – August. Elevation: 980 – 6,230 feet (300 – 1,900 meters).	None. The project site or off-site staging areas do not support suitable mesic habitat.

**Table 2 (cont.)
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR**

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	--/-- CRPR 1B.1 Conditionally Covered ⁴	Medium annual herb. Occurs in coastal salt marsh, upper end of tidal inundation areas, and vernal pools. Flowering: April – May. Elevation: 0 – 3,280 feet (0 – 1,000 meters).	None. The project site or off-site staging areas do not support coastal habitat or vernal pools.
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	--/-- CRPR 3.1 Conditionally Covered ⁴	Small annual herb. Vernal pools and alkaline marshes. This cryptic species typically grows in the deeper portions of vernal pool basins, sprouting immediately after the surface water has evaporated. Flowering: Mar – June. Elevation: 20 – 640 m.	None. The project site or off-site staging areas do not support vernal pool or marsh habitat.
<i>Navarretia fossalis</i>	spreading navarretia	FT/-- CRPR 1B.1 Covered Covered ²	Small annual herb. Occurs in vernal pools, vernal swales, or roadside depressions. Population size is strongly correlated with rainfall. Depth of pool appears to be a significant factor as this species is rarely found in shallow pools. Flowering: April – June. Elevation: 98 – 4,260 feet (30 – 1,300 meters).	None. The project site or off-site staging areas do not support vernal wet areas or roadside depressions.

**Table 2 (cont.)
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR**

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	--/-- CRPR 1B.1 Conditionally Covered ⁴	Small annual herb. Occurs in alkaline floodplain, meadows, seeps, and vernal pools within coastal scrub and valley and foothill grassland. Flowering: April – July. Elevation: 0 – 2,300 feet (0 – 700 meters).	None. The project site or off-site staging areas do not support vernal pool or meadow habitat.
<i>Orcuttia californica</i>	California Orcutt grass	FE/SE CRPR 1B.1 Conditionally Covered ²	Small annual herb. Occurs in or near vernal pools. This species tends to grow in wetter portions of the vernal pool basin but does not show much growth until the basins become somewhat desiccated. Flowering: April – August. Elevation: 0 – 2,300 feet (0 – 700 meters).	None. The project site or off-site staging areas do not support vernal wet areas or roadside depressions.
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	--/-- CRPR 2B.2	Medium biennial or short-lived perennial herb. Occurs in sandy and gravelly benches, dry stream and canyon bottoms within woodland, coastal scrub, and chaparral. Flowering: July – October. Elevation: 0 – 1,640 feet (0 – 500 meters).	None. The project site or off-site staging areas do not support dry, gravelly stream or canyon bottom habitat.

Table 2 (cont.)
SPECIAL-STATUS PLANT SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status or Potential to Occur
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	--/-- CRPR 1B.2	Large perennial herb. Occurs in vernal mesic soils within cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, grasslands, streams, springs, and disturbed ditches. Flowering: July – November. Elevation: 0 – 6,725 feet (0 – 2050 meters).	None. The project site or off-site staging areas do not support vernal wet areas or roadside depressions.

¹ Refer to Appendix D for an explanation of MSHCP designation and sensitivity status codes.

² Surveys may be required for these species within Narrow Endemic Plant Species Survey Area (MSHCP Section 6.1.3).

³ These species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met (MSHCP Table 9-3).

⁴ Surveys may be required for these species within Criteria Area Species Survey Area (MSHCP 6.3.2).

3.6.2 Sensitive Animals

A total of 18 sensitive animal species were analyzed for their potential to occur and none were determined to have at least moderate potential to occur on the project site (Table 3, *Special-Status Animal Species Potential to Occur*). Nine species were determined to have a low potential to occur on the project site, all of which except for Dulzura pocket mouse (*Chaetodipus californicus femoralis*) are either covered or conditionally covered under the MSHCP. Dulzura pocket mouse is a California Species of Species Concern and is not a federal or state listed endangered or threatened species. As stated previously in Section 3.7, no burrowing owls were detected on the project site or off-site staging areas during focused surveys and is presumed absent. Overall, no sensitive animals were found to be present on the project site or off-site staging areas.

Table 3
SPECIAL-STATUS ANIMAL SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status on Project Site
INVERTEBRATES				
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT/-- Conditionally Covered ²	Most commonly found in swale, earth slump, or basal-flow depression pools in unplowed grasslands. Requires cool-water pools.	None. The project site or off-site staging areas do not support vernal pools or depressional areas.
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE/-- Covered	Open areas, sparse vegetation, and flowers. Host plants are <i>Plantago</i> spp., <i>Antirrhinum coulterianum</i> , and <i>Cordylanthus rigidus</i> .	None. No suitable habitat or host plants were observed on the project site or off-site staging areas.
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE/-- Conditionally Covered ²	Typically deep vernal pools and seasonal wetlands at least 30 centimeters deep.	None. The project site or off-site staging areas do not support vernal pools or depressional areas.
VERTEBRATES				
Reptiles and Amphibians				
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	--/WL Covered	Chaparral, sage scrub, grassland, woodland, and riparian areas.	Low. The non-native grassland and disturbed RSS-buckwheat dominated communities on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.
<i>Crotalus ruber</i>	red-diamond rattlesnake	--/SSC Covered	Heavy brush, boulders, can use a variety of habitats; prey density determining factor.	Not expected. The disturbed RSS-buckwheat dominated community on the project site is limited in size and lacks suitable cover, such as dense vegetation and/or boulders.

Table 3 (cont.)
SPECIAL-STATUS ANIMAL SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status on Project Site
VERTEBRATES (cont.)				
Reptiles and Amphibians (cont.)				
<i>Spea hammondi</i>	western spadefoot	--/SSC Covered	Grassland, sage scrub, or occasionally chaparral; standing water, puddles, vernal pools, needed for reproduction.	None. No standing water or vernal pools occur on the project site or off-site staging areas.
Birds				
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	--/WL Covered	Hillsides, with grassland, sage scrub, or chaparral.	Low. The non-native grassland and disturbed RSS-buckwheat dominated communities on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.
<i>Artemisiospiza belli belli</i>	Bell's sage sparrow	--/WL Covered	Evenly spaced sage scrub or chaparral.	Low. The disturbed RSS-buckwheat dominated community on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.

Table 3 (cont.)
SPECIAL-STATUS ANIMAL SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status on Project Site
VERTEBRATES (cont.)				
Birds (cont.)				
<i>Athene cunicularia</i>	burrowing owl	--/SSC Conditionally Covered ³	Grasslands, fallow agriculture, or areas of sparse perennial cover with burrows (preferably from fossorial mammals).	Low. Although the project site and off-site staging areas supports suitable habitat and burrows, no burrowing owls were observed during focused surveys conducted for the project in 2018.
<i>Elanus leucurus</i>	white-tailed kite	--/FP Covered	Grassland, agriculture with nearby woodland for nesting.	Not expected. The project site is highly disturbed and foraging habitat is limited to a small patch of non-native grassland. Although the project site supports eucalyptus and other large trees, these trees are adjacent to the heavily-trafficked Murrieta Hot Springs Road.
<i>Eremophila alpestris actia</i>	California horned lark	--/WL Covered	Grassland, agriculture fields, and disturbed fields.	Low. The non-native grassland community on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.

Table 3 (cont.)
SPECIAL-STATUS ANIMAL SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status on Project Site
VERTEBRATES (cont.)				
Birds (cont.)				
<i>Poliophtila californica californica</i>	coastal California gnatcatcher	FT/SSC Covered	Mature coastal sage and other scrub varieties.	Low. The disturbed RSS-buckwheat dominated community on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE/SE Conditionally Covered ¹	Dense willow/riparian thickets.	None. The project site does not support suitable dense thickets of riparian vegetation.
Mammals				
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	--/SSC	Primarily associated with mature chaparral. It has been trapped in mule fat scrub and is known to occur in coastal sage scrub.	Low. The disturbed RSS-buckwheat dominated community on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow, and subject to disturbance due to its proximity to Murrieta Hot Springs Road.
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE/SSC Covered ³	Sagebrush, shadscale, and creosote bush desert scrubs, in a variety of soil types. Generally associated with alluvial fans and flood plains.	Not expected. Although the project site supports a small patch of disturbed RSS-buckwheat dominated community, alluvial fan and flood plain habitats are absent from the project site.

Table 3 (cont.)
SPECIAL-STATUS ANIMAL SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status on Project Site
VERTEBRATES (cont.)				
Mammals (cont.)				
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE/ST Covered	Open grassland and scrub areas with sparse perennial cover and loose soil.	Low. The non-native grassland and disturbed RSS-buckwheat dominated communities on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	--/SSC Covered	Grassland, agriculture with nearby woodland forcover.	Low. The non-native grassland and disturbed RSS-buckwheat dominated communities on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.

Table 3 (cont.)
SPECIAL-STATUS ANIMAL SPECIES POTENTIAL TO OCCUR

Scientific Name	Common Name	Sensitivity Status ¹	Habitat	Status on Project Site
VERTEBRATES (cont.)				
Mammals (cont.)				
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	--/SSC Conditionally Covered ³	Sandy, gravelly, or stony soils within coastal scrub, alluvial sage scrub, and grassland habitats.	Low. The non-native grassland and disturbed RSS-buckwheat dominated communities on the project site may provide limited low-quality habitat for this species. The potential is considered low since the habitat is narrow and subject to disturbance due to its proximity to Murrieta Hot Springs Road.

¹ Please refer to Appendix D for an explanation of MSHCP designation and sensitivity status codes.

² Surveys may be required for these species as part of wetlands mapping (MSHCP Section 6.1.2).

³ Surveys may be required for these species within locations shown on survey maps (MSHCP Section 6.3.2)

4.0 REGULATORY CONTEXT

4.1 FEDERAL REGULATIONS

Administered by the USFWS, the federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a “take” under the ESA. Section 9(a) of the ESA defines take as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” “Harm” and “harass” are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species’ behavioral patterns.

Sections 4(d), 7, and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of Biological Opinion (BO), issued by the USFWS for non-marine related listed species issues. A Section 7 consultation is required when there is a nexus between federally listed species’ use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows the issuance of permits for “incidental” take of endangered or threatened species. The term “incidental” applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity. The MSHCP includes a Section 10(a) permit for this portion of Riverside County, including the City of Murrieta and the subject project site.

All migratory bird species that are native to the United States or its territories are protected under the Migratory Bird Treaty Act (MBTA), as amended under the MBTA of 2004 (Federal Register [FR] Doc. 05-5127). This law is generally protective of migratory birds from the direct physical take of the species.

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the Clean Water Act (CWA). The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. (including wetlands and vernal pools) is overseen by the USACE under Section 404 of the CWA. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. A CWA Section 401 Water Quality Certification, which is administered by the RWQCB, must be issued prior to any 404 Permit. Impacts to waters of the U.S. would result in a need for both a USACE 404 permit and a RWQCB 401 certification.

4.2 STATE REGULATIONS

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for the take of listed species for scientific, educational, or management purposes. The MSHCP is the regional 2081 for this portion of Riverside County, including the subject property.

State Fully Protected species may not be taken or possessed at any time and no state licenses or permits may be issued for their take except for collecting these species necessary for scientific research and relocation of the bird species for the protection of livestock (CFG Code Sections 3511, 4700, 5050, and 5515).

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates the collection, transport, and commerce of listed plants.

The California ESA follows the NPPA and covers both plants and animals that are determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were designated threatened under the California ESA.

CFG Code Sections 1600 *et seq.* requires an agreement with CDFW for projects affecting riparian and wetland habitats through the issuance of a Streambed Alteration Agreement (SAA). CFG Code Sections 3503, 3503.5, and 3800 prohibit the take or possession of birds, their nests, or eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a take. Such a take would also violate federal law protecting migratory birds. Incidental Take Permits are required from the CDFW for projects that may result in the incidental take of species listed by the state as endangered, threatened, or candidate species. The wildlife agencies require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

The California Natural Community Conservation Planning Act of 1991 is designed to conserve habitat-based natural communities at the ecosystem scale while accommodating compatible land uses in

coordination with California ESA. The CDFW is the principal state agency implementing the Natural Community Conservation Planning (NCCP) program. The Act established a process to allow for comprehensive, long-term, regional, multi-species, and habitat-based planning in a manner that satisfies the requirements of the state and federal ESAs (through a companion regional habitat conservation plan). The NCCP program has provided the framework for innovative efforts by the state, local governments, and private interests to plan for the protection of regional biodiversity and the ecosystems upon which they depend. The NCCP program seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed. The MSHCP was prepared as part of regional planning pursuant to the NCCP Act.

4.3 LOCAL REGULATIONS

4.3.1 Western Riverside Multiple Species Habitat Conservation Plan

The MSHCP is a comprehensive multi-jurisdictional effort that includes Riverside County and multiple cities, including the City of Murrieta, in western Riverside County. Rather than address sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 500,000 acres and a mechanism to fund and implement the reserve system (Dudek 2003). Most importantly, the MSHCP allows participating entities to issue take permits for listed species so that individual applicants need not seek their own permits from the USFWS and/or CDFW. The MSHCP was adopted on June 17, 2003, by the Riverside County Board of Supervisors. The Incidental Take Permit was issued by both the USFWS and CDFW on June 22, 2004.

As noted above, the project site is located within the French Valley/Lower Sedco Hills subunit of the Southwest Area Plan of the MSHCP and the western terminus of the project site is within the southeast portion of Criteria Cell 6182. The conservation requirements for Cell 6182 are presented below in Table 4, *Conservation Requirement of the MSHCP Criteria Cells*. Although in a Criteria Cell, the project site is mostly within existing developed areas. The project site is not targeted for conservation or is an area that would contribute to the MSHCP reserve assembly.

Furthermore, the project is a Circulation Element of the City's adopted General Plan and considered an essential public facility. Under the MSHCP, such public development that is consistent with the Criteria conservation is considered a covered activity. In accordance with MSHCP Section 7.3, the project is a "covered road maintenance activity within the criteria area" and implementation would avoid and minimize impact to sensitive species and habitats adjacent to the existing roadway. Overall, the project would be consistent with the MSHCP.

Table 4
CONSERVATION REQUIREMENT OF THE MSHCP CRITERIA CELLS

Criteria Cell	Conservation Criteria
6182	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 15. Conservation within this Cell will focus on grassland, coastal sage scrub, riparian scrub, woodland and forest habitat along Warm Springs Creek. Areas conserved within this Cell will be connected to grassland, water, riparian scrub, woodland and forest habitat proposed for conservation in Cell #6185 to the west and to coastal sage scrub, riparian scrub, woodland and forest habitat proposed for conservation in Cell #6075 to the north. Conservation within Cell 6182 will range from 5 % to 15% of the Cell focusing in the western portion of the Cell.

4.3.2 Stephens' Kangaroo Rat Habitat Conservation Plan

The SKRHCP describes the conservation, mitigation, and monitoring measures that are implemented within core reserves. Within the SKRHCP, there are seven core reserves totaling 41,221 acres for conservation of Stephens' kangaroo rat and associated habitat. The SKRHCP provides a 30-year incidental take authorization for Stephens' kangaroo rat on lands within its boundaries, which includes 533,954 acres within the County and the Cities of Corona, Hemet, Lake Elsinore, Moreno Valley, Murrieta, Perris, Riverside, and Temecula.

The project site and off-site staging areas are within the SKRHCP, but are not located within any of the core reserves. The project would be required to pay a Stephens' kangaroo rat mitigation fee per development requirements under the SKRHCP.

4.3.3 City of Murrieta Municipal Code – Protected Trees

The City of Murrieta Municipal Code Section 16.24 establishes regulations for “Protected Trees,” which include preservation and protection of the following:

- native oaks with a diameter at breast height (DBH) of four or more inches;
- trees of historical or cultural significance as identified by council resolution;
- significant groves or stands of trees
- mature trees (i.e., living tree with a total DBH of 9.5 inches or more of all major stems measured at 54 inches above the root crown, with one major stem measuring at least 4.0 inches in DBH) located on a parcel of one acre or more trees; and
- trees required to be planted or preserved as environmental mitigation.

If Protected Trees are proposed for removal, the City requires a tree removal permit prior to removing or relocating a protected tree or developing within the protection zone of a protected tree. Section 16.42 also includes the following circumstances that are exempt from obtaining a tree removal permit:

1. **Existing Trees on Residential Property.** Existing trees on single-family residential property less than one acre in size but not including protected trees of historic or cultural significance, or trees that were required to be preserved, relocated, or planted as a condition of approval of a discretionary permit.
2. **Emergency Situation.** Cases of emergency where the director, a member of a law enforcement agency, or the Murrieta fire department, determines that a protected tree poses an imminent threat to the public safety, or general welfare.
3. **Line-of-Sight Obstructions.** Removal or relocation of trees necessary to maintain adequate line-of-sight distances as required by the city traffic engineer.
4. **Public Right-of-Way.** Removal of trees from within the public right-of-way, as authorized by the director of public works.

5. **Public Utility Damage.** Removal of trees for the protection of existing electrical power or communication lines.
6. **Nursery.** Removal of trees planted, grown, or held for sale by a nursery.
7. **Park District.** Removal of trees on property owned by the city as authorized by the community services district.
8. **Riverside County.** Removal of trees on property owned by the county of Riverside as authorized by that agency.
9. **Pruning and trimming.** Pruning or trimming that does not endanger the life of the tree.
10. **Removal of orchards or fruit trees grown.** planted, or held for sale for cash crop or commercial purposes.

5.0 IMPACTS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. For purposes of this impact analysis direct impact areas are considered 100 percent lost. Impacts to the proposed staging areas for the Project are considered temporary. Indirect impacts consist of secondary effects (i.e., edge effects) of a project including but not limited to: noise, decreased water quality (e.g., through sedimentation, urban contaminants, or fuel release), fugitive dust, colonization of non-native plant species, animal behavioral changes, and night lighting. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, project impacts to biological resources would be considered significant if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any special status species in local or regional plans, policies, or regulations, or by the CDFW and 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 or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife 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 Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.1 VEGETATION COMMUNITIES

The project proposes to directly impact approximately 10.1 acres on the project site and temporarily impact approximately 3.2 acres within the off-site staging areas. The majority of proposed project impacts (approximately 61 percent) are within developed land located in the existing limits of the City ROW. The project impacts are presented on Figures 7a-f, *Project Impacts* and the corresponding acreages are provided in Table 5, *Project Impacts to Vegetation Communities and Land Cover Types* below.

Project impacts to developed land, disturbed land, and ornamental/exotic are not considered significant and do not require mitigation pursuant to CEQA or the MSHCP. Project impacts to non-native grassland and Riversidean sage scrub – buckwheat dominated are considered significant, absent mitigation. The proposed mitigation for these impacts, as discussed below, would reduce the level of impacts to less than significant.

Table 5
PROJECT IMPACTS TO VEGETATION COMMUNITIES AND LAND COVER TYPES*

Community/Type	Existing On-Site (acres)	Existing Off-Site (acres) ¹	Direct Permanent Impacts On-Site (acres)	Direct Temporary Impacts Off-Site (acres) ²
Developed Land	12.3	0.0	6.2	0.0
Disturbed Land	4.6	2.2	0.9	2.2
Non-native Grassland	3.1	1.0	0.7	1.0
Ornamental/Exotic	5.0	0.0	1.8	0.0
Riversidean Sage Scrub – Buckwheat Dominated (Disturbed Form)	1.0	0.0	0.5	0.0
TOTAL	26	3.2	10.1	3.2

* Acreages rounded to nearest 0.1 acre, if less than shown as 0.0.

¹ Represents potential project staging/mobilization areas.

² Maximum limits of temporary disturbance.

5.2 SENSITIVE PLANT AND ANIMAL SPECIES

No sensitive plants or animal species occur on the project site or off-site staging areas; therefore, no impacts would occur.

The MSHCP does not cover impacts to nesting birds that are protected under the MBTA. Impacts to birds protected under the MBTA are considered significant and discussed below.

5.2.1 Nesting Birds

Development of the proposed project could disturb or destroy active migratory bird nests including eggs and young, if construction is implemented during the bird breeding season (January 15 to September 15). Disturbance to or destruction of migratory bird eggs, young, or adults is in violation of the MBTA and CDFW Fish and Game Code Sections 3503 and 3503.5; such impacts would be considered significant.



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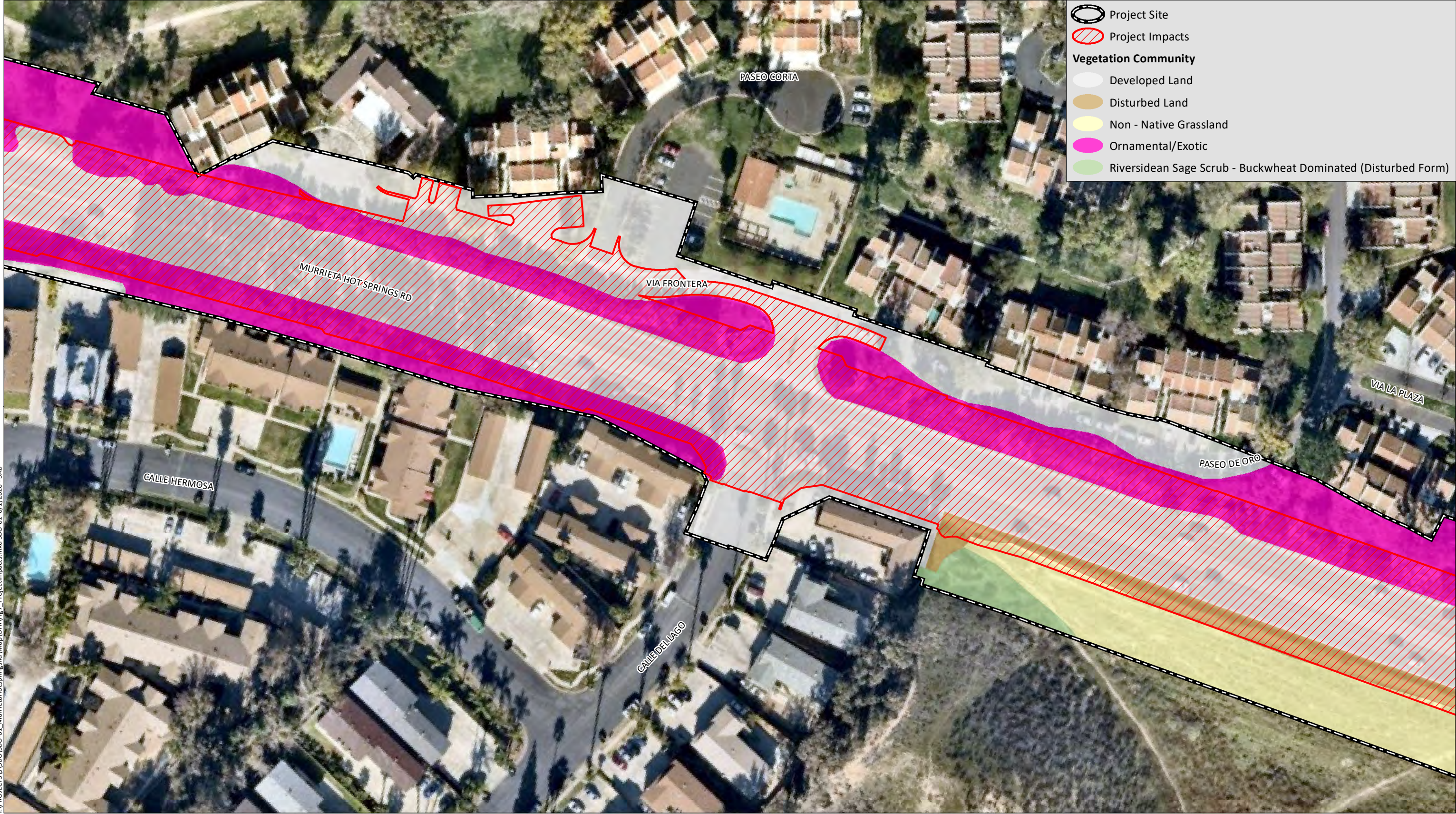


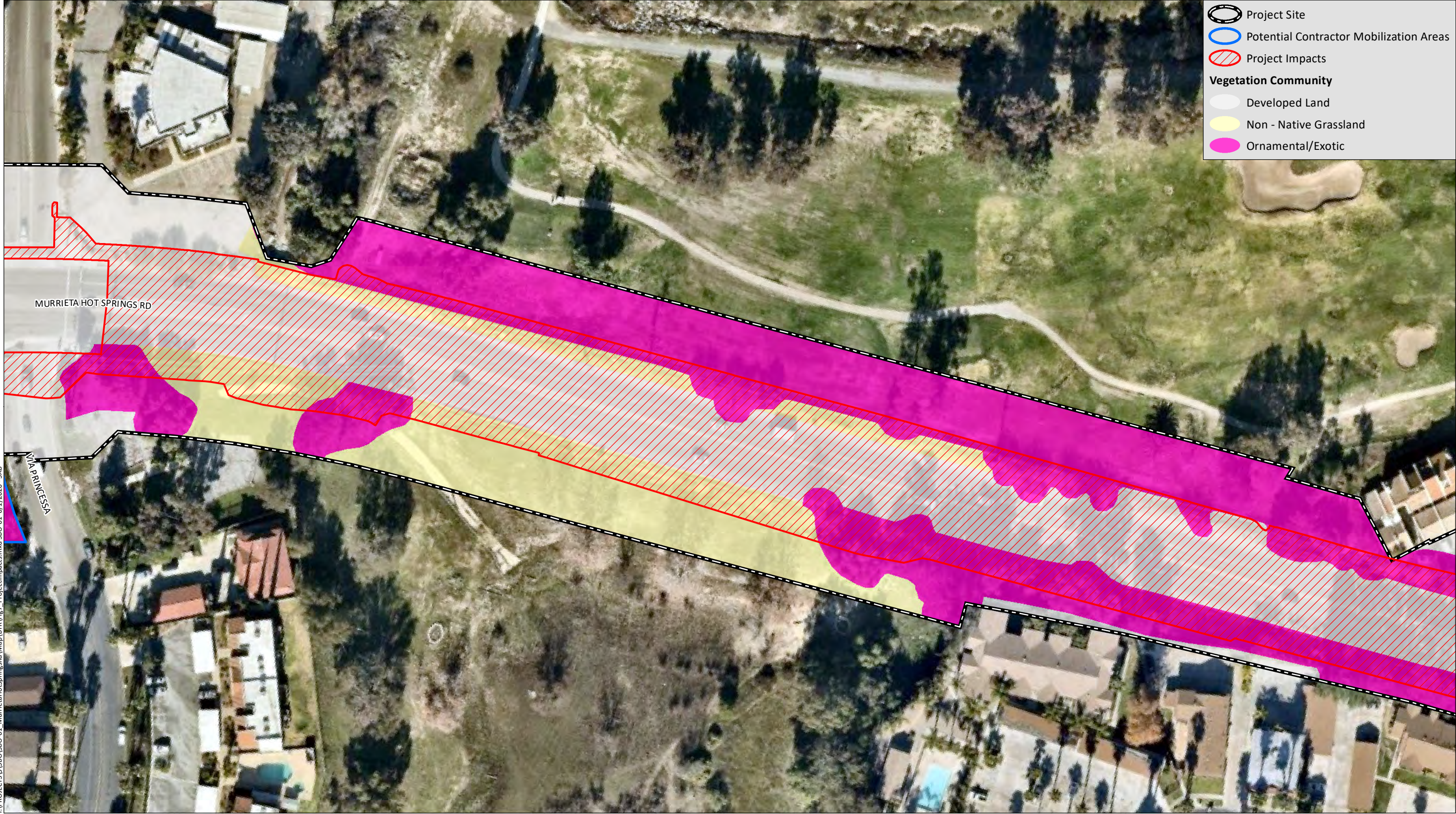
Source: Aerial (Nearmap, 2020)

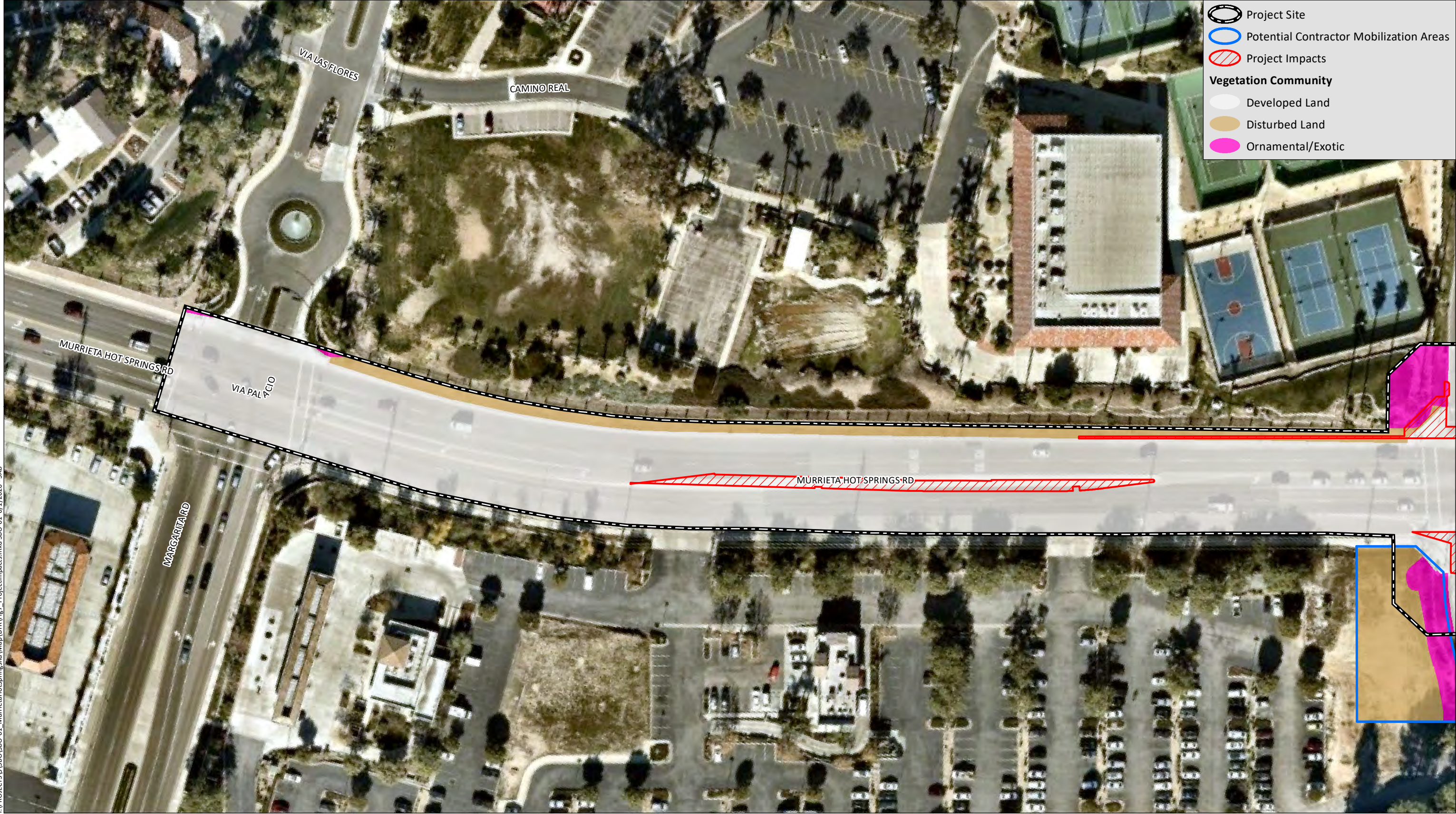


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Source: Aerial (Nearmap, 2020)









5.3 JURISDICTIONAL WATERS AND WETLANDS

No jurisdictional wetlands or waters occur on the project site or off-site staging areas; therefore, no impacts would occur.

5.4 WILDLIFE CORRIDORS AND NURSERY SITES

The project site and staging areas are located within an existing developed area, the project is an MSHCP Covered Activity, and the site (including staging areas) are not targeted for conservation. The project site and staging areas are not within or adjacent to a regional corridor or linkage; thus, no impacts to resident or migratory wildlife, including wildlife nursery sites, are expected. Additionally, the project site and staging areas do not contain aquatic habitat that would support resident or migratory fish; thus no impacts to fish are expected.

5.5 CITY-PROTECTED TREES

Although the project site supports trees that are considered Protected Trees under Section 16.42 of the City's Municipal Code, the majority of the project site falls within the City's ROW. Removal of Protected Trees within the City's ROW would be allowed under Exemption D of Section 16.42. Removal of trees outside of the City's ROW is not anticipated.

5.6 MSHCP CONSISTENCY ANALYSIS

The purpose of this section is to provide an analysis of the project with respect to compliance with biological resources aspects of the MSHCP.

The project was evaluated for consistency with the following MSHCP issue areas:

- MSHCP Reserve Assembly requirements;
- Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools);
- Section 6.1.3 (Protection of Narrow Endemic Plant Species);
- Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface);
- Section 6.3.2 (Additional Survey Needs and Procedures); and
- Section 6.4 (Fuels Management).

The discussions below provide a summary demonstrating how the project is consistent with MSHCP requirements for each of the above-listed issue areas.

5.6.1 MSHCP Reserve Assembly Requirements

The project site is located within Criteria Cell 6182. Conservation within this Cell ranges from 5 to 15 percent with focus on Warm Springs Creek and the western portion of the Cell. Specifically, conservation focuses on the grassland, coastal sage scrub, riparian scrub, woodland, and forest along Warm Springs Creek, as well maintaining connectivity between similar habitats in Cell 6075 to the north along Warm Springs Creek.

The project would not conflict with MSHCP reserve assembly because the project site is located in the eastern portion of the cell and is not associated with Warm Springs Creek. Additionally, maintenance (i.e., widening) of existing roads within Criteria Area are covered activities under the MSHCP and are not anticipated for inclusion into the reserve assembly. Through compliance with Section 7.3 of the MSHCP (i.e., Covered Activities Inside Criteria Area), the project would not substantially affect habitats with any connectivity to Warm Springs Creek or similar habitat within Cell 6075. The project site is located in the southeastern portion of the cell along the existing Murrieta Hot Springs Road alignment and project impacts proposed within Cell 6182 are entirely within existing developed areas (i.e., existing road median improvements). The conservation goals of the Cell would not be affected by the project because the portions of Cell 6182 that encompass Warm Springs Creek would remain undeveloped. Ultimately, the project would not conflict with the MSHCP reserve assembly.

5.6.2 MSHCP Section 6.1.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, states:

The purpose of the procedures described in this section is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that Habitat values for species inside the MSHCP Conservation Area are maintained.

The project site and off-site staging areas do not support Riparian/Riverine Areas or Vernal Pools. Suitable habitat for Riparian/Riverine and Vernal Pool plant, invertebrate, or bird species is not present within the project site or off-site staging areas. Therefore, no impacts would occur to Riparian/Riverine Areas or Vernal Pools or associated species and the proposed project is consistent with Section 6.1.2 of the MSHCP.

5.6.3 MSHCP Section 6.1.3 Protection of Narrow Endemic Plant Species

The project is not within a survey area for NEPSSA species; therefore, no surveys were warranted. Nevertheless, no suitable habitat for NEPSSA species occurs on the project site or off-site staging areas and no impacts would occur as a result of the project. The proposed project is consistent with Section 6.1.3 of the MSHCP.

5.6.4 MSHCP Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface

Section 6.1.4 of the MSHCP addresses potential indirect impacts to MSHCP Conservation Area lands via the Urban/Wildlands Interface Guidelines (UWIG). The project site does not occur adjacent to an MSHCP Conservation Area; the nearest Conservation Areas include Proposed Constrained Linkage 15 (Warm Springs Creek) located approximately 0.12 mile to the west and Proposed Core-2 (Tucalota Creek) located approximately 0.17 mile to the east. The project is within a MSHCP Criteria Cell; however, as stated previously in Section 5.3.1 the project site is located mostly within an existing developed area, is a MSHCP Covered Activity, and is not targeted for conservation. The MSHCP UWIG guidelines discussed below are to demonstrate how the project would prevent and/or reduce potential impacts to off-site Conservation Areas to ensure consistency with MSHCP Section 6.1.4.

Drainage

Although the project does not directly drain into an MSHCP Conservation Area, storm water flows from the site could ultimately reach a downstream Conservation Area (Warm Springs Creek or Tualota Creek). Currently, surface storm water on-site is captured and conveyed to areas off-site by the City's storm drain system; the project proposes connection to this existing infrastructure.

The project would adhere to the Construction Guidelines in Section 7.5.3 of the MSHCP and would incorporate measures, including general construction Best Management Practices (BMPs) and those required through the National Pollutant Discharge Elimination System (NPDES) to ensure that the quantity and quality of runoff discharged off-site is not altered in an adverse way when compared with existing conditions.

Toxics

The project does not propose toxic impacts to sensitive species habitats. The existing site uses are already subject to generation of oils and other bio-products from impervious road surfaces and cars. Measures such as those employed to address drainage issues above would be implemented to ensure indirect impacts from toxic substances do not occur to species or their habitat.

Lighting

The project does not occur close (i.e., within 500 linear feet) to a conservation area; therefore, this does not apply.

Invasives

The project shall not use invasive plants for erosion control, landscaping, wind rows, or other purposes. The project will comply with the MSHCP and avoid the use of invasive, non-native plants in accordance with MSHCP Table 6-2.

Barriers

The project does not occur close (i.e., within 500 linear feet) to a conservation area; therefore, this does not apply.

Grading/Land Development

The project does not occur close (i.e., within 500 linear feet) to a conservation area; therefore, this does not apply.

5.6.5 MSHCP Section 6.3.2 Additional Survey Needs and Procedures

The project site and off-site staging areas are not located in a CASSA or an amphibian or mammal survey area. Therefore, project impacts to CASSA species or sensitive amphibian or mammal species are not anticipated. The project is located within a Burrowing Owl Survey Area and project compliance with the MSHCP is discussed below.

Burrowing Owl

The MSHCP requires a habitat assessment and focused surveys if suitable burrowing owl habitat occurs on the project site. The project site was determined to support suitable habitat for burrowing owl; and as such, protocol burrowing owl survey were conducted in accordance with County survey protocol (County 2006). No burrowing owl or sign of the species was detected during the survey. According to CNDDB, the nearest record of burrowing owl is approximately 1.4 miles to the east of the project site. Although the habitat within the project site itself is of low quality, limited/restricted in size along the roadway, and focused protocol burrowing owl surveys were negative, 30-day a pre-construction survey is required in accordance with MSHCP requirements. Therefore, the proposed project would be consistent with MSHCP Section 6.3.2.

5.6.6 MSHCP Section 6.4 Fuels Management

Because the proposed project consists of widening an existing road within a heavily developed portion of the City, a fuel modification zone is not incorporated into proposed project. The project site is not adjacent to an MSHCP Conservation Area. Therefore, fuel modification impacts would not extend into a Conservation Area. The proposed project is consistent with Section 6.4 of the MSHCP.

6.0 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Proposed mitigation measures listed below shall reduce potential significant impacts to a level below significant.

6.1 SENSITIVE SPECIES

6.1.1 Burrowing Owl

Within 30 days prior to initiating ground-disturbance activities, the project applicant shall retain a qualified biologist to complete a pre-construction avoidance survey, in accordance with the MSHCP guidelines. If the pre-construction survey is negative and burrowing owl is confirmed absent, then ground-disturbing activities shall be allowed to commence and no further mitigation would be required.

If burrowing owls have colonized the project site or staging areas prior to initiation of construction, the project applicant shall immediately inform RCA and the Wildlife Agencies. Preparation of a *Burrowing Owl Protection and Relocation Plan*, prior to initiating ground disturbance may be required by the RCA and/or the Wildlife Agencies.

6.1.2 Nesting Birds

Vegetation clearing for the project, including off-site staging areas, shall be conducted outside the avian nesting season, which is generally defined as January 15 to September 15. If vegetation clearing must take place during the nesting season, a qualified biologist shall perform a pre-construction Nesting Bird

Survey no more than seven days prior to vegetation impacts. Results of the survey shall be submitted to the City for review and approval prior to initiating impacts during the breeding season.

If active bird nests are confirmed to be present during the pre-construction survey, the project biologist shall delineate a buffer of up to 300 feet (500 feet for raptors) around each nest. Construction activities within the buffer shall not be permitted until nesting behavior has ceased, nests have failed, or young have fledged. The project biologist may modify the buffer or propose other recommendations in order to minimize disturbance to nesting birds.

6.2 NON-NATIVE INVASIVE SPECIES RESTRICTIONS

Although the project is not located within or adjacent to MSHCP Conservation Area Lands, the project considered the invasive species listed in MSHCP Section 6.1.4 Table 6-2. Unless otherwise approved by the City, such species shall be not be used on the project site or off-site staging areas during construction or post construction landscaping, including hydroseed mix used for erosion control.

6.3 MSHCP LOCAL DEVELOPMENT MITIGATION FEE

Because the project is within and area (City of Murrieta) participating in the MSHCP, the project applicant is required to pay a Local Development Mitigation Fee (LDMF) to finance the acquisitions of conservation areas to provide habitat for MSHCP covered species (County 2003). The LDMF must be paid within 30-days prior to the City's award for CIP projects. The applicant would pay the LDMF as determined through coordination with the County. The fee schedule is adjusted annually by the Western Riverside County Regional Conservation Authority and was recently adjusted. Generally, road improvement projects are subject to a LDMF that is approximately 5 percent of the overall construction costs for the project. The final LDMF shall be an amount determined in coordination with the County.

6.4 SKRHCP FEES

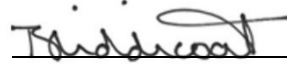
Because the project site and off-site staging areas are within the SRKHCP area, the project applicant is required to pay a Stephens' kangaroo rat mitigation in accordance with the SKRHCP. The SKRHCP fee for the project shall be an amount determined in coordination with the County.

7.0 CERTIFICATION/QUALIFICATION

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 and belief.

DATE: June 2, 2020

SIGNED: _____



Thomas Liddicoat

Biology Project Manager

HELIX Environmental Planning, Inc.

Fieldwork Performed By:

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Appendix A

Plant Species Observed

Appendix A

PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name
GYMNOSPERMS		
Cupressaceae	<i>Cupressus sempervirens</i> *	Italian cypress
Pinaceae	<i>Pinus halepensis</i> *	Aleppo pine
ANGIOSPERMS – EUDICOTS		
Aizoaceae	<i>Aptenia cordifolia</i> *	red apple ice plant
	<i>Carpobrotus edulis</i> *	hottentot-fig
Altingiaceae	<i>Liquidambar styraciflua</i> *	sweetgum
Anacardiaceae	<i>Schinus molle</i> *	Peruvian pepper tree
Apocynaceae	<i>Nerium oleander</i> *	oleander
	<i>Vinca major</i> *	greater periwinkle
Asteraceae	<i>Baccharis salicifolia</i>	mule fat
	<i>Centaurea melitensis</i> *	totalote
	<i>Corethrogyne filaginifolia</i>	cudweed aster
	<i>Erigeron canadensis</i>	horseweed
	<i>Heterotheca grandiflora</i>	telegraph weed
	<i>Lactuca serriola</i> *	wild lettuce
	<i>Oncosiphon piluliferum</i> *	stinknet
	<i>Pseudognaphalium californicum</i>	California everlasting
Bignoniaceae	<i>Sonchus asper</i> *	prickly sow thistle
	<i>Jacaranda mimosifolia</i> *	jacaranda
Boraginaceae	<i>Amsinckia menziesii</i>	Menzies' fiddleneck
	<i>Heliotropium curassavicum</i> var. <i>oculatum</i>	salt heliotrope
	<i>Nemophila menziesii</i>	baby blue eyes
Brassicaceae	<i>Hirschfeldia incana</i> *	short-pod mustard
	<i>Sisymbrium irio</i> *	London rocket
Cactaceae	<i>Opuntia ficus-indica</i> *	Indian-fig
Caprifoliaceae	<i>Lonicera japonica</i> *	honeysuckle
Chenopodiaceae	<i>Amaranthus albus</i> *	white tumbleweed
	<i>Atriplex semibaccata</i> *	Australian saltbush
	<i>Chenopodium murale</i> *	nettle-leaf goosefoot
	<i>Salsola tragus</i> *	Russian thistle
Cistaceae	<i>Cistus x purpureus</i> *	orchid rockrose
Convolvulaceae	<i>Convolvulus arvensis</i> *	field bindweed
Cucurbitaceae	<i>Cucurbita foetidissima</i>	calabazilla
Euphorbiaceae	<i>Croton setigerus</i>	dove weed
	<i>Euphorbia maculata</i> *	spotted spurge
Fabaceae	<i>Acacia</i> sp.*	acacia
	<i>Acmispon americanus</i>	Spanish-clover
	<i>Acmispon glaber</i>	deerweed
	<i>Caesalpinia pulcherrima</i> *	Pride of Barbados
	<i>Melilotus indicus</i> *	Indian sweet clover
	<i>Parkinsonia aculeata</i> *	Mexican palo verde
Fagaceae	<i>Quercus agrifolia</i>	coast live oak
Geraniaceae	<i>Erodium cicutarium</i> *	redstem filaree
	<i>Erodium moschatum</i> *	whitestem filaree
Haemodoraceae	<i>Anigozanthos flavidus</i> *	kangaroo paw
Lamiaceae	<i>Rosmarinus officinalis</i> *	rosemary
Malvaceae	<i>Malva parviflora</i> *	cheeseweed

Appendix A (cont.)

PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name
ANGIOSPERMS – EUDICOTS (cont.)		
Myrtaceae	<i>Eucalyptus camaldulensis</i> *	river red gum
	<i>Eucalyptus polyanthemos</i> *	silver dollar gum
	<i>Melaleuca citrina</i> *	crimson bottlebrush
Oleaceae	<i>Fraxinus uhdei</i> *	shamel ash
	<i>Olea europaea</i> *	olive
Platanaceae	<i>Platanus racemosa</i>	western sycamore
	<i>Platanus x hispanica</i> *	London planetree
Polygonaceae	<i>Eriogonum fasciculatum</i>	buckwheat
Rosaceae	<i>Raphiolepis indica</i> *	Indian hawthorn
	<i>Rosa</i> sp.*	rose
Scrophulariaceae	<i>Myoporum parvifolium</i> *	slender myoporum
Solanaceae	<i>Datura wrightii</i>	jimson weed
Ulmaceae	<i>Ulmus pumila</i> *	Siberian elm
ANGIOSPERMS – MONOCOTS		
Arecaceae	<i>Phoenix canariensis</i> *	Canary Island date palm
	<i>Washingtonia robusta</i> *	Mexican fan palm
	<i>Syagrus romanzoffiana</i> *	queen palm
Iridaceae	<i>Dietes bicolor</i> *	African iris
Poaceae	<i>Avena barbata</i> *	slender oat
	<i>Bromus diandrus</i> *	common ripgut grass
	<i>Bromus madritensis</i> ssp. <i>rubens</i> *	red brome
	<i>Cynodon dactylon</i> *	Bermuda grass
	<i>Hordeum murinum</i> *	hare barley
	<i>Schismus barbatus</i> *	Mediterranean grass
Strelitziaceae	<i>Strelitzia reginae</i> *	bird-of-paradise

*Non-native species

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Appendix B

Animal Species Observed or Detected

Appendix B

ANIMAL SPECIES OBSERVED OR DETECTED

Order	Family	Scientific Name	Common Name
BIRDS			
Accipitriformes	Accipitridae	<i>Buteo jamaicensis</i>	red-tailed hawk
Apodiformes	Apodidae	<i>Aeronautes saxatalis</i>	white-throated swift
	Trochilidae	<i>Calypte anna</i>	Anna's hummingbird
Charadriiformes	Charadriidae	<i>Charadrius vociferus</i>	killdeer
Columbiformes	Columbidae	<i>Streptopelia decaocto</i>	Eurasian collared-dove
		<i>Zenaida macroura</i>	mourning dove
Falconiformes	Falconidae	<i>Falco sparverius</i>	American kestrel
Passeriformes	Aegithalidae	<i>Psaltiriparus minimus</i>	bushtit
	Corvidae	<i>Corvus brachyrhynchos</i>	American crow
		<i>Corvus corax</i>	common raven
	Fringillidae	<i>Haemorhous mexicanus</i>	house finch
		<i>Spinus lawrencei</i>	Lawrence's goldfinch
		<i>Spinus psaltria</i>	lesser goldfinch
		<i>Spinus tristis</i>	American goldfinch
	Icteridae	<i>Icterus cucullatus</i>	hooded oriole
		<i>Molothrus ater</i>	brown-headed cowbird
	Mimidae	<i>Mimus polyglottos</i>	northern mockingbird
	Passerellidae	<i>Melospiza melodia</i>	song sparrow
		<i>Melospiza crissalis</i>	California towhee
		<i>Pipilo maculatus</i>	spotted towhee
	Passeridae	<i>Passer domesticus</i>	house sparrow
	Troglodytidae	<i>Thryomanes bewickii</i>	Bewick's wren
	Turdidae	<i>Sialia mexicana</i>	western bluebird
	Tyrannidae	<i>Sayornis nigricans</i>	black phoebe
		<i>Sayornis saya</i>	Say's phoebe
		<i>Tyrannus verticalis</i>	western kingbird
		<i>Tyrannus vociferans</i>	Cassin's kingbird
Piciformes	Picidae	<i>Picoides nuttallii</i>	Nuttall's woodpecker
MAMMALS			
Lagomorpha	Leporidae	<i>Sylvilagus audubonii</i>	desert cottontail
Rodentia	Sciuridae	<i>Otospermophilus beecheyi</i>	California ground squirrel

Appendix C

Site Photographs



Photograph 1: View of disturbed land within one of the potential off-site staging areas located on the south side of Murrieta Hot Springs, between Del Haven Street and Winchester Road (facing southeast).



Photograph 2: View of the Riversidean sage scrub-buckwheat dominated (disturbed form) community located in the eastern portion of the project site on the south side of Murrieta Hot Springs Road (facing southwest).



Photograph 3: View of the non-native grassland community located near the center of the project site on the south side of Murrieta Hot Springs Road (facing southeast).



Photograph 4: View of ornamental/exotic community associated with an existing residential development located near the center of the project site on the north side of Murrieta Hot Springs Road (facing northwest).



Photograph 5: View of developed land on the right, disturbed land in the center, and ornamental/exotic vegetation on the left. The developed and disturbed lands are associated with the existing right-of-way and the ornamental/exotic community is associated with the Golf Club at Rancho California. This photo was taken near the center of the project site on the north side of Murrieta Hot Springs Road (facing east).



Photograph 6: View of disturbed land in the foreground and the ornamental/exotic community in the background within one of the potential off-site staging areas. This photo was taken in the western portion of the project site on the south side of Murrieta Hot Springs Road (facing southeast).



Photograph 7: View of developed land associated with the existing right-of-way located in the western portion of the project site at the intersection of Murrieta Hot Springs Road and Margarita Road (facing northwest).



Photograph 8: View of the non-native grassland community within one of the potential off-site staging areas located near to the southwest corner of Margarita Road and Murrieta Hot Springs Road (facing northwest).

G:\PROJECTS\SBO-01 Murrieta Hot Springs Rd\Reports\BIO\GBRA\Appendices\Appendix C Site Photographs

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Appendix D

Explanation of Status Codes for Plant and Animal Species

Appendix D

Explanation of Status Codes for Plant and Animal Species

U.S. FISH AND WILDLIFE SERVICE (USFWS)

BCC	Birds of Conservation Concern
FE	Federally listed endangered
FT	Federally listed threatened

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)

SE	State listed endangered
ST	State listed threatened
SSC	State species of special concern
WL	Watch List
FP	Fully Protected

MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP) COVERED

MSHCP Covered indicates that the species is part of a proposed list of species (146 total) considered at this time to be adequately conserved by the Western Riverside MSHCP, provided that participants meet all conditions listed in the Final MSHCP.

CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CODES

Lists	List/Threat Code Extensions
1A = Presumed extinct.	.1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.	.2 = Fairly endangered in California (20 to 80 percent occurrences threatened)
2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.	.3 = Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)
3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.	A CA Endemic entry corresponds to those taxa that only occur in California.
4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.	All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no threat code extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Code.

Appendix E

Burrowing Owl Focused Survey Report

September 12, 2018

SBO-01

Mr. James Ozouf, PE
City of Murrieta
1 Town Square
Murrieta, CA 92562

Subject: 2018 Burrowing Owl (*Athene cunicularia*) Survey Report for the Murrieta Hot Springs Road Widening Project

Dear Mr. Ozouf:

This letter report presents the results of the 2018 focused burrowing owl (*Athene cunicularia*; BUOW) survey conducted by HELIX Environmental Planning, Inc. (HELIX) for the Murrieta Hot Springs Road Widening Project (project) located in the City of Murrieta (City), Riverside County (County), California. The survey was conducted in accordance with the County's Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP; County of Riverside [County] 2006). This survey was conducted to meet applicable conditions under the MSHCP, which was approved in 2003 (Dudek and Associates [Dudek] 2003). The MSHCP is a comprehensive planning effort that includes the County of Riverside and multiple cities, including the City. As part of the MSHCP implementation, enrolled jurisdictions are required to impose terms of the MSHCP, including appropriate surveys in accordance with Volume 1, Section 6. The project site and potential off-site staging areas are located within the survey area for BUOW; therefore, surveys are required if suitable habitat is present (County 2006). This letter report describes the methods used to perform the survey and the survey results.

PROJECT SITE LOCATION

The approximately 22.8-acre site is situated in Murrieta Hot Springs, a neighborhood located in the southeastern portion of the City. The project site is generally located east of Interstate 215 and west of State Route 79 (Figure 1, *Regional Location*). It is located in the U.S. Geological Survey (USGS) 7.5-minute Murrieta quadrangle maps within portions of Sections 13, 14, 23, and 24 of Township 7 South and Range 3 West (Figure 2, *USGS Topography*). Specifically, the project

site is located along Murrieta Hot Springs Road, between the intersection of Margarita Road and the intersection of Winchester Road (Figure 3, *Aerial Photograph*).

The project also includes three potential off-site mobilization (i.e., staging) areas, totaling 3.2 acres. These off-site staging areas include the vacant lot between Del Haven Street and Winchester Road, the vacant lot adjacent to the southwest corner of the intersection of Via Princesa and Murrieta Hot Springs Road, and the vacant lot adjacent to the southwest corner of the intersection of Margarita Road and Murrieta Hot Springs Road (Figure 3).

PROJECT DESCRIPTION

The proposed project is a public facility project and Circulation Element of the City's adopted General Plan (City of Murrieta 2011). Furthermore, the project is considered a Covered Road Maintenance Activity under the policies of the MSHCP (Dudek 2003). The project proposes to implement various improvements to Murrieta Hot Springs Road between Margarita Road and Winchester Road. The roadway would be widened from a 4-lane roadway to a 6-lane roadway between Via Princesa to Winchester Road. The project would also include other various road improvements along Murrieta Hot Springs Road, such as installing bike lanes, a curbed median, lighting poles, curbs, gutters, storm drains, sidewalks, retaining walls, street signs, and crosswalks.

The project will also require off-site staging areas to accommodate construction equipment and materials. Although final staging areas have not been determined, three potential staging areas were evaluated.

PROJECT SITE DESCRIPTION

The project site is located in a heavily developed portion of Murrieta Hot Springs and mostly occurs within the existing City Right-of-Way (ROW), but also includes areas immediately outside and along the ROW periphery. Disturbed land, non-native grassland, ornamental/exotic vegetation, and disturbed Riversidean sage scrub-buckwheat dominated communities are located along the periphery of the existing ROW. The off-site staging areas consist of disturbed land and non-native grassland. Existing commercial and residential development surrounds the majority of the project site and off-site staging areas, with some undeveloped land located on the southside of Murrieta Hot Springs Road.

The project site and off-site staging areas are mostly flat, although there are some gradual slopes to the north and south of the existing Murrieta Hot Springs Road ROW between Calle Del Lago and Delhaven Street. Elevations on the project site and off-site staging areas range from approximately 1,111 feet (339 meters) above mean sea level (AMSL) near the western end of the project site to a high of approximately 1,167 feet (356 meters) AMSL near the center of the project site.

Representative photographs of the project site are provided in Attachment A, *Site Photographs*.

METHODS

A Step I Habitat Assessment and Step II Locating Burrows and Burrowing Owls were conducted on the project site and off-site staging areas by HELIX biologist Lauren Singleton between June 4 and August 17, 2018, in accordance with the County's survey protocol (County 2006). The specific survey information is provided in Table 1, *Survey Information*. The habitat assessment and focused burrow and BUOW surveys are described in detail below.

Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Start/Stop Time	Start/Stop Weather Conditions	Survey Results
HA ¹	06/04/18	Lauren Singleton	0730-1300	63°F, wind 1-2 mph, 20% clouds 81°F, wind 6-7 mph, 30% clouds	Suitable habitat present.
1 ²	06/08/18	Lauren Singleton	0545-0745	56°F, wind 0-1 mph, 0% clouds 63°F, wind 2-3 mph, 0% clouds	Suitable burrows observed; no BUOW detected.
2	07/05/18	Lauren Singleton	0550-0740	61°F, wind 1-2 mph, 0% clouds 69°F, wind 0-1 mph, 0% clouds	No BUOW detected.
3	07/26/18	Lauren Singleton	0600-0730	70°F, wind 1-2 mph, 20% clouds 75°F, wind 1-2 mph, 20% clouds	No BUOW detected.
4	08/17/18	Lauren Singleton	0620-0815	67°F, wind 0-1 mph, 20% clouds 70°F, wind 0-1 mph, 0% clouds	No BUOW detected.

¹ Habitat Assessment

² Step II Part A conducted concurrently with the first focused survey (Step II Part B).

Step I – Habitat Assessment

The project site and off-site staging areas are located within an MSHCP BUOW survey area; therefore, a Step I Habitat Assessment was conducted to determine whether the project site and off-site staging areas support suitable BUOW habitat. The habitat assessment was conducted prior to commencement of the Step II surveys described below. The assessment was conducted on the project site, off-site staging areas, and within a 150-meter (approximately

500-foot) buffer zone around the periphery of the project site and off-site staging areas (survey area). The survey area was slowly walked and assessed for suitable BUOW habitat, including:

- disturbed low-growing vegetation within grassland and shrublands (less than 30 percent canopy cover);
- gently rolling or level terrain;
- areas with abundant small mammal burrows, especially California ground squirrel burrows (*Otospermophilus beecheyi*);
- fence posts, rocks, or other low perching locations; and
- man-made structures, such as earthen berms, debris piles, and cement culverts.

Inaccessible areas of the survey area were visually assessed using binoculars.

Step II – Locating Burrows and Burrowing Owls

Since suitable habitat was observed during the habitat assessment, Step II surveys were conducted within the survey area. Step II surveys, which consist of a focused burrow survey (Part A) and four focused BUOW surveys (Part B), were conducted to determine whether the survey area supports suitable burrows and/or BUOW. The focused burrow survey was conducted concurrently with the first BUOW survey.

All potential burrows were checked for signs of recent owl occupation. Signs of occupation include:

- pellets/casting (regurgitate fur, bones, and/or insect parts);
- white wash (excrement); and/or
- feathers.

Because suitable burrows were observed within the survey area, three additional BUOW surveys were conducted. The biologist walked transects spaced no greater than 30 meters apart (approximately 100 feet) to allow for 100 percent visual coverage of all suitable habitat within the survey area. The biologist walked slowly and methodically, closely checking suitable habitat within the survey area for suitable burrows, BUOW diagnostic sign (e.g., molted feathers, pellets/castings, or whitewash at or near a burrow entrance), and individual BUOW. Inaccessible areas of the survey area were visually assessed using binoculars. All suitable burrows, burrow surrogates, BUOW sign, and/or BUOW observations were recorded using a handheld Global Positioning System unit (Figure 4, *Suitable Burrow and Transect Locations*).

RESULTS

Suitable BUOW habitat was observed in the survey area within disturbed land, non-native grassland, and disturbed Riversidean sage scrub-buckwheat dominated communities (Attachment A). Suitable burrows that could potentially be used by BUOW were observed within and adjacent to the survey area. No BUOW or sign of BUOW occupation were observed

during the four focused surveys. Therefore, BUOW does not currently occupy the project site or off-site staging areas. Observed burrow locations and transects walked are shown on Figure 4.

CONCLUSION

No BUOW were observed or detected within the survey area during the focused surveys. Burrows with potential to support BUOW were noted on the project site and off site staging areas, but no sign of BUOW occupation was observed. A pre-construction survey shall be required 30 days prior to ground disturbance pursuant to the County's survey protocol (County of Riverside 2006). If ground-disturbing activities are delayed more than 30 days after the pre-construction survey has been completed, the project areas must be resurveyed.

Please call Thomas Liddicoat at (619) 462-1515 or me at (949) 234-8770 if you have any questions about this report.

Sincerely,

A handwritten signature in black ink, appearing to read "Lauren Singleton", with a long horizontal stroke extending to the right.

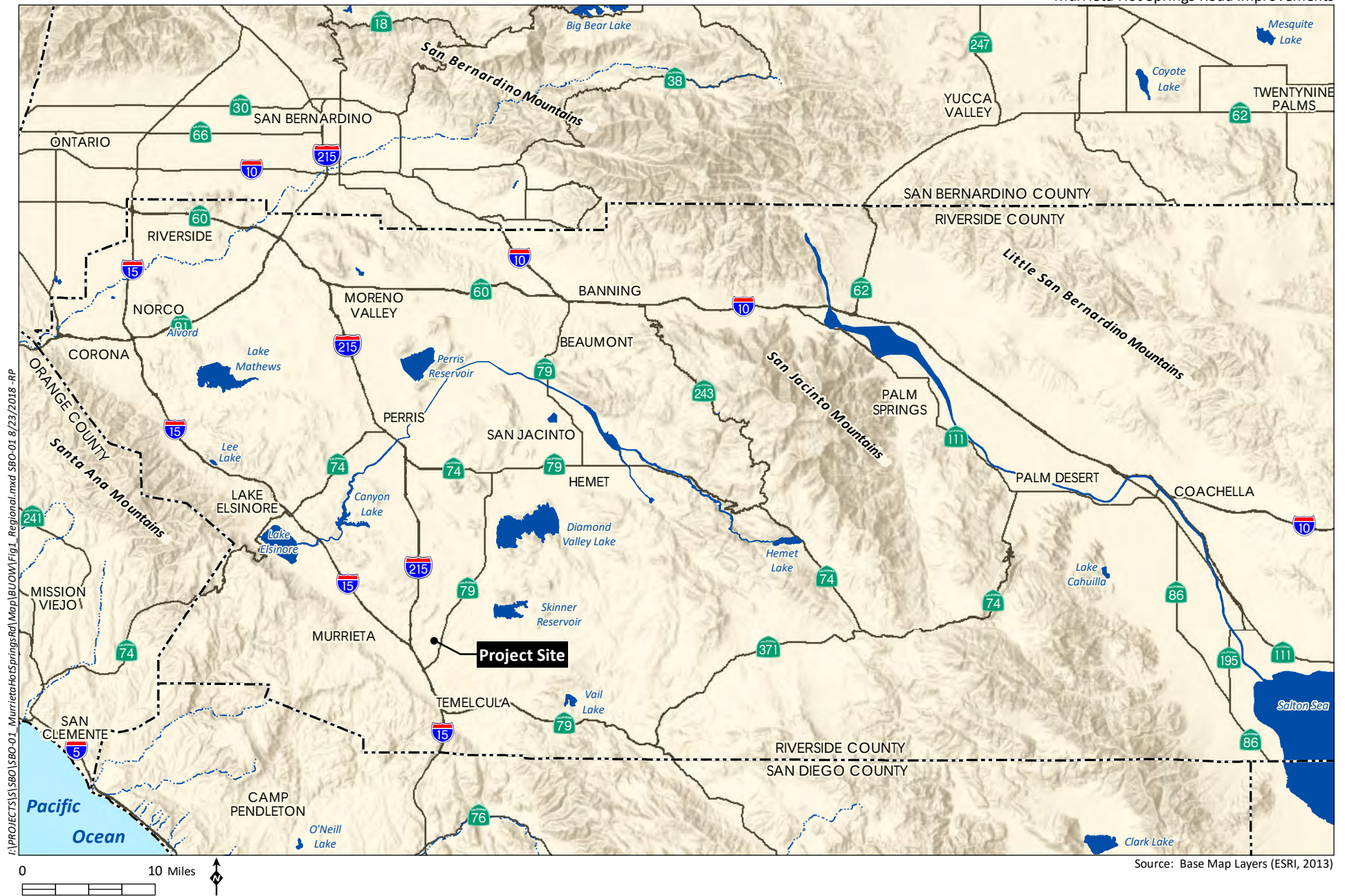
Lauren Singleton
Biologist

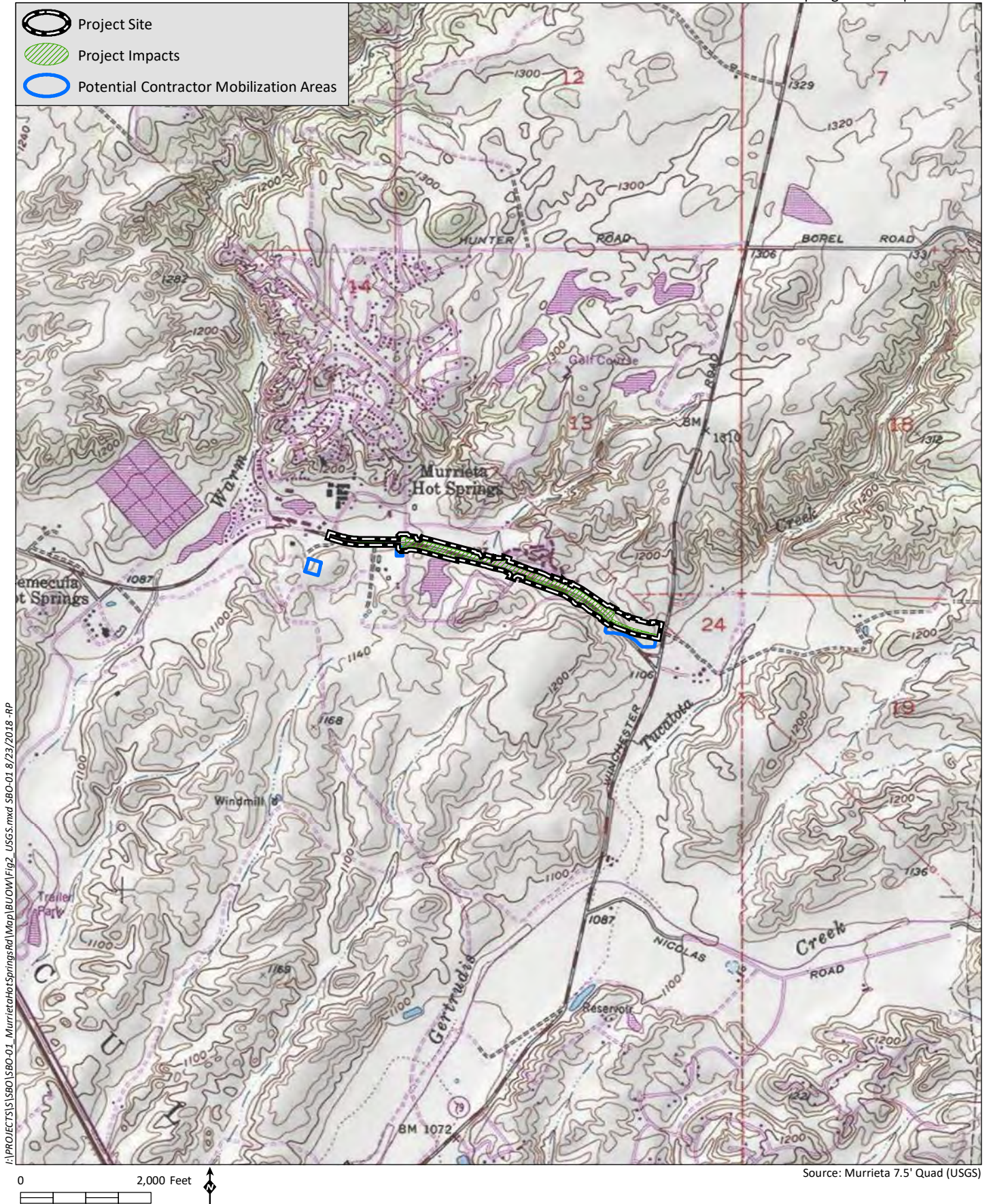
Enclosures:

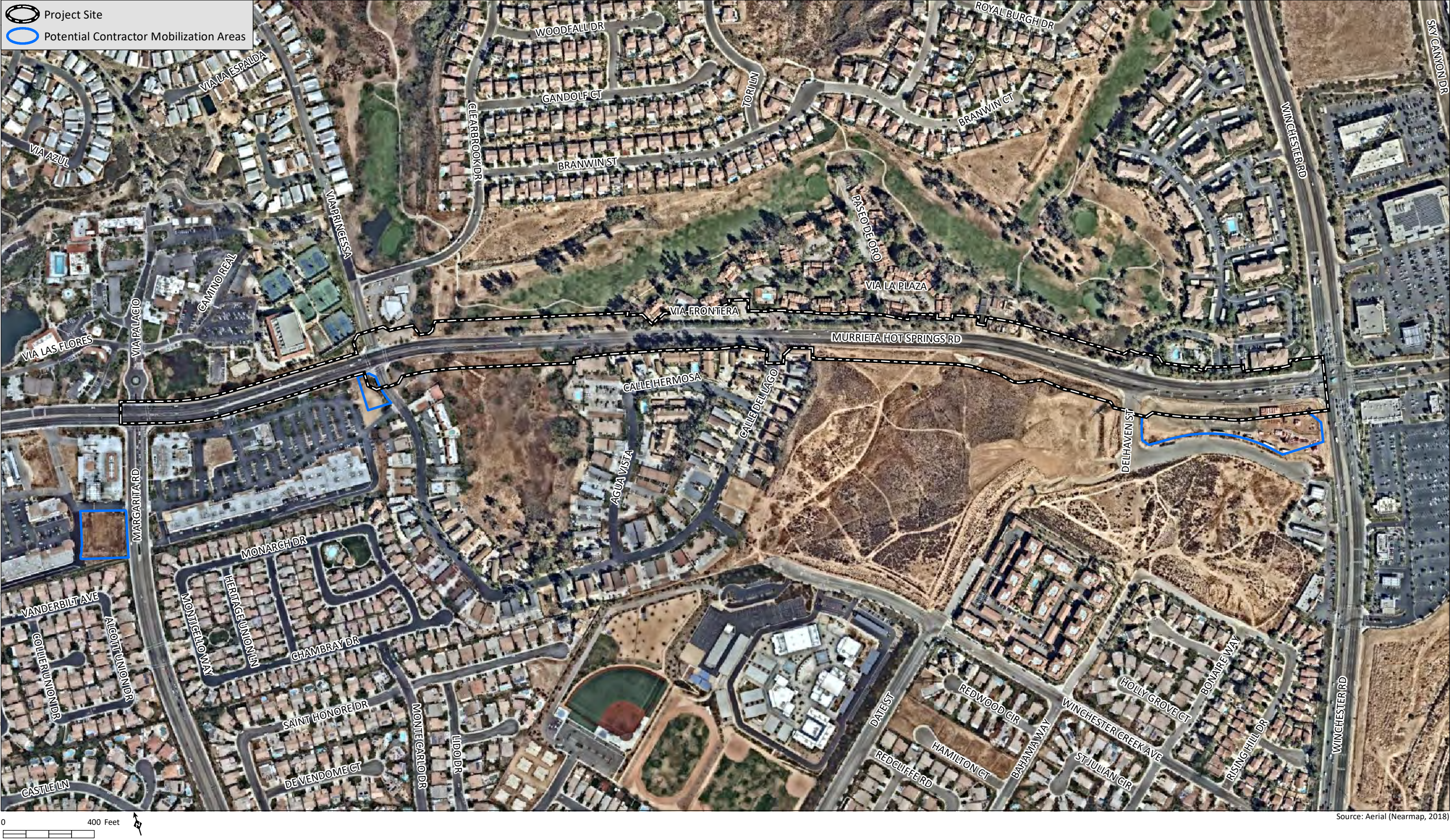
Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: Suitable Burrow and Transect Locations
Attachment A: Site Photographs

REFERENCES

- Dudek and Associates. 2003. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Final MSHCP Volume I. Prep. for County of Riverside, Transportation and Land Management Agency.
- Murrieta, City of. 2011. Chapter 5 Circulation Element. Murrieta General Plan 20385. Adopted July 19, 2011.
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Photograph 1: View of the Riversidean sage scrub-buckwheat dominated (disturbed form) community located in the eastern portion of the project site on the south side of Murrieta Hot Springs Road (facing southwest).



Photograph 2: View of the non-native grassland community located near the center of the project site on the south side of Murrieta Hot Springs Road (facing southeast).



Photograph 3: View of suitable burrows observed in the non-native grassland community located near the center of the project site on the south side of Murrieta Hot Springs Road (facing southwest).



Photograph 4: View of the non-native grassland community within one of the potential off-site staging areas located near to the southwest corner of Margarita Road and Murrieta Hot Springs Road (facing southwest).

G:\PROJECTS\SBO-01\Murrieta Hot SpringsRd\Reports\BIO\BUOW\Attachment A Site Photographs